

# APPENDIX 45B

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

CARTRIDGE, 105 MM, PACKED 2 PER WIREBOUND BOX,  
UNITIZED 18 BOXES PER 35" X 45 $\frac{1}{2}$ " PALLET; APPROX  
BOX SIZE 37 $\frac{3}{16}$ " L X 13 $\frac{3}{4}$ " W X 7 $\frac{3}{8}$ " H

PALLET UNIT DATA						
ITEMS INCLUDED		HAZARD CLASSIFICATION				WEIGHT (LBS)
NSN	DODIC	DOT CLASS	CG CLASS	QD CLASS	COMP GROUP	
1315-01-041-2320	C520	B	II-B	(08) 1.2	C	2,370

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

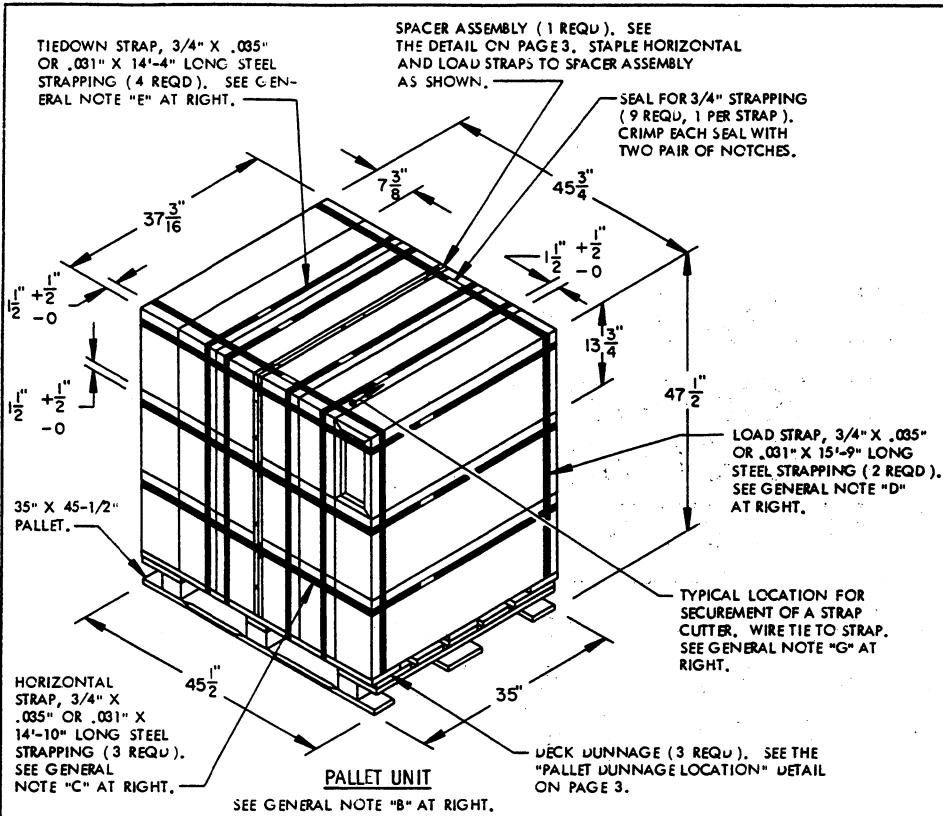
**REVISION**

REVISION NO. 1, DATED FEBRUARY 1982,  
CONSISTS OF:

- 1 CHANGING BOX TYPE AND DIMENSIONS.
2. CHANGING UNITIZATION PROCEDURES TO CONFORM TO 1. ABOVE.

**DO NOT SCALE**

REVISIONS				DESIGNED	PROJ ENG
1	FEB 82	<i>LRAD</i> <i>WFE</i>	<i>John I. Snydell</i>	<i>RSH</i>	<i>John Snydell</i>
				<small>CHECKER</small> <small>LOC ENGINE OFFICE</small> <small>APPROVED, U. S. ARMY ARMAMENT MATERIEL READINESS COMMAND</small>	
				<small>DRSAR-LEP</small> <small>DRSAR-THD</small> <small>APPROVED BY ORDER OF COMMANDER GENERAL, U. S. ARMY MATERIEL DEVELOPMENT AND READINESS COMMAND (DARCOM)</small> <small>U. S. ARMY DEFENSE AMMUNITION CENTER AND SCHOOL</small>	
U. S. ARMY DARCOM DRAWING					
JUNE 1980					
				CLASS	DIVISION
				19	48
				DRAWING	FILE
				4116/ 45B	20PA 1002



