

- 5.3 Electrostatic Discharge (ESD) Sensitive Labels
- 5.4 Marking for Buyer Procured Tooling
- 5.5 Warning Labels
- 5.6 Special Labels or Markings
- 5.7 Bar Code Markings
 - 5.7.1 Bar Code Data Elements for Standard Purchase Orders
 - 5.7.2

1.0 GENERAL

- 1.1 Scope – These instructions supplement the Purchase Order (“PO”) of which this document is a part and establish the packaging, packing, marking, handling, transportability and shipping instructions for shipments or drop shipments by Seller and shipments by Seller’s subtiers at all tiers, to FORT WOT W 4a toM(,)AOe 14.380(F) toM(,)AO(s)-1(t)-2()-7()(e)421(tg)1L)Tj tgr)((-7th))

Palletized Unit Load

The process of arranging cases or packages on a pallet, secured, strapped or fastened to

- 4.2.5 Age Control Items Packaging – Seller shall clearly identify the delivery limitations, marking, special handling, and specialized equipment requirements for age control Items on the interior and exterior containers. Markings shall include the manufacturer, part number, serial number, cured, assembled or packed date (apply one date), and the expiration or inspect/test date. Seller shall notify Buyer prior to shipment where precautionary measures are required. Seller shall not pack together age control Items. Seller, for example, shall not pack O-rings having a first-quarter 2005 expiration with O-rings having a fourth-quarter 2005 expiration date.
- 4.2.6 Hazardous Materials/Dangerous Goods Packaging – Seller shall package, pack and mark hazardous materials and dangerous goods for the most restrictive mode of transportation. Seller shall pack dangerous goods per United Nation (UN) performance-tested specification packaging. Below are specifications/standards/publications to determine the packaging requirements for dangerous goods depending on mode of transportation:
- International Air Transport Association’s Dangerous Goods Regulations (IATA)
 - United Nation’s Recommendation on the Transport of Dangerous Goods
 - International Maritime Organization’s International Maritime Dangerous Goods Code (IMDG)
 - International Civil Aviation Organization’s Technical Instructions for the Safe Transport of Dangerous Goods by Air (ICAO)
 - Code of Federal Regulations Title 49 – Transportation
- 4.2.6.1 Tests/Closure Instructions – Seller shall forward tests and closure instructions to the “Buyer’s Packaging Engineering Address” to be retained on file. This includes tests and closure instructions from third-party packaging distributors. Seller shall provide closure instructions that shall include instructions for inner packaging and receptacles, a description of the types and dimensions of closures and any other significant information.
- 4.2.6.2 Certification/Permits – Seller shall forward all certifications of exemptions to Department of Transportation (DOT) Regulations to the “Buyer’s Packaging Engineering Address” to be retained on file.
- 4.2.6.3 Classification – For explosives or other dangerous Items which require Bureau of Explosives or DOT review and approval, Seller shall submit to the “Buyer’s Packaging Engineering Address” data setting forth the proper explosive and dangerous articles classification.
- 4.2.7 Raw Stock Packaging – Seller shall oil raw material sheet stock in accordance with the requirements of the Aluminum Association Standard,

- 4.2.8 Buyer Procured Tooling Packaging – Seller shall comply with the shipping and packaging requirements specified in TMS-MC-002 and TMS-MC-015.
- 4.2.9 Composite Part Packaging – Seller shall protect composite edges from bending or delaminating. Seller shall individually enclose each Line Item (Part Number) in a carton segregating it from other Line Items. Seller shall place appropriate bar code label on the outside of carton. Consolidation of these cartons for shipment purposes is acceptable. Further, Seller shall mark the consolidation box “Contains multiple bar coded Line Items inside box”. Seller shall place packing sheet for each individual shi6(p)-4-5 Td [9.67(4.2.9)T 0 T

Danger, Contains Cadmium, Cancer Hazard, Avoid Creating Dust, Can Cause Lung and Kidney Disease.

