

Packaging Information for Vendors		ENGINEER R. A. Mele	APPROVED	
NOMENCLATURE GENERAL VENDOR PACKAGING	PART NO. MULTIPLE	PIV NO. 2000	DATE 22-Apr-10	REVISION L
INSTRUCTIONS: Hard Copies Uncontrolled. Verify Revision Prior to Use.			SHEET NO. 1 OF 7	

NOTES:

1. THE PART SHALL BE PACKAGED IN ACCORDANCE WITH PIV6012 AND THIS SPECIFICATION.

This specification is provided to inform vendors of RAYTHEON Company's minimum packaging requirements. This document is superseded by any special requirements listed on drawings or specifications. Any questions concerning packaging of materials should be directed to the buyer referenced on the Purchase Order.

**STAPLES ARE NOT TO BE USED FOR CLOSURE OF UNIT PACKS.
ABSOLUTELY NO FOAM PEANUTS OR STYROFOAM EITHER ANTISTAT OR OTHERWISE TO BE USED FOR CUSHIONING. IN GENERAL, NO PACKAGING MATERIAL IS TO BE USED THAT WILL LEAVE ANY RESIDUE FROM THE PACKAGING MATERIAL ON THE PARTS AS A RESULT OF PACKAGING OR UNPACKAGING THE PRODUCT.
THERE SHALL BE NO EVIDENCE OF FOREIGN OBJECT DEBRIS (FOD) IN RECEIVED CONTAINERS.**

1. CLEANING - Items shall be clean and free of contaminants. Any process may be utilized which will attain this condition without damage to the items.
2. DRYING Items shall be thoroughly dried to remove cleaning solutions or residue moisture by any process which is not injurious to the items. The items must be dry, both internally and externally, if their configuration requires it. All entrapped cleaning fluid shall be completely drained from the items.
3. PRESERVATION - Immediately after cleaning and drying of items a continuous coating of contact preservative shall be applied to bare ferrous items which require protection against corrosion and deterioration.
 - 3.1 Unpainted and unplated surfaces of partially painted or plated surfaces shall be coated.
 - 3.2 Completely non-ferrous, painted or plated items shall not require preservation.

Examples: Gold or Silver Plate
Cadmium Plate
Zinc Plate
Tin Plate
Stainless Steel
 - 3.3 Volatile Corrosion Inhibitor (VCI) - In lieu of contact preservation, bare ferrous items may be protected with VCI (Volatile Corrosion Inhibitor) treated transparent film per ML-F-22019 or bags per MIL-B-22020. VCI treated packaging material per ML-P-3420 is also acceptable as a preservative wrap.
 - 3.3.1 Complex Items - Requiring interior preservation shall be sloshed, sprayed or dipped. Preservation shall be applied in such a manner to insure complete coverage of both interior and exterior surfaces. The preservation shall be thoroughly drained to avoid entrapment of a preservative which could subsequently damage the package. Also, if opening cannot be sealed by design features, the openings shall be sealed with caps or plugs.
 - 3.3.2 Castings - Forgings - Castings or forgings shall be individually wrapped or separated.

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3.4 Rubber Items - Stiffeners per Paragraph 4 shall be used when required.

3.5 Grease Fittings - Items such as universal joints and flexible cables that are equipped with grease fittings shall be preserved with grease per MIL-G-10924 or equivalent.

4. Deformation - Items requiring protection against deformation shall be individually sandwiched between fiberboard stiffeners 1/2 inch longer and wider than items. Separators shall be per specification PPP-F-320 or equivalent.

5. Open Ports - On critical items such as hydraulic lines, manifolds and electrical connector ports must be covered with plugs, caps or covered to prevent the entrance of contaminants.

6. Tin and Silver Plated Items - Items that can be soldered in subsequent assemblies shall be wrapped in material conforming to MIL-P-17667. Equivalent non-tarnishing materials may be used. Items shall be placed in a water vaporproof bag conforming to MIL-B-117, Type III, Class E, or equivalent with desiccant, if necessary. The bag shall then be heat sealed.

Examples:

- a). solder plate dip
- b). tin-lead plate
- c). tin-lead plate and reflowed
- d). tin dip
- e). tin plate (electro-deposited and/or reflowed)
- f). tin plate immersion

7. Intimate Wrap - Individual items weighing more than 1/4 pound or items which are of a critical nature shall be individually wrapped. Silkscreened plexiglass items should also contain a protective tape placed on silkscreened surface. Sealed Air #3187 or equivalent is suggested.

7.1 Painted or plated items which could be damaged by scratching or abrasion shall be individually wrapped in lens paper per A-A-50177 or equivalent.

