What's New

** New Changes for review

Introduction

Quality Clauses are flowed-down by the purchase order, Memorandum Of Understanding (MOU), or other contract. Product and/or orders not meeting the requirements of the quality assurance clauses QAP33.0 are subject to return and/or corrective action.

Definitions

- 1. **Honeywell Specification Control Part**: A Honeywell part number assigned to a commercial or off-the-shelf item. Includes 10 and 11 digit series parts (e.g., 145-525-9001, 525-8515-9001, etc.), and items designated "Specification Controlled" on the blueprint.
- 2. Commercial Standard Part: A part not designed for a specific application which is manufactured to a catalog description and identified with the manufacturer's part number.
- 3. **Standard Part**: Part numbers designated as AN, AS, M, MS, NAS, SAE, etc. conforming to an established industry or U.S. specification. A standard part is defined as a part manufactured in conformance with a specification established, published and maintained by a consensus standards organization, a government agency, or holder of a design approval meeting specific criteria. The specification includes design, manufacturing, test and acceptance criteria and identification requirements.
- 4. **Fastener**: A screw, nut, bolt, or stud having internal or external threads, or a load indicating washer as per the Fastener Quality Act (FQA).
- 5. **Vendor Proprietary Part**: The manufacturer of the part is the design/cage-code holder. Specifications are proprietary to the manufacturer.
- 6. **Customer Proprietary Part**: The customer is the design/cage-code holder.
- 7. **Traceability:** Clear paper trail of certifications, test reports, material specifications, etc. including any unique numbering system applied on each page of a single certification package.

QAP 33.0

Continued

Important Notes

- 1. The Quality Requirements on the purchase order take precedence over the QAP 33.0.
- 2. M&M Aerospace, its customers, and regulatory agencies shall have the right of entry to any place necessary to determine and verify the quality of contracted work, records and material.
- 3. All documents must be one-sided, 1 certification per page, legible, reproducible, and no larger than 8 ½" x 11" in size.
- 4. For Honeywell proprietary parts, the Honeywell SPOC manual and drawing will take precedence over this document.
- 5. When Vendor Substantiation Engineering Approval (VSE) is denoted, it is a supplier obligation to obtain, prior to quoting or producing hardware.

Certification of Conformance (C. of C.)

The supplier shall provide a manufacturer's certification of conformance with each shipment. The manufacturer's certification_must have a Quality Representative's or an officer of the certifying companies' signature and date. The signature may be electronic, manual, or physically signed and dated by an authorized company representative as stated above. Each manufacturer's lot in each shipment must be segregated and identified to include quantity and lot number on each C of C to maintain lot traceability. Documentation showing clear traceability for the part number ordered, up to and including shipment to M&M must be included for each lot in each shipment unless otherwise noted on the applicable purchase order.

All Certificates of Conformance shall include the following:

- Purchase Order Number
- Part Number (as ordered on M&M purchase order). Referenced part numbers are not acceptable.
- Revision Level as noted on the M&M purchase order. Is mandatory for any Customer Proprietary Part number.
- Quantity (See details in above paragraph.)
- Manufacturer's name and part number (if applicable).
- Lot number

A

- Serial number (if applicable)
- A statement that the parts/materials conform to all applicable drawing and specification requirements
- **If the part is considered ITAR or EAR based upon its "original design intent", then ITAR category or ECCN is required for "Verification of Export Compliance".
 - o If the part is considered dual use, then use the Commercial classification
- Shelf life requirements including cure date (if applicable).
- Distributors must also include a Certification of Conformance (DCC).
- Distributors shall include all documents that indicate traceability (chain of custody) to the original manufacturer for each lot in a shipment.
- Statement of Origin (i.e. Made in the USA)

If the shipment contains multiple manufactured lots, each lot shall be segregated and identified to maintain traceability in the shipment.

All required documentation shall be completely legible, and reproducible. M&M will review documentation for compliance to requirements, legibility, and reproducibility by electronic scanning and/or copying.

- At M&M discretion, we reserve the right to invoke source inspection.
- Supplier accepts requirements of the PERP (Paperwork Error Reduction Process)

Shipments that do not comply with requirements are subject to rejection, return, and/or and formal corrective action.