- 5.6 Special Labels or Markings – Seller shall affix special labels or markings to the exterior of the shipping containers in accordance with Buyer’s request. Special labels or markings may be used to identify program, shortages, etc. Detailed instructions will be provided from time to time by Buyer as required.
- 5.7 Bar Code Markings – Seller shall bar code all containers. Appendix I shows example of properly bar coded shipments made against Standard Purchase Orders. Appendix II shows example of the additional bar code marking for F-16 Block 60 – Shipments Direct to UAE or CONUS Inventory Accumulation (Non-Production Support) shipments. Appendix III shows an example of a bar code shipment made against an LM Catalog Order received by the Seller via Exostar. Appendix IV shows an example of properly bar coded shipments made against Teammate Furnished Equipment. See definitions (Section 3.0) to determine if the order being shipped against is a normal PO or an LM Catalog order. Simple bar code programs that conform to this specification are available at:

<https://embastion.external.lmco.com/bar-coding/>

Seller shall construct bar codes and apply markings as follows:

5.7.1 Bar code data elements for Standard Purchase Orders (PO):

- A. Receiving PO
- B. Receiving PO Line Item Number
- C. Packing Sheet Number (maximum 12 character limit)
- D. Line Item Quantity in shipment
- E. Total cartons
- F. MSDS Number (only if hazardous)
- G. Shipment Indicator (required for Classified parts shipment only)

Note: If the PO number is 1234567, then Seller shall display only 1234567 on the bar code and shall not fill in remaining field with any leading and/or trailing characters, such as XXXXX1234567 or 1234567YYYYY.) See Appendix I for examples.

Requirements:

- a. Seller shall print elements in the order shown (A through G above) and all fields must be filled.
- b. Data elements will be in a stacked array. Use of MSDS bar code is not required or value “N/A” (per instructions on LM provided bar code application) is acceptable if shipment is non-hazardous.
- c. Bar codes must be readable commercial Code 3 of 9.
- d. Bar codes will be applied by means of labels.
- e. Bar codes will be a vertical "picket fence" with minimum height of 0.25 inches.
- f. Bar codes will apply to the total quantity of a given Line Item regardless of the number of cartons required to contain that Line Item.

- g. If multiple cartons are required for one Line Item, only the first carton must be bar coded. The remaining cartons shall have the following information marked in human readable form:

Carton number (e.g., 2 of 3, 3 of 3, etc.)

PO number

Line Item number

Quantity PER BOX

Bar coded containers may not contain more than one Line Item. Seller may consolidate different bar coded containers containing different line items for shipping/handling purposes. Q

container unless deviation is granted by the Buyer. See Appendix II for an example. Seller shall construct these bar codes as follows:

- A. Part number
- B. Concatenated Bar Code containing the following:
 - i. CAGE Code
 - ii. Alphanumeric Identifier – 1 character (used to identify type of serial number, e.g., CFE, Vendor Assigned, Locally Assigned, etc.)
 - iii. Serial Number
 - a. Date of Manufacture
(Year/Julian date; example: 09022 = 2009 January 22)

5.7.4 LM Catalog Marking – The LM Catalog labels must include the following data elements both bar coded and human readable. For each of the three bar code data elements below, Seller shall specify the bar code description to the left of the bar code. On the top of the label, Seller shall indicate “**Direct Delivery**” in bold letters.

Bar Codes:

- 1. Order Number (LM Catalog Purchase Order Number)
- 2. Packing List Number (maximum 12 character limit)
- 3. Deliver to (building, floor and column)

Note: For any additional human readable data, Seller shall include User Name and Phone Number and on separate line, the deliver to: **Building, Floor and Column** in bold letters. See Appendix III for examples.

5.7.5 Bar code data elements for Team Furnished Equipment Purchase Orders:

- A. Receiving PO
- B. Receiving PO Line Item Number
- C. Packing Sheet Number
- D. Line Item Quantity in Shipment
- E. Total PC
- F. MSDS Number (only if hazardous material)
- G. LM Part Number
- H. Procuring PO & Line Number

Note: If the PO number is 1234567, then Seller shall display only 1234567 on the bar code and shall not fill in remaining field with any leading and/or trailing characters, such as XXXXX1234567 or 1234567YYYYY.) See Appendix IV for examples.

5.8 Radio Frequency Identification (RFID) Requirements for F35 Low Rate Initial Production (LRIP) Items. Seller shall affix passive RFID tags to all shipments of UID Item packages, cases, and pallets containing F35 LRIP Items. Seller shall reference the current versions of MIL-STD-129 and DFARS 252.211-7006 Radio Frequency Identification for guidance on RFID tag placement, data construct standards, and submittal of Advance Shipment Notices (ASN).

