

# APPENDIX 47A

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

CHARGE, EXPELLING, PACKED 128 PER WOODEN BOX,  
UNITIZED 16 BOXES PER 40" X 48" PALLET;  
APPROX BOX SIZE 22" L X 20 $\frac{3}{16}$ " W X 11 $\frac{3}{4}$ " H

PALLET UNIT DATA						
ITEMS INCLUDED		HAZARD CLASSIFICATION ①				WEIGHT (LBS)
NSN	DOD IC	DOT CLASS	CG CLASS	QD CLASS	COMP GROUP	
1320-01-052-1318						1,285

REVISION

REVISION NO. 1, DATED AUGUST 1984  
CONSISTS OF:

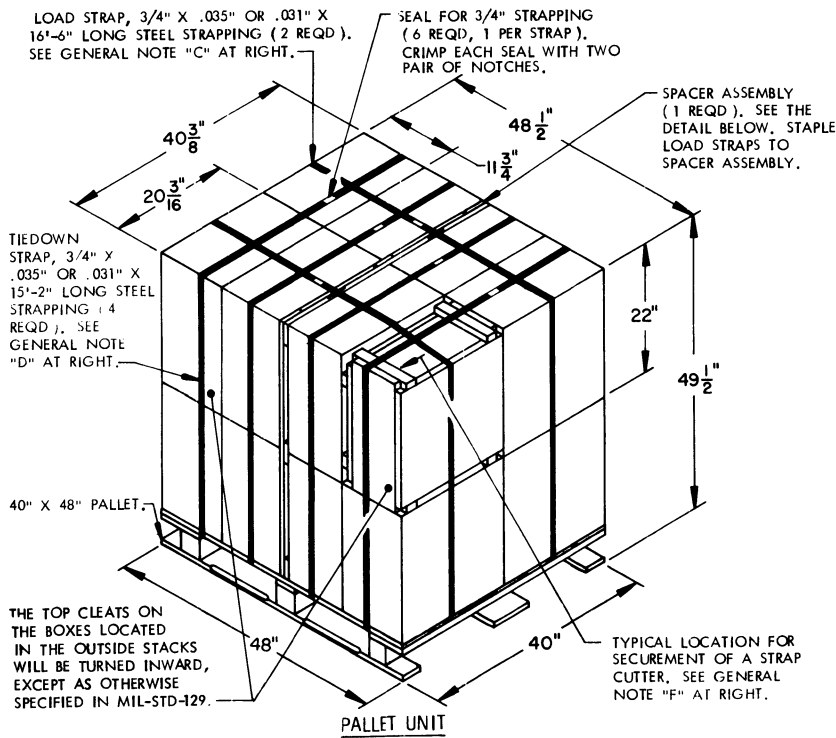
CHANGING PALLET SIZE.

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

① 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).

**DO NOT SCALE**

REVISIONS				CRAFTSMAN	PROJ ENG
1	AUG 84	/	<i>John L. Bryant</i>	/bh	<i>Bill</i>
				CHECKER	LOG ENGRG OFFICE
				<i>GRG</i>	<i>W. J. Ernst</i>
APPROVED, U.S. ARMY ARMAMENT, MUNITIONS AND CHEMICAL COMMAND					
				<i>Walter H. Benton</i>	<i>W. J. Ernst</i>
APPROVED BY ORDER OF COMMANDING GENERAL, U.S. ARMY MATERIAL DEVELOPMENT AND READINESS COMMAND (DARCOM)					
<i>William F. Ernst</i>					
U. S. ARMY DARCOM DRAWING					
FEBRUARY 1984					
				CLASS	DIVISION
				DRAWING	FILE
				19	48
				4116/ 47A	20PA 1002



SEE GENERAL NOTE "B" AT RIGHT.