7.2 Precious metal items shall be wrapped in material conforming to A-A-50177 or equivalent non-tarnishing and non-abrasive material to prevent surface scratching or abrasion. Items shall be placed in a bag conforming to MIL-B-117, Type III, Class E or equivalent and heat sealed.

7.3 All precision finished items shall be intimately wrapped to prevent surface abrasions and scratches from items in contact with each other.

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7.4 Items susceptible to damage by static electricity shall be properly protected using any suitable means which is not injurious to the part.

8. Cushioning - Fragile and delicate items shall be cushioned to prevent damage. Cushioning shall also be utilized for blocking and bracing of items within their shipping containers to prevent movement and damage. Cushioning shall conform to:

- a). A-A-1898 - cellulosic cushioning
- b). PPP-F-320 - corrugated fiberboard
- c). PPP-C-795 - cushioning material, flexible, cellular
- d). PPP-C-1752, Type I, C1 2 - polyethylene foam
- e). PPP-P-291 - paperboard, wrapping and cushioning or equivalent
- f). PPP-C-1797, Type II - cushioning material or equivalent
- g). MIL-P-26514 - polyurethane foam

9. *Unit Package Container - The unit package container shall be of a size to provide a snug fit for the item. Items requiring separation from each other because of a delicate nature shall be packed in a compartmentized unit container to prevent shifting or movement of the items. Containers with multiple quantities shall allow easy access to individual parts without disturbing the remaining items. When practical, the unit packages shall not exceed fifty (50) pieces or twenty-five (25) pounds, whichever occurs first. One kit, one set or one pair of items shall always be utilized as one regardless of weight.


9.1 Domestic boxes - Conforming to PPP-B-566 or PPP-B-676 may be used. Containers per PPP-B-665 and MIL-B-117 are preferred but not mandatory.


9.2 Bulk items - The unit package quantity for bulk items shall be specified on the purchase order.

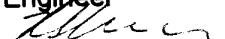
9.3 Matched pair items - or items that come in matched sets shall be packaged so as to keep the sets separated from one another.

10. ** Intermediate containers - Use of intermediate containers are preferred but not mandatory for large quantities of small items. The intermediate containers shall have a limitation of one hundred (100) unit packages, a maximum net load of forty (40) pounds and a maximum size of 1.5 cubic feet. Any remaining quantities over the above restrictions shall be placed in the smallest container which will accommodate the unit packages. Intermediate containers shall be domestic grade conforming to PPP-B-636.

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<p>11. ***<u>Shipping Containers</u> - Exterior shipping containers shall be domestic and of a minimum size to contain the packages. Containers shall conform to one of the following specifications:</p> <ul style="list-style-type: none"> a). PPP-B-585 - boxes, wood, wire bound b). PPP-B-601 - boxes, wood, cleated plywood c). PPP-B-621 - boxes, wood, nailed and lock-corner d). PPP-B-591 - boxes, fiberboard, wood cleated e). PPP-B-636 - boxes, fiberboard f). PPP-B-640 - boxes, fiberboard, corrugated triple-wall g). MIL-C-52950 - crates, wood open and covered h). A-A-160 or A-A-1588 - sacks, shipping, paper (cushioned or reinforced) <p>11.1 The use of the container selected shall be in accordance with the weight and dimension limitations established by the specifications of each container for the specific style, type, class, grade, size and variety used.</p> <p>11.2 <u>All Shipping Containers</u> - exceeding the gross weight two hundred and fifty (250) pounds shall be provided with skids made from 3 x 4 nominal lumber.</p> <p>11.3 <u>Commercial Type Containers</u> - are preferred for multi-packs. Low cost pallet containers such as wire mesh, wire bound, triple-wall corrugated fiberboard or wood pallets, shall be used whenever practical.</p> <p>11.4 <u>Parcel Post Shipments</u> - Containers shall conform to any container capable of meeting postal regulations. The container must be of sufficient strength to retain and protect its contents from the weight of other mails.</p> <p>11.5 <u>Palletized Loads</u> - When four (4) or more exterior shipping containers, except skidded containers (Paragraph 11.2) are being shipped to the same destination, the pallet load will utilize eighty-five (85) percent of the pallet base to a minimum height of thirty-five (35) inches, including the height of the pallet. The load shall not exceed a height of forty-one (41) inches maximum. Exceptionally heavy loads shall not be stacked during shipment. Containers which are stacked during shipment shall have the weight of the top container evenly distributed over the top of the lower container.</p> <p>11.6 <u>Containers</u> - shall be packed to insure carrier acceptance, safe delivery and adequate storage at buyer's location (for shipping directions, see purchase order). Containers shall be in accordance with the rules and regulations of carrier applicable to the mode of transportation.</p>					
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11.7	Rule 41 - Raytheon insists on strict compliance with Rail Classification Rule 41 as minimum requirements of fiberboard containers (regarding weight and size limitations).		
11.8	Vendor will assure that packaging containing or intended to contain Dept. of Transportation (D.O.T.) designated hazardous materials have been tested and certified as complying with the performance standards of the United Nations which are published in the regulations of the International Civil Aviation Organization (Part 7), the International Air Transport Association (Section 10) and the International Maritime Organization (Volume I, Annex I, Section 8). Exterior packaging, such as shipping cartons, shall be marked with U.N. certification markings indicating the level of performance achieved through testing. For interior packaging, such as containers, cans or bottles, a certificate of compliance (or actual test reports) indicating the level of performance achieved through testing must be provided.		
12.	Marking		
12.1	Marking shall be in accordance with carrier rules or regulations. Hazardous or restricted items must be properly marked.		
12.2	Labels (static electricity) as shown below or equivalent types shall be affixed to the unit package and exterior container when applicable.		
12.3	Fragile Labels - shall be utilized only on items whose nature requires special handling.		
12.4	Magnetic Properties - Items with magnetic properties shall have markings specifying: "CAUTION - Magnetic Equipment - keep four (4) inches away from iron, steel or magnets".		
12.5	Exterior containers shall be marked in accordance with Raytheon bar code shipping label specification.		
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13. Lot Control - When lot control or serialization requirements are specified on the drawing, related documentation or procuring document, the unit and intermediate container shall be marked with the applicable control numbers in accordance with MIL-STD-129. All items delivered shall be packaged in a manner which identifies and segregates individual lots. A021 must be segregated (intermediate package) from B021.