DFAR 252.225-7014 Berry amendment specialty metals applies **A.1** Material on this purchase order must comply with DFAR 252,225,7014 ALT 14. The above statement proving DFARS compliance per 252.225.7014 ALT 1 must appear on the Certificate of Compliance or associated paperwork. **Inspection Plans and Sampling Methodology** Acceptance of Customer Proprietary design parts must meet the Quality System Inspection and B Sampling methodology of the design holder, identify the inspection requirements, and provide for recording of the results. All sampling plans for attributes, regardless of design, must be based on c=0 (reject on 1). **Protection of Materials** The supplier must ensure that all items are packaged adequately to ensure that hardware is delivered to M&M undamaged. The supplier will be responsible for repackaging at their expense if required. If there is damage due to inadequate packaging, the items shall be subject to rejection. Individual boxes/cartons shall **not exceed 40 lbs. in weight.** Product must also be protected against corrosion, rust or any elements which may cause a \mathbf{C} visual rejection or product failure Silver plated parts or parts/assemblies containing silver components shall be protected from sulfur-laden fumes, or other sources that cause tarnish Electrostatic Discharge (ESD) product must be protected in ESD packaging. **C.1** **Thread Protection Threads must be sleeved or otherwise individually packaged to prevent damage. O-Rings/Packings/Rubber Products/Age Sensitive Products A test report in accordance with the material or product specification is required with each shipment. Certifications must include the batch number, cure date, and expiration date (Example: 4Q01 format only). Test reports must show actual values as required by the specification. D ** Not more than Fifteen (15) percent of the shelf life or Twelve (12) quarters, whichever is less, may have expired prior to shipment to M&M All lots must be segregated and identified to maintain batch and cure date traceability. All Distributers must also include a Certificate of Conformance (DCC) Distributers shall include all documents that include full traceability (chain of custody) to the original manufacturer for each lot in a shipment. For rubber products other than O-Rings and Packings (seals, gaskets, etc.), a Material Certification with batch number and cure date is required if a Test Report is not available

Continued on next page

This clause applies to all age sensitive products.

** Material, Physical/Chemical Certifications

Supplier shall provide material, physical and chemical certifications with actual physical and/or chemical results with each shipment as required by the specification. Original mill cert not required, if all conditions for actual results are met. The certifications must meet the following requirements:

- Be on a company letterhead.
- Contain signature and title of an authorized quality representative.
- Include specification(s) and revision *level*(s) used to produce the order.

 Certify in accordance with applicable purchase order, contract, drawing and specifications requirements.

In addition to the above:

- If the shipment contains multiple processed lots within each manufactured lot, each processed lot must be segregated and identified to maintain complete traceability in each shipment. For instance, a shipment containing two heat-treated lots, each heat-treated lot shall be segregated and identified to maintain traceability in the shipment. This does not include vendor proprietary or catalog items.
- Certifications may be on same page as Manufacturer's C of C if appropriate for the Manufacturer's procedures.

Note 1: Material (Chemical & Physical properties), and process certifications are not required with the shipment on Ball Bearing, Roller Bearing, and Pin Bearing commodities.

Note 2: Certifications shall be made available within 48 hours of specific request.

Note 3: Material certifications may be substituted in lieu of a test report if the product is non-metallic. Material certifications submitted in lieu of test reports shall contain the batch number and cure date.

Special Processes

Certification for special processes, such as heat-treating, chemical processing, plating, etc., shall be submitted with each shipment. Certifications may be transcribed to the MFR Test Report or MFR C of C for parts processed internally, or a Processor's certification may be included.

If product is a customer proprietary item, processes shall be performed by an approved supplier(s) when required by the OEM design activity/Cage Code holder and the processor's certification must be included

A list of approved process suppliers for other OEM's is available from the M&M Aerospace Hardware Buyer or Supplier Quality representative. Approved sources and specifications shall be evaluated during contract review and prior to release for production.

All process certification(s) shall be completely legible, and reproducible. M&M Aerospace Hardware will review documentation for compliance to requirements, legibility, and reproducibility by electronic scanning and/or copying.

The APSL requirement does not apply to standard or commercial standard items, however, the process certification/transcription shall be required.

Continued on next page

E

 \mathbf{F}

** First Article Inspection Report (FAIR) for Customer Proprietary Parts

A FAIR shall be submitted to M&M with the <u>initial</u> shipment and as per rules for each OEM quality requirement (ref. Table I) and using AS9102 format. The FAIR shall be on file at the supplier's facility and available upon request.

