# **APPENDIX 43N**

# UNITIZATION PROCEDURES\* FOR BOXED AMMUNITION AND COMPONENTS ON 4-WAY ENTRY PALLETS

CARTRIDGE, 81MM, PACKED 3 PER METAL BOX, PA156, UNITIZED 21 BOXES PER 40" x 48" PALLET; APPROX BOX SIZE 14-11/32" L X 5-3/4" W X 22-7/8" H

\* FOR MARINE CORPS USE ONLY

NOTICE: THIS APPENDIX CANNOT STAND ALONE BUT MUST BE USED IN CONJUNCTION WITH THE BASIC UNITIZATION PROCEDURES DRAWING 19-48-4116-20PA1002.

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### U.S. ARMY MATERIEL COMMAND DRAWING APPROVED, U.S. ARMY OPERATIONS SUPPORT COMMAND CAUTION: VERIFY PRIOR TO USE AT WWW.DAC.ARMY.MIL/DET THAT THIS IS THE MOST CURRENT VERSION OF THIS DOCUMENT. THIS IS PAGE 1 OF 4. DO NOT SCALE **DECEMBER 1992** BASIC **SANDRA SCHULTZ** ENGINEER OR TECHNICIAN **RANDIE UNSER REVISION NO. 3 SEPTEMBER 2002** APPROVED BY ORDER OF COMMANDING GENERAL, TRANSPORTATION U.S. ARMY MATERIEL COMMAND ENGINEERING aurall SEE THE REVISION LISTING ON PAGE 2 DIVISION CLASS NOISIVIG DRAWING VALIDATION **ENGINEERING** DIVISION 4116/ 20PA1002 19 48 ENGINEERING 43N u sielion R. There DIRECTORATE U.S. ARMY DEFENSE AMMUNITION CENTER

PALLET UNIT DATA							
ITEMS INCLUDED		●HAZARD	_				
NSN	DODIC	CLASS AND DIVISION	COMPAT- ABILITY GROUP	APPROX WEIGHT LBS			
1315- 01-353-7618 01-357-6160 01-353-7619 01-357-6159 01-354-4916	C868 C868 C869 C869 C875	1. 2. 1 1. 1 1. 2. 1 1. 1 1. 4	Опппп	1, 187 1, 292 1, 187 1, 292 1, 208			

● HAZARD CLASSIFICATION DATA CONTAINED IN THE ABOVE CHART IS FOR GUIDANCE AND INFORMATIONAL PURPOSES ONLY. VERIFICATION OF THE SPECIFIED DATA SHOULD BE MADE BY CONSULTING THE MOST RECENT JOINT HAZARD CLASSIFICATION SYSTEM LISTING OR OTHER APPROVED LISTING(S).

## **REVISIONS**

REVISION NO. 1, DATED FEBRUARY 1994, CONSISTS OF:

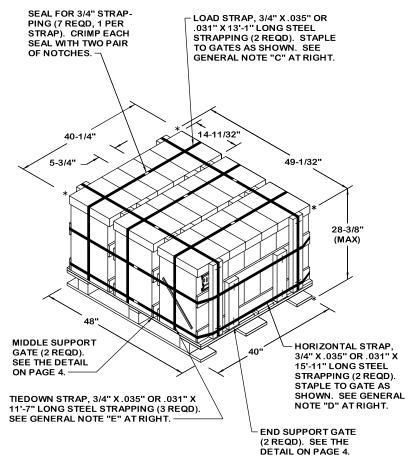
1. ADDING ITEM BY NATIONAL STOCK NUMBER TO THE "PALLET UNIT DATA" CHART.

REVISION NO. 2, DATED NOVEMBER 1995, CONSISTS OF:

- 1. MODIFYING BOX SIZE.
- 2. ADDING A NOTE TO PAGES 3 AND 4.

**REVISION NO. 3, DATED SEPTEMBER 2002, CONSISTS OF:** 

- CHANGING DODIC AND HAZARD CLASSIFICATION
   DATA FOR SPECIFIED NATIONAL STOCK NUMBERS
   IN THE "PALLET UNIT DATA" CHART.
- 2. MODIFYING END AND MIDDLE SUPPORT GATES.
- 3. ADDING HORIZONTAL STRAP.



### **PALLET UNIT**

SEE GENERAL NOTE "B" AT RIGHT.