- 5.8.1 RFID Tags – Seller shall prepare passive tags to be EPC Class 1 RFID tags that meet the EPC global Class 1 Generation 2 specification. Passive tags are categorized into 2 Classes: EPC Class 0 and Class 1. Seller shall use any one of the following RFID tags to meet F35 LRIP Item requirements:
- a. Class 0 tags
 - Class 0 64-bit read-only
 - Class 0 96-bit read-only
 - Class 0 64-bit writable
 - Class 0 96-bit writable
 - b. Class 1 tags
 - Class 1 64-bit write-once read-many
 - Class 1 96-bit write-once read-many
- 5.8.2 Construct Standards – All RFID tags will have encoded data impregnated into RFID tag. Both the Department of Defense (DOD) and Electronic Product Code (EPC) global have developed construct standards for encoding RFID tags. Construct data consists of the supplier's CAGE (Commercial and Government Entity) code, asset serial number, type of EPC Class tag (0 or

other Supplier (other than Seller), or subcontractor, or Buyer's non-U.S. Government Customers. Seller shall ensure that all materials shipped shall be accompanied by a standard commercial packing sheet. Seller's packing sheet number shall not exceed 12 characters. Seller shall include the following information on the packing sheet:

PO Number
PO Line Item Number
Ship Quantity
Number of Cartons
Part Number
Part Name
Traceability Data (i.e. serial number, date code/production lot#.)

Seller shall affix one packing sheet to the outside of each individual Line Item carton. For consolidation shipments, Seller shall affix all the packing sheets to the outside of the consolidation box. Seller shall include copy of Packing Sheet inside container.

7.0 CLASSIFIED AND COMSEC SHIPMENTS

7.1 Classified Shipments – Seller shall follow the shipping requirements stipulated in this document for all classified shipments. Seller shall place all paperwork (packing sheet, etc) on the outside of the box. Seller shall bar code the box per Section 5.7. Per the NISPOM, section 5-408 and 5-409, the bar code shall include a line below the MSDS line that stipulates whether the part is Constant Surveillance Service (“CSS”) or Protective Security Service (“PSS”). Further, Seller shall mark the Bill of Lading or other applicable DOT document PSS or CSS. Seller shall not mark or otherwise indicate on the outside of the box the classification of the part.

7.2 COMSEC Shipments – Seller shall follow the shipping requirements stipulated in this document for all COMSEC shipments. Seller shall place all paperwork (packing sheet, etc) on the outside of the box. Seller shall bar code the box per Section 5.7. Per the NSA Industrial COMSEC Manual, NSA Manual 90-1, the bar code shall include a line below the MSDS line that stipulates the part is CCI. Further, Seller shall mark the Bill of Lading, or other applicable DOT document as CCI.

8.0 TRANSPORTABILITY

8.1 Transportability Criteria – When long Items are to be trucked, such as long skids of raw stock, Seller shall utilize flat bed trucks if at all possible to facilitate safe unloading. When special design analysis is required, then, except when TMS manuals give specific directions for tooling shipments, Seller shall submit to Buyer, for Buyer's prior approval, a complete breakdown of the packaging procedures proposed by Seller. For the purpose of this specification, specialized analysis is required when the following conditions exist.

8.1.1 Physical Characteristics of End Items

- A. Dimensions exceed 8 feet in height, 8 feet in width, 32 feet in length, and/or gross weight is in excess of 11,200 pounds (domestic)
- B. Dimensions exceed 7 feet in height, 6.5 feet in width, 18.5 feet in length, gross weight is in excess of 10,000 pounds (international)

- C. Item requires temperature, pressure, shock, or vibration isolation in containers and fixtures
- D. Unusual and/or abnormal Item configuration