NOTE: Honeywell Proprietary parts DO require a copy of the FAIR to be sent with the initial shipment and then as per SPOC 124 Events Table. Reference QAP 33 Clause "R" (SPOC 124) for Honeywell Proprietary part's requirements and timing.

A FAIR is also required if there has been:

- tooling change,
- drawing change (FAIR documenting attribute and/or notes changed),
- drawing changes which have no effect on product must be documented on a new FAIR stating "no effect"
- change in the manufacture/production location.

The following information is required on the FAIR:

• Supplier Name

G

- Supplier Code
- Part Number
- Latest Revision
- Purchase Order Number
- Inspector Name / Stamp
- FAIR Date
- Blueprint Zones
- All Blueprint characteristics
- All Blueprint Notes (If a note does not apply, identify the note on the FAIR as N/A)

Note 1:

Customer Proprietary Part Numbers require compliance to that Customer's Quality System Standard Requirements for FAIR (e.g. documentation, format and frequency). Customer Proprietary CAGE Codes may require First Articles (refer to TABLE I).

The following are examples of Customer Proprietary Cage Codes which require compliance to that Customer's Quality System's Standards for First Article. Additional Customer Proprietary CAGE Codes may exist, requiring First Articles, and M&M Aerospace Hardware Inc. should be contacted as necessary, to ensure compliance to that Customer's System Standard Requirements.

Continued on next page

TABLE I

*Revision (Italicized) 6 of 17 7/20/2009

CAGE	Design Holder	Standard	CAGE	Design Holder	Standard
25472	BFGOODRICH CO	QA 111	24446	GENERAL ELECTRIC CO	S - 1002
03481	GOODRICH CORP	QA 111	73030	HAMILTON SUNDSTRAND CORP	ASQR - 01
92092	GOODRICH CORP	QA 111	00198	PRATT AND WHITNEY CANADA INC	ASQR - 01
71379	CESSNA AIRCRAFT COMPANY	CQRS	77445	UNITED TECHNOLOGIES CORP	ASQR - 01
99207	GENERAL ELECTRIC COMPANY	S - 1002	61858	UNITED TECHNOLOGIES CORP	ASQR - 01
07482	GENERAL ELECTRIC COMPANY	S - 1002	51563	ROHR INCORPORATED	QA 111
76301	BOEING	D590	81205	BOEING	D590

Notification, Containment, and Corrective Action of Discrepant Orders

- 1. The supplier shall provide prompt written notification to M&M when nonconforming products or processes are discovered to have shipped. Notification shall include:
 - Part Numbers
 - Traceability (lot, serial, and manufacturer-numbers),
 - Ship dates
 - Quantities
 - Purchase Order number
 - Description of the nonconformance.
- 2. Upon notification by M&M, (Form No. CS 177) the supplier shall:
 - Complete containment activity within 48 hours
 - Return CS 177 as per instructions
- 3. When formal corrective action is requested by M&M:
 - Enter containment in the CAR within 48 hours
 - Submit a formal corrective action response by the specified due date
 - Extensions shall be requested on or before the due date
- 4. M&M utilizes an electronic (on-line) Corrective Action Tracking System (eCATS).
 - Suppliers must obtain a user ID for eCATS from their M&M supplier engineer
- 5. When a shipment is received without the required documentation:
 - Corrected documents shall be submitted within 48 hours of specific request
 - Failure to submit required documentation within 48 hours may result in a formal rejection and/or corrective action
 - Shipment is subject to return within 30 days if documents are not corrected

In the event that the supplier has determined that M&M has rejected material in error, the supplier shall submit form CS 186, Reject Report Responsibility Reversal Request, to the M&M Supplier Quality Engineer or the M&M Buyer.

Lab Certified Source (LCS) Requirements

Supplier to certify hardware as tested to current Pratt & Whitney (P&W) LCS Materials Control Laboratory Manual requirements, including Section F-45 as applicable. All documents shall be stamped "Parts have been controlled to P&W requirements for LCS per P&W-MCL Manual Section F-17" or a similar statement.

Continued on next page

Supplier Acceptance Test Procedure (SATP)

J

H

Requires acceptance testing by the supplier in accordance with an acceptance test procedure prepared by the supplier and submitted for approval. A copy of the SATP data sheet must be submitted with each shipment.