18 BOXES OF 105MM CARTRIDGES (2 PER BOX) @ 126 LBS-----2,268 LBS (APPROX)  
 DUNNAGE-----37 LBS  
 PALLET-----65 LBS

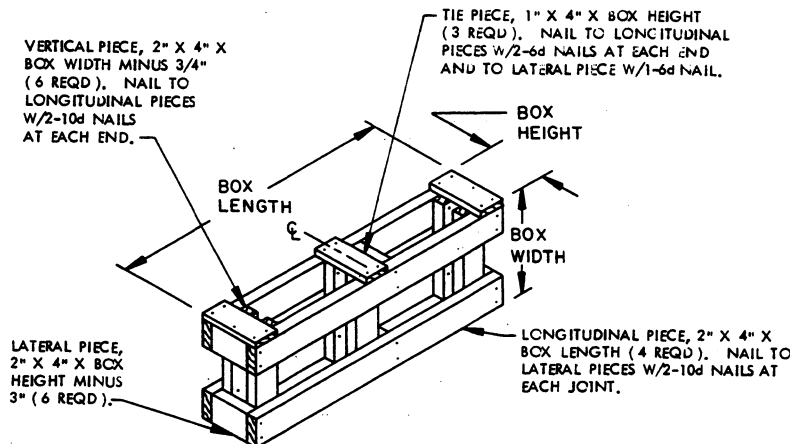
TOTAL WEIGHT-----2,370 LBS (APPROX)  
 CUBE-----46.8 CUBIC FEET (APPROX)

### GENERAL NOTES

- 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.
- 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.
- INSTALL EACH HORIZONTAL STRAP TO ENIRCLE A LAYER OF BOXES ON THE PALLET. NOTE THAT THE STRAPS WILL BE LOCATED AS DIMENSIONED, NEAR THE TOP OF THE BOXES. HORIZONTAL STRAPS MUST BE TENSIONED AND SEALED PRIOR TO TENSIONING OF LOAD STRAPS.
- THE LOAD STRAPS MUST BE PRE-POSITIONED ON THE PALLET DECK DUNNAGE PRIOR TO PLACING BOXES ON THE PALLET. NOTE THAT THE STRAPS WILL BE LOCATED AS DIMENSIONED. LOAD STRAPS MUST BE TENSIONED AND SEALED PRIOR TO APPLICATION OF TIEDOWN STRAPS.
- INSTALL EACH TIEDOWN STRAP TO PASS UNDER THE TOP DECK BOARD OF THE PALLET. NOTE THAT THE STRAPS WILL BE LOCATED AS DIMENSIONED, NEAR THE SIDE CLEATS OF THE END PANELS OF THE BOX. TIEDOWN STRAPS WILL NOT BE APPLIED UNTIL THE LOAD STRAPS HAVE BEEN TENSIONED AND SEALED.
- THE FOLLOWING DARCOM DRAWINGS ARE APPLICABLE FOR OUTLOADING AND STORAGE OF THE ITEMS COVERED BY THIS APPENDIX.
  - CARLOADING-----DRAWING 19-48-4115-5PA1002
  - TRUCKLOADING ---DRAWING 19-48-4117-11PA1003
  - STORAGE-----DRAWING 19-48-4118-1-2-3-4-14-22PA1002
- FOR METHOD OF SECURING A STRAP CUTTER TO THE PALLET UNIT, SEE DARCOM DRAWING 19-48-4127-20P1000.
- IF ITEMS COVERED HEREIN ARE UNITIZED PRIOR TO ISSUANCE OF THIS APPENDIX, THE BOXES NEED NOT BE REUNITIZED SOLELY TO CONFORM TO THIS APPENDIX.
- THE UNITIZATION PROCEDURES DEPICTED HEREIN MAY ALSO BE USED FOR UNITIZING 105MM CARTRIDGES WHEN IDENTIFIED BY DIFFERENT NATIONAL STOCK NUMBERS (NSN) THAN WHAT IS SHOWN ON THE TITLE PAGE, 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.
- WHEN THE UNIT LOAD DEPICTED AT LEFT IS TO BE USED FOR UNITIZING MARINE CORPS AMMUNITION, ONE LAYER OF BOXES MUST BE OMITTED, TIEDOWN STRAP LENGTHS MUST BE DECREASED TO 12'-0", LOAD STRAP LENGTHS MUST BE DECREASED TO 13'-5", ONE HORIZONTAL STRAP MUST BE OMITTED, AND THE SPACER ASSEMBLY MUST BE MODIFIED. SPACER ASSEMBLY MODIFICATIONS REQUIRED ARE CHANGING THE LENGTH OF THE VERTICAL PIECES TO 27'-1/2", OMITTING ONE HORIZONTAL PIECE, AND LOCATING THE TOP OF THE CENTER HORIZONTAL AT 15'-1/2". THIS WILL RESULT IN AN OVERALL UNIT HEIGHT OF 33'-3/4", A GROSS UNIT WEIGHT OF 1,606 POUNDS, AND A UNIT CUBE OF 33.2 CUBIC FEET. ADDITIONALLY, THE UNIT LOAD MAY BE MODIFIED AS DESCRIBED WHEN BEING SHIPPED BY MILVAN OR COMMERCIAL INTERMODAL FREIGHT CONTAINER, CONVENTIONAL VAN TRAILER OR CONVENTIONAL OR HIGH-CAPACITY BOXCAR. THE DETERMINATION TO REDUCE THE LOAD BY A LAYER FOR TRANSPORTATION WILL BE MADE BY THE RESPONSIBLE COMMAND AND WILL BE BASED UPON ECONOMICS OF TRANSPORTATION AND HANDLING.