Appendix I

Standard PO Label Example

LMC Receiving PO
*1234567
1234567

Receiving PO Line Number
0001
0001

Packing Sheet Number
123456789
123456788

Line Item Quantity in Shipment
50
50

Total Cartons
2
2

MSDS Number

Shipment Indicator

LMC Receiving PO
*1234567
1234567

Receiving PO Line Number
0002
0002

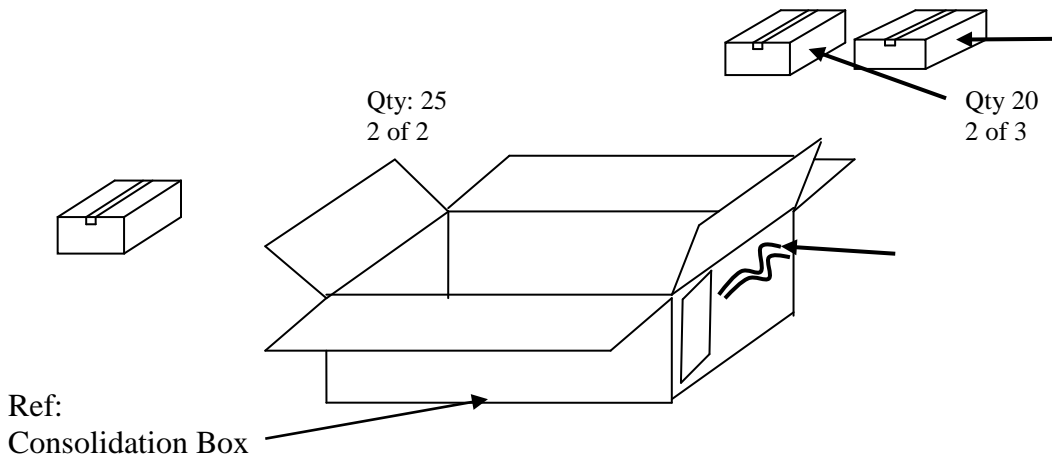
Packing Sheet Number
123456789
123456789

Line Item Quantity in Shipment
60
60

Total Cartons
3
3

MSDS Number

Shipment Indicator



Shipment consists of 2 Line Items and 5 cartons total. Line Item one has 2 cartons with a quantity of 25 in each carton with the lead carton bar coded. Remaining carton is marked with a piece number (i.e. 2 of 2), PO#, Line Item # and the quantity per carton. Line Item two has 3 cartons with a quantity of 20 in each carton with the lead carton bar coded. The remaining cartons are marked with a piece number (i.e. 2 of 3, 3 of 3), PO#, Line Item# and the quantity per carton. The shipment is consolidated and marked "Contains multiple bar code Line Items inside box". Packing list is affix to the consolidation box.

Standard PO Label for TMS Shipments

Shipment consists of 2 Line Items, 1 THU, and 4 cartons total. Line Item 0010 has 2 cartons with a quantity of 15 and 25 in each carton with the lead carton bar coded. Remaining carton is marked with a piece number (i.e. 2 of 2),

ASN #, PO#, Line Item #, and the quantity per carton. The shipment is consolidated and marked “Contains multiple bar code Line Items inside box”. Packing list is affix to the THU. The THU is marked with the ASN bar code. If there is no THU then the ASN bar code goes on the lead carton. If a shipment encompasses multiple THU’s then the THU 2 of 2 label is affix to the second THU.

Note: TMS will create all these labels and attach them to you shipment in the application.