<u>Fixed Process Control</u> (Honeywell Aerospace SPOC 110, when Clause R is imposed on the order)

K

The supplier's manufacturing processing procedure must be submitted to the M&M Buyer and approved by the design authority prior to production of a part with a fixed process control. Once a fixed process approval has been obtained, any change requires re-submittal to the M&M Buyer and approval by the design authority prior to implementation. Fixed process control is specified by engineering documents, such as a note on the drawing, material specification or other document stating "fixed process is required".

Customer/Government Source Inspection

Customer source inspection is required prior to shipment from your facility.

L

- 1. If this is a government order, promptly notify the government representative who services your area so that appropriate planning for GSI can be accomplished. On receipt of this order, promptly furnish a copy to the government rep. That services your area. If no government agency can be located, notify your Buyer immediately.
- 2. If this is a commercial order, contact your Buyer to arrange for customer source inspection.

MRB Authority

M

The supplier is <u>not</u> authorized MRB activity without receiving prior approval in writing by the cage code holder. For OEM designed product ONLY, the supplier may request material review consideration for nonconforming material that cannot be reworked to fully conforming drawing/spec requirements. The request must be submitted in writing to the M&M Buyer and Supplier Quality Engineer (SQE) contact point for coordination with the design authority. Nonconforming product, including shipments that do not meet documentation, certification, and traceability requirements shall not be shipped to M&M Aerospace until prior approval in writing has been received. If MRB authority has been granted, the supplier must comply with the MRB instructions for marking the parts, please note that general C of C's do not need to be identified showing "MRB Approved" unless requested to do so by the MRB authority.

QAP 33.0

** Aircraft Parts Documentation Requirements

The item on the face of the purchase order must be an FAA or JAA/EASA approved item. The following conditions apply:

- If the supplier holds PMA on the item, the item must have appropriate markings per the applicable FAA requirements and the statement "FAA-PMA" must appear on the Certificate of Conformance (C of C) or test reports. The C of C must also include a direct shipment authorization statement if the supplier holds direct shipment authorization from the Production Approval Holder (PAH).
- If the supplier holds TSOA on the item, the item must have appropriate markings per the applicable FAA requirements and the statement "FAA-TSOA" and the TSO number must appear on the certificate of conformance or test reports. The C of C must also include a direct shipment authorization statement if the supplier holds direct shipment authorization from the Production Approval Holder (PAH).
- In addition to all documents requested in clauses A,D,E,F and G, the supplier may provide an 8130-3 or EASA "Form One".

If the supplier is the PAH, a production certificate statement of conformity with the production certificate number is acceptable in lieu of the documents requested in clauses A,D,E,F and G and fulfill the requirements of clause N, product must still be marked in accordance with FAA/JAA/EASA requirements.

** If the supplier is not the PAH and does not hold PMA or TSOA for the item being ordered, and supplier cannot produce an 8130-3 tag, the supplier must take exception to this clause and request authorization to remove this clause from the purchase order. Failure to do so, will result in the product being rejected.

If the item is not currently FAA or JAA/EASA approved, clause N should be removed from the face of the purchase order prior to acceptance by the supplier.

Airworthiness Approval Tag Requirement

FAA Form 8130-3, JAA Form One or EASA Form One required with each shipment.

Continued on next page

N

0

M&M Bar Coded Supplier Shipping Label

A bar coded shipping label is required on the outside of each container in each shipment. Labels for exterior containers shall conform to requirements set forth. A representative sample of the M&M supplier bar code label is shown in figure 7-4. Labeling of boxes shall conform to Figure 7-5.

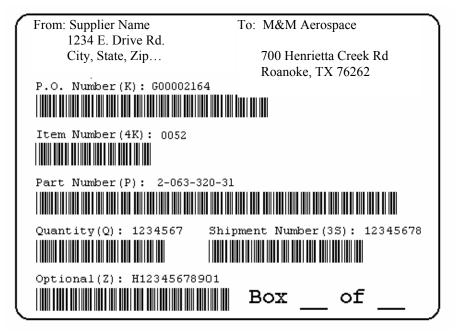
P

- Minimum label size shall be 3.937 inches (100 mm) high by 6.0 inches (152 mm) wide.
- Maximum label size shall be 5.0 inches (127 mm) high by 6.5 inches (165 mm) wide.