21 BOXES OF 81MM CARTRIDGE (DUNNAGE PALLET	`	5	7 LBS
	Г		

BILL OF MATERIAL					
LUMBER	LINEAR FEET	BOARD FEET			
2" X 4"	26. 88	17. 92			
NAILS	NO. REQD	POUNDS			
6d (2")	96	0. 57			
PALLET, 40" X 48" 1 REQD 80 LBS STEEL STRAPPING, 3/4" 91.00' REQD 8.10 LBS SEAL FOR 3/4" STRAPPING 7 REQD NIL STAPLE, 15/16" X 3/4" 20 REQD NIL PLYWOOD, 5/8" 11.66 SQ FT REQD 20.05 LBS					

### (GENERAL NOTES CONTINUED)

- L. THE STYLE 1 PALLET DELINEATED IN THE DETAIL NEED NOT HAVE CHAMFERS OR STRAP SLOTS AS SPECIFIED WITHIN MILITARY SPECIFICATION MIL-P-15011 WHEN USED FOR THE UNITIZATION OF ITEMS COVERED BY THIS APPENDIX.
- M. FOR DETAILS OF THE PA156 METAL BOX SEE NAVY DRAWING 6213304.
- N. ALL DUNNAGE SHALL BE PRESERVATIVE TREATED IN ACCORDANCE WITH GENERAL NOTE "AA" IN THE BASIC PROCEDURE.

### **GENERAL NOTES**

- A. THIS APPENDIX CANNOT STAND ALONE BUT MUST BE USED IN CONJUNCTION WITH THE BASIC UNITIZATION PROCEDURES DRAWING 19-48-4116-20PA1002. TO PRODUCE AN APPROVED UNIT LOAD, ALL PERTINENT PROCEDURES, SPECIFICATIONS AND CRITERIA SET FORTH WITHIN THE BASIC DRAWING WILL APPLY TO THE PROCEDURES DELINEATED IN THIS APPENDIX. ANY EXCEPTIONS TO THE BASIC PROCEDURES ARE SPECIFIED IN THIS APPENDIX.
- B. DIMENSIONS, CUBE AND WEIGHT OF A PALLET UNIT WILL VARY SLIGHTLY DEPENDING UPON THE ACTUAL DIMENSIONS OF THE BOXES AND THE WEIGHT OF THE SPECIFIC ITEM BEING UNITIZED.
- C. THE LOAD STRAPS MUST BE PRE-POSITIONED ON THE PALLET DECK PRIOR TO PLACING BOXES ON THE PALLET. LOAD STRAPS MUST BE TENSIONED AND SEALED PRIOR TO APPLICATION OF TIEDOWN AND HORIZONTAL STRAPS.
- D. INSTALL THE HORIZONTAL STRAP TO ENCIRCLE THE LAYER OF BOXES ON THE PALLET AND TO BE ALIGNED WITH THE HORIZONTAL PIECES OF THE "SUPPORT GATES" AS SHOWN. HORIZONTAL STRAP MUST BE TENSIONED AND SEALED PRIOR TO THE APPLICATION OF TIEDOWN STRAPS.
- E. INSTALL EACH TIEDOWN STRAP TO PASS UNDER THE TOP DECK BOARDS OF THE PALLET. TIEDOWN STRAPS WILL NOT BE APPLIED UNTIL THE HORIZONTAL AND LOAD STRAPS HAVE BEEN TENSIONED AND SEALED.
- F. THE FOLLOWING AMC DRAWINGS ARE APPLICABLE FOR OUTLOADING AND STORAGE OF THE ITEMS COVERED BY THIS APPENDIX.

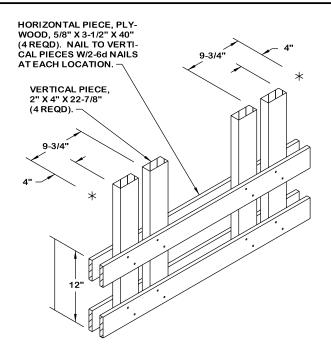
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CARLOADING - - - - 19-48-4115-5PA1002
TRUCKLOADING - - - 19-48-4117-11PA1003
STORAGE - - - - - 19-48-4118-1-2-3
4-14-22PA1002