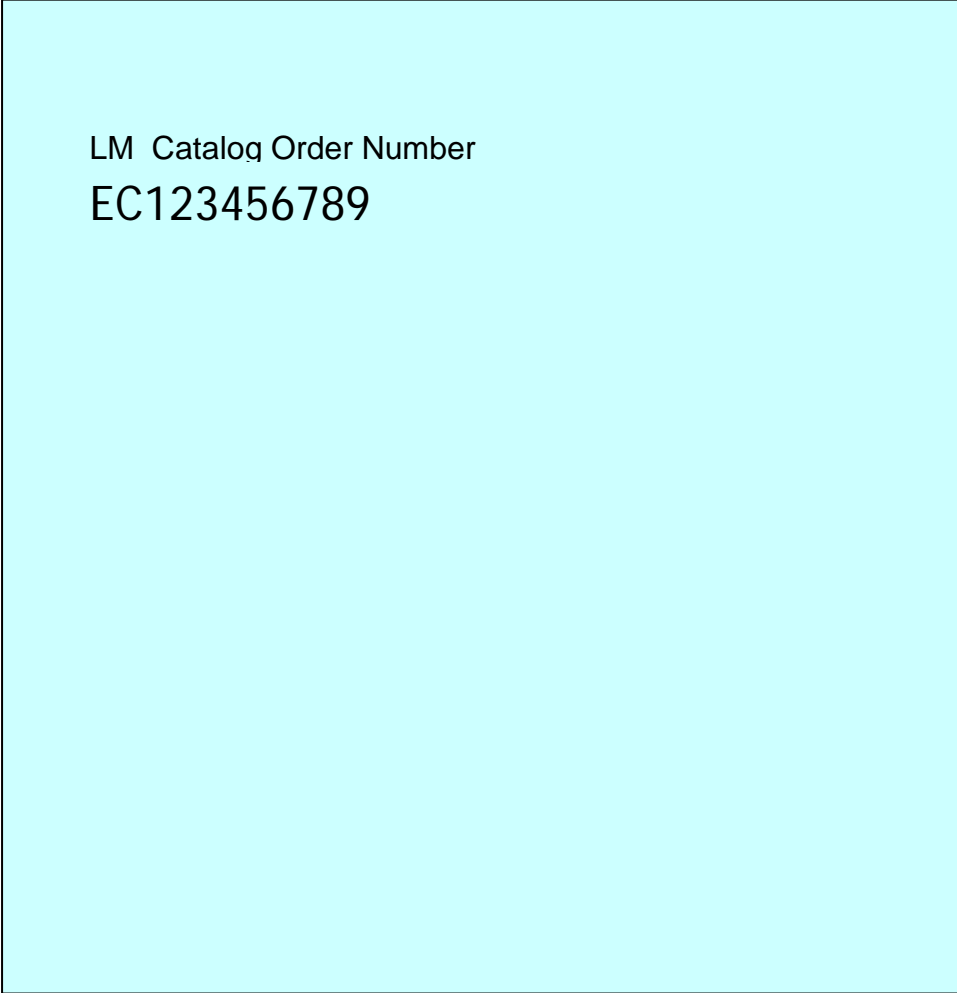
Appendix II

Additional Label for F-16 Block 60 – Shipments Direct To UAE Or Conus Inventory Accumulation (Non-Production Support) Example

Part Number: The part number may be up to 20 characters long. If the part number is less than 20 characters