Data Identifiers			
Bar code Prefix	Item		
K	PO Number		
4K	Item Number		
Р	Part Number		
Q	Quantity		
3S	Invoice Number		
Z	Optional		

Continued on next page

Clause P, continued



(Sample label not to scale, shipping destination/address is indicated on the M&M Purchase Order)

Figure 7-4: Sample Exterior Container

The optional block is for supplier additional information only, and will not be recognized by M&M.

Detailed Field Requirements:

Data Area is space containing field title, human-readable data, and bar coded data.

Data Area dimensions are shown in inches; these are minimum values.

Valid data identifiers are shown in parenthesis prefixing bar code item. The data identifier must be imbedded in the bar code as a data identifier - <u>not as the data itself</u>. **Character lengths shown do not include data identifiers**.

Data identifiers in parenthesis are defined in section 7.4 and 7.5.

	Addresses	Data Area (.80, 6.00) for both "To:" and "From:" addresses
(K)	P.O. Number	15 alphanumeric characters, left-justified null filled (.60, 6.00)
(4K)	P.O. Line Item	5 alphanumeric characters, right-justified with leading zeroes (.60, 6.00). For example, print "0023R" and not "23R", and bar code "4K0023R", not "4K23R". NOTE: Item number is normally only four characters in length except when used with a rework "W" P.O. in which case item number is followed by an 'R' making the item number five characters.
(P)	Part Number	25 alphanumeric characters, left-justified null filled (.60, 6.00)
(Q)	Quantity	7 numeric characters, left-justified null filled (.60, 2.70)
(3S)	Invoice Number	8 alphanumeric characters, left-justified null filled (.60, 3.30)
(Z)	Optional	12 alphanumeric characters, left-justified null filled (.80, 2.70) (Additional site-specific options may be required.)
	Boxes	No bar code; readable text should be .20 to .25 inches high and may be hand-written (.80, 3.30). If multiple boxes are used for the same part, P.O., and Item Number, then an Exterior Container label shall be attached to each box and marked as, for example, "Box 1 of 6", "Box 2 of 6", and so on. The Quantity field for each of these boxes must indicate the total quantity, not the quantity in each box. Refer to Figure 7-4.

P Cont.

NOTE: The term "null filled" used above refers to null, meaning "nothing". In other words, if the field is null filled, it is filled with nothing.

For example, the field description of P.O. Number is:

15 alphanumeric characters, left-justified null filled.

This means that the field is 15 characters long, the P.O. number begins at the left side of the field, and if the P.O. number is only 8 characters, the remainder of the 15 characters (7 characters) is filled with nothing.

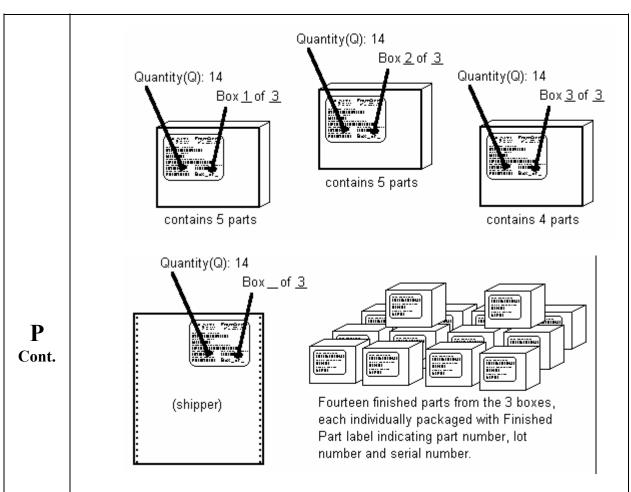


Figure 7-5: Shipment of 14 Parts with Same P.O. Number, Item, Part Number, Split Across Three Boxes

In multiple box shipments, each box in the shipment shall contain a copy of the required documentation, or the box containing the required documentation shall be labeled or clearly marked

"DOCUMENTATION ENCLOSED."

Continued on next page

Q

Lubrication Requirements (Bearings/Pulleys/etc.)

If lubrication is required, all lubrication dates must be current within six (6) months of the shipping date to M&M.

** Honeywell Aerospace Quality Requirements

** The latest version of the Honeywell Aerospace Supplemental Purchase Order Conditions (SPOC) Manual, SPOCS 001, 002 or 003 are invoked on this order as per Note 1 below – minus SPOC 149. (Honeywell's SPOC 149 is not a requirement on these orders).