END OPENING ISO
CONTAINER - - - - 19-48-4153-15PA1002
MILVAN - - - - - 19-48-4166-15PA1003
SIDE OPENING ISO
CONTAINER - - - - 19-48-4267-15PA1009
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- G. IF ITEMS COVERED HEREIN ARE UNITIZED PRIOR TO ISSUANCE OF THIS REVISION TO THIS APPENDIX, THE CONTAINERS NEED NOT BE REUNITIZED SOLELY TO CONFORM TO THIS REVISION.
- H. THE UNITIZATION PROCEDURES DEPICTED HEREIN MAY ALSO BE USED FOR UNITIZING 81MM CARTRIDGES WHEN IDENTIFIED BY DIFFERENT NATIONAL STOCK NUMBERS (NSN) THAN WHAT IS SHOWN ON PAGE 2, PROVIDED THE BOX PACK DOES NOT VARY FROM WHAT IS DELINEATED HEREIN. THE EXPLOSIVE CLASSIFICATION OF OTHER ITEMS MAY BE DIFFERENT THAN WHAT IS SHOWN.
- J. DIMENSIONS OF GIVEN FOR DUNNAGE PIECES WILL BE FIELD CHECKED PRIOR TO THEIR ASSEMBLY TO THE PALLET UNIT. THE ASSEMBLIES MUST NOT PROTRUDE PAST THE TOPS AND/OR SIDES OF THE PA156 CONTAINERS. THE ASSEMBLIES MAY BE SHORTER THAN 22-3/8" PROVIDED THE TIEDOWN STRAPS ARE PREVENTED FROM DAMAGING THE EDGES OF THE PA156 CONTAINER AND ARE NOT IN CONTACT WITH THE STACKING AIDS ON THE CONTAINER LIDS. THE GATE HORIZONTAL PIECES MUST NOT BEAR AGAINST THE PA156 CONTAINER HANDLE OR LATCH ASSEMBLY.
- K. IF THERE IS NEED FOR FILLER ASSEMBLIES AND AT LEAST TWO PALLET UNITS ARE BEING CONSTRUCTED, NOT MORE THAN 17 FILLER WILL BE INSTALLED IN ANY ONE PALLET UNIT. ADDITIONAL FILLERS CAN BE PUT IN A SECOND PALLET UNIT AS REQUIRED WHEN THE QUANTITY OF 17 FILLERS IN THE FIRST REDUCED PALLET UNIT IS INSUFFICIENT TO SATISFY THE TOTAL REDUCTION NEEDED. USING TWO PALLET UNITS TO SATISFY THE PALLETIZATION CRITERIA APPLICABLE TO LESS-THAN-FULL PALLET UNITS IS AN EXCEPTION TO THE BASIC PROCEDURES. HOWEVER, THE EXCEPTION IS NECESSARY FOR THE AMMUNITION PACK COVERED BY THIS APPENDIX TO MOST EFFECTIVELY GET AN ACCEPTABLE, COMPACT AND SOUND PALLET UNIT.

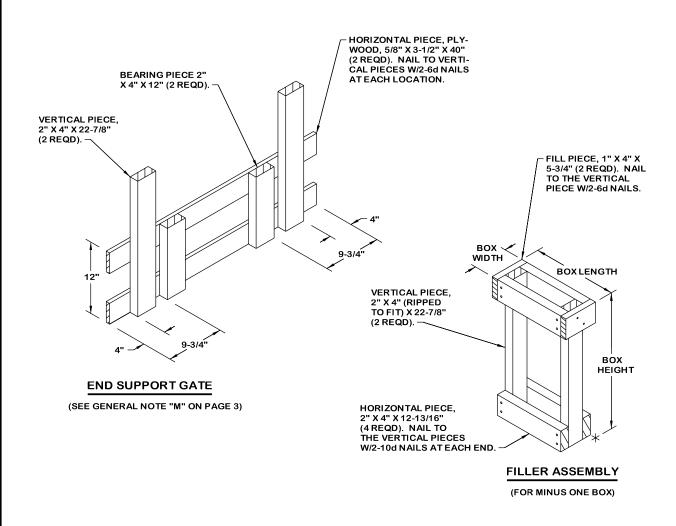
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### MIDDLE SUPPORT GATE

(SEE GENERAL NOTE "M" ON PAGE 3)



PAGE 4