Appendix III

LM Catalog Label Example



LM Catalog Order Number
EC123456789

Appendix IV

Team Furnished Equipment Label Example

Team Furnished Equipment

Receiving PO

1234567890

1234567890

Receiving PO Line Number

0001

0001

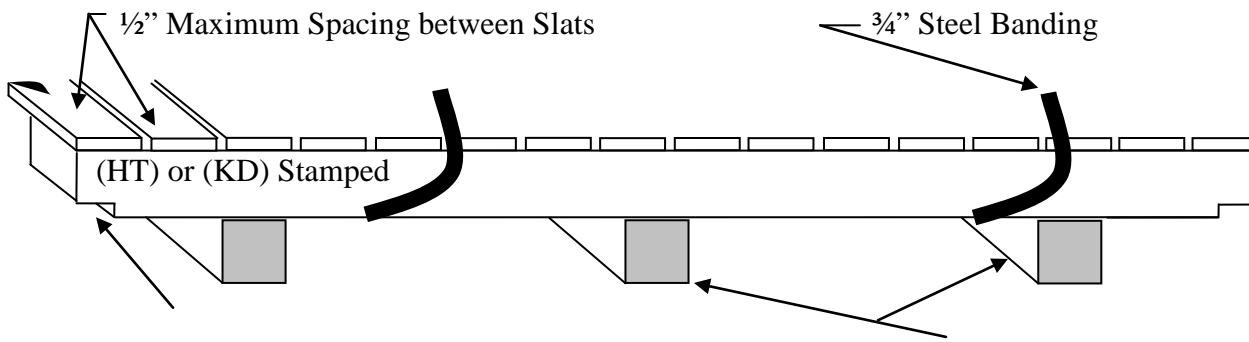
Packing Sheet Number

1234567890

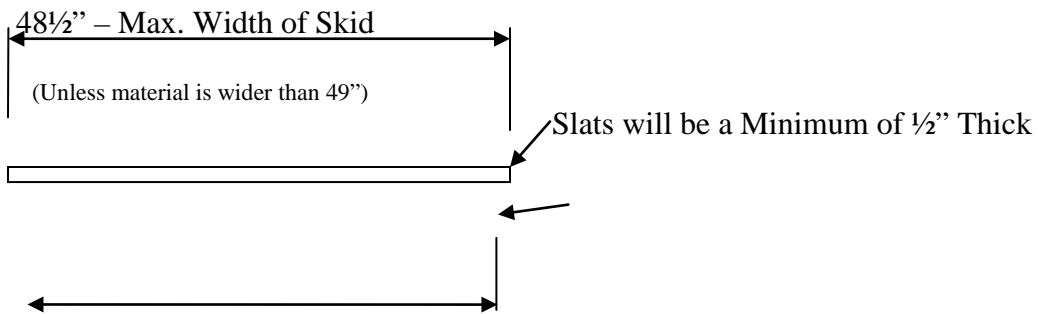
1234567890

Appendix V

Raw Stock Packaging

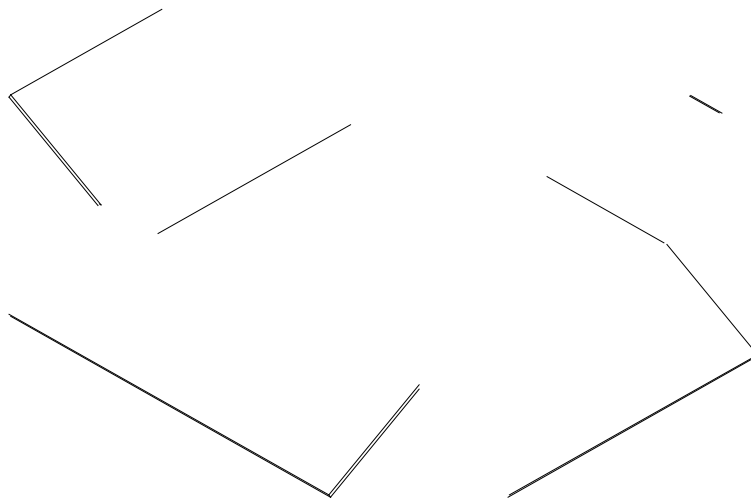


**End View
(Without Bottom Runners)**



46" – Maximum Spread of Runners Measured from the Outside of One Runner to the Outside of the Next

Appendix VII (Continued)



Packaging Steps / Instructions:

1. Inside dimensions of container are calculated by measuring the part and adding 4 inches to each dimension.
2. Attach polyethylene tubing or polyurethane foam cushioning to part where necessary and cover with polyethylene wrap. (Note: tubing shown in illustration)
3. Drape 2 inches of bubble wrap over the sides, ends, and bottom.
4. Place part in container.
5. Place 2 inches of bubble on top of part.
6. Make sure part is secure in package. Use bubble wrap for any loose areas.
7. Close container and seal with tape.

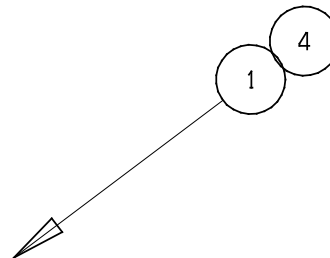
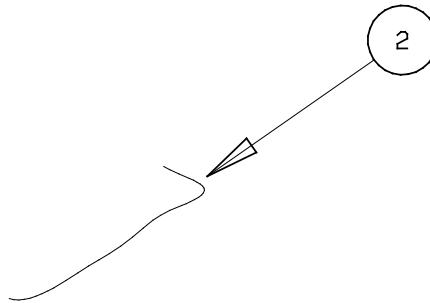
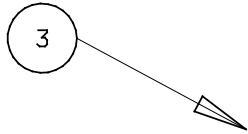
Appendix VII (Continued)

Packaging Steps / Instructions:

1. Inside dimensions of container are calculated by measuring the part and adding 4 inches to each dimension (length, width, & depth).
2. Cut three 2 inch polyethylene foam cushions equaling the inside length and width dimensions of container.
3. Take one polyethylene cushion from Step 2, center the part on it, and scribe around part with a marker. Cut out traced pattern once completed. The goal is to have two solid pieces (top and bottom pads) and one cut-out piece to encase the part.
4. Place one untraced cushion in bottom of container.
5. Set traced cushion inside container.
6. Set part inside of traced cushion. Use small bt Dushion.n in bottom of (t)7(o)4((-)Tj4(r)8g2(i)1Tw ool)-2(

Appendix VII (Continued)

EXAMPLE #3



Packaging Steps / Instructions:

- 1. Inside dimensions of container are determined by measuring the part and adding 4 inches to each dimension (length, width & depth).**
- 2. Attach polyethylene tubing or polyurethane foam to part where necessary and cover with polyethylene wrap. (Note: Blue foam shown in illustration)**
- 3. Center part in container and block with Foam-In-Place. Do not Foam-In-Place on any beveled, sharp or chevron edges.**
- 4. Close container and seal with tape.**