The Honeywell Aerospace SPOC manual can be obtained on the Internet at: www.supplier.honeywell.com

R

For purposes of interpreting SPOC Manual requirements by Honeywell Aerospace site, the blueprint Cage Code will identify the Cage Code holder and Honeywell site:

Honeywell Aerospace Site	Cage Code	
Phoenix, AZ	99193, 91547, 9AA11	
Tempe, AZ	59364, 00672, 72914, 89513, 077L2	
Rocky Mount, NC	06848, 34270, 55284	
Torrance, CA	70210, 77068, 5T400	
Tucson, AZ	64547, 83298	

Critical Notes:

- 1.) Adherence to the appropriate Group SPOC codes for the following, are based on your manufacturing authority, and are invoked on this order:
- a.) SPOC 001 is manufacturer with design authority
- b.) SPOC 002 is manufacturer without design authority.
- c.) SPOC 003 is for standard and/or catalog hardware.
- d.) SPOC 124 rules for FAIR apply to all manufacturers of HW parts, to include all Purchase Orders issued by M&M Aerospace.
- 2.) ** A FAIR meeting all requirements of SPOC 124 SHALL be sent with the initial shipment of any part number and then again as necessary, in order to meet the SPOC 124 Event Table requirements.
- 3.) ** A completed Detailed Inspection Plan (DIP), meeting the requirements of SPOC 128, and pertaining to the lot shipped, SHALL be provided with each shipment.
- 4.) ** Material Certifications (SPOC 001 & 002 requirements):

Certifications shall include name of process source, specifications and revision used. The physical and chemical process and heat numbers shall be indicated. Certifications must clearly state conformance to all specifications in their entirety, including embedded specifications with specific acceptance criteria, additional processing requirements and any specific requirements that pertain to hardware approval or acceptance. (Drawn directly from SPOC 140.2, Table III C of C Requirements)

S

Left Blank

Mercury Free Certifications

 \mathbf{T}

Supplier must certify the supplied item(s) is/are Mercury Free. The certification must be in the form of a certification sheet. The certification sheet must contain the following information: (a) contract/ PO Number, (b) National Stock Number (NSN) (c) manufacturer's cage code and part number, (d) the date of shipment and quantity shipped and (e) the following statement:

"The undersigned hereby certifies that the material and/or parts shipped on the subject order/contract conform to the requirements of the supplier purchase order/contract. Also, the material furnished is free form mercury contamination. Mercury bearing instruments and equipment which might have caused mercury contamination was not used in manufacture, fabrication, and assembly or testing of any material furnished under this order/contract."

** Record Retention

U

Quality/Inspection records shall be retained on file by the supplier:

- Non-serialized parts and radiographic film, ten (10) years.
- Serialized parts, thirty (30) years.
- Certifications must be available to M&M within 48 hours from request.

Quality Systems

V

Manufacturing suppliers' quality systems must comply to ISO9001:2000 or AS9100/EN9100 **and** Distributor's quality system shall be compliant to AS9120/EN9120, AS7103/AS7104, ASA100, QS9000 or an approved alternate. Supplier management shall notify M&M (via the Buyer) of all significant changes to the supplier quality system. Significant changes include but are not limited to:

- Change in location of facility
- Change in ownership
- Change in senior company management
- Change in quality system

Acceptance at Supplier's Facility

W

Source inspection is required prior to shipment by an M&M appointed source inspector unless the supplier is Self Released by M&M Quality Assurance. Evidence of Source Inspection or Self Release shall be annotated on the packing slip.

The supplier shall make arrangements for source inspection at least 5 days prior to the required ship date. To schedule an appointment for source inspection call (800) 673-5973.

Continued on next page

Suppliers with Design Authority



Suppliers with design authority are required to notify M&M promptly of any changes of fit, form or function or safety of product on this order in compliance with blueprint and obtain approval prior to manufacturing and delivery. Supplier shall submit proposed changes to the M&M buyer.

QAP 33.0

	The Supplier Shall Provide a Packing Slip With Each Shipment		
Y	The packing slip shall include the following and shall be completely legible and reproducible:		
	Purchase Order Number		
	Part Number		
	Quantity		
Z	Deleted		