Each container within a shipment shall be marked with a single alpha numeric lot code and quantity per alpha-numeric lot code. Mixing alpha codes in the same unit or intermediate is now allowed.

For any deviations of this requirement, the buyer references on the procuring document must be consulted for special marking instructions. The lot control number shall be located in the lower right hand corner of the surface of the container bearing the identification markings.

14. Date Code - When date code requirements are specified on the drawing, related documentation or procuring document, the manufacturer shall apply a four digit numeric identifier on the unit, intermediate and exterior shipping container signifying the calendar year and week on which the shipment of items were accepted at vendor's final inspection. The date of seal may be used if it is applicable.

Example: First shipment = Date Code 8950 - would indicate acceptance during 50th week of year 1989
Second shipment = Date Code 9003 - would indicate acceptance during 3rd week of year 1990

Each container within a shipment shall be marked with a single numeric date code and quantity per numeric date code. Mixing date codes in the same unit or intermediate or package is not allowed.

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<p>15. <u>Serialization</u> - When serialization requirements are specified on the drawing or procuring document, the item assigned a serial number shall have the number applied to the unit and intermediate shipping container in accordance with MIL-STD-129; i.e., when serialized items bearing consecutive serial numbers (unit packs) are overpacked into exterior shipping containers, only the first and last number of the series shall be shown. If serial numbers are not in sequence, each number shall be listed.</p> <p>ATTENTION: <u>Receiving, Incoming Inspection, Burn-In and Stores</u></p> <ul style="list-style-type: none">a). All Missile Alpha/Lot Control items shall be kept intact for in-plant processing and lot segregation storage.b). Static-sensitive devices shall never be removed from their protective package except at an approved work station and with the precautions of VQCE 2103, Handling Electro-Static Sensitive Devices".c). All containers, fixtures, test equipment and associated apparatus that may contact static-sensitive devices during test operations shall be grounded, either directly or by contact with a grounded surface. <p>Definitions of unit, intermediate and exterior containers.</p> <ul style="list-style-type: none">* <u>Unit Container</u> - The first container applied to a single item or quantity thereof, or to a group of items of a <u>single</u> part number, which constitutes a complete or identifiable package. The unit pack should be overpacked for shipment unless the unit container is specifically designed to provide shipping protection.** <u>Intermediate Container</u> - A wrap, box, bundle or assembly which contains two or more unit containers of <u>identical</u> items.*** <u>Exterior Containers</u> - A container, bundle or assembly which is sufficient by reason of material, design and construction to protect material during shipment and storage. This can be the <u>unit pack</u> or a container with any combination of <u>unit or intermediate containers</u>. <p style="text-align: right;">ECO 41020193</p> <table border="1"><tr><td>Engineer </td><td>Approved</td><td>Date 4-22-10</td><td>Revision L</td></tr></table>			Engineer 	Approved	Date 4-22-10	Revision L
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