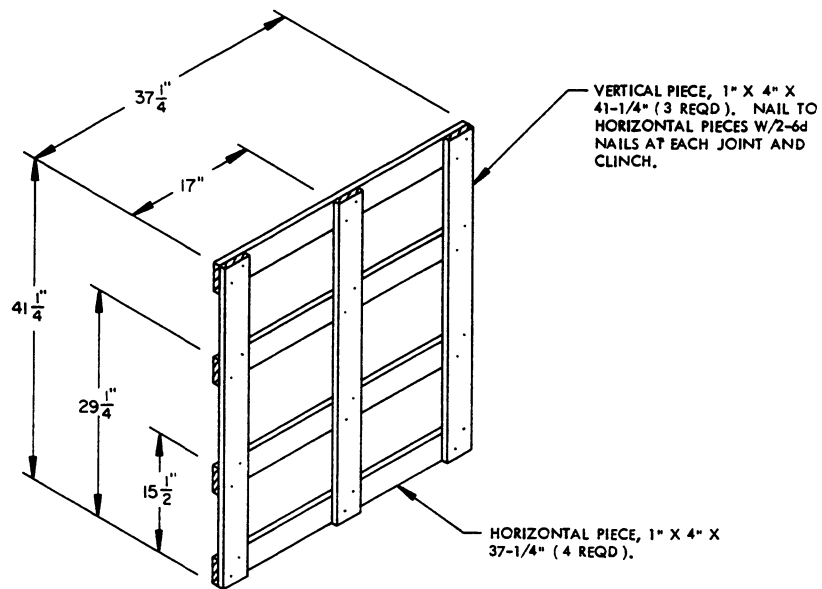
### BILL OF MATERIAL

LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	22.73	7.58
1" X 6"	11.37	5.69
NAILS		POUNDS
4d (1-1/2")	12	0.04
6d (2")	24	0.14
PALLET, 35" X 45-1/2"	1 REQD.	65 LBS
STEEL STRAPPING, 3/4"	133.33' REQD.	9.52 LBS
SEAL FOR 3/4" STRAPPING	9 REQD.	NIL
STAPLE, 15/16" X 3/4"	8 REQD.	NIL

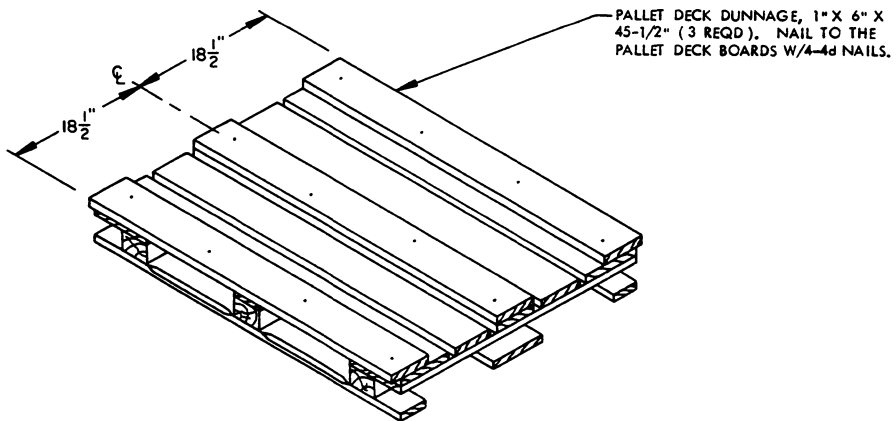


### FILLER ASSEMBLY

(FOR MINUS ONE BOX)



**SPACER ASSEMBLY**  
( ONE REQD )



**PALLET DUNNAGE LOCATION**