16 BOXES OF EXPPELLING CHARGES (128 PER BOX) @ 74 LBS ----- 1,184 LBS (APPROX)  
 DUNNAGE ----- 21 LBS  
 PALLET ----- 80 LBS

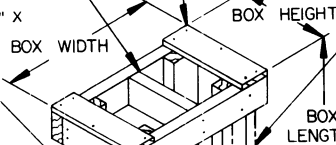
TOTAL WEIGHT ----- 1,285 LBS (APPROX)  
 CUBE ----- 56.1 CU FT (APPROX)

BILL OF MATERIAL		
LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	20.84	6.95
NAILS	NO. REQD.	POUNDS
6d (2")	18	.11
PALLET, 40" X 48"	1 REQD	80 LBS
STEEL STRAPPING, 3/4"	93.67 REQD	6.69 LBS
SEAL FOR 3/4" STRAPPING	6 REQD	NIL
STAPLE, 3/4" X 15/16"	2 REQD	NIL

CENTER SUPPORT PIECE,  
 2" X 4" X BOX HEIGHT  
 MINUS 3" (1 REQD).

TIE PIECE, 1" X 4" X BOX HEIGHT (2 REQD).  
 NAIL TO LONGITUDINAL PIECES W/2-6d NAILS  
 AT EACH END AND TO LATERAL PIECE W/1-6d  
 NAIL.

VERTICAL PIECE, 2" X 4" X  
 BOX LENGTH MINUS  
 3/4" (4 REQD).

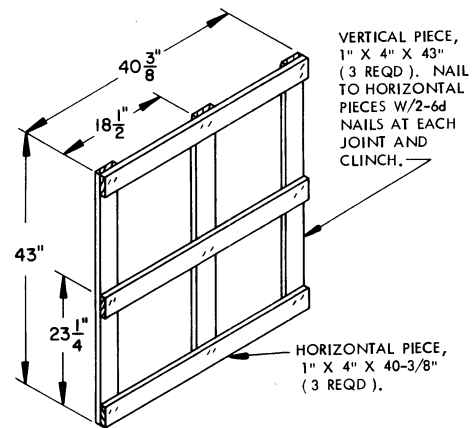


VERTICAL SUPPORT PIECE,  
 2" X 4" BY CUT-TO-FIT  
 (2 REQD). NAIL TO  
 VERTICAL PIECE W/3-10d  
 NAILS. NOTE: WHEN THE  
 FILLER ASSEMBLY OR ASSEMBLIES  
 IS LOCATED ON THE 40" SIDE OR  
 SIDES OF THE PALLET, IT WILL RE-  
 QUIRE VERTICAL SUPPORT PIECES  
 AS SHOWN.

LATERAL PIECE, 2" X 4" X  
 BOX HEIGHT  
 MINUS 3" (4 REQD).  
 NAIL TO VERTICAL  
 PIECES W/2-10d NAILS  
 AT EACH END.

FILLER ASSEMBLY  
 (FOR MINUS ONE BOX)

LONGITUDINAL PIECE, 2" X 4" X BOX  
 WIDTH (4 REQD). NAIL TO VERTICAL  
 PIECES W/2-10d NAILS AT EACH END  
 AND NAIL TO CENTER SUPPORT PIECE  
 W/2-10d NAILS AT EACH END.



SPACER ASSEMBLY

(1 REQD)

**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 MAY BE THREADED THROUGH THE STRAP SLOTS OF A PALLET OR 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 STRAPS.
- D. INSTALL EACH TIEDOWN STRAP TO PASS UNDER THE TOP DECK BOARDS OF THE PALLET AND TO BE LOCATED AS SHOWN. TIEDOWN STRAPS WILL NOT BE APPLIED UNTIL THE LOAD STRAPS HAVE BEEN TENSIONED AND SEALED.
- E. THE FOLLOWING DARCOM DRAWINGS ARE APPLICABLE FOR OUTLOADING AND STORAGE OF THE ITEMS COVERED BY THIS APPENDIX.
  - CARLOADING ----- DRAWING 19-48-4115-5PA 1002
  - TRUCKLOADING ----- DRAWING 19-48-4117-11PA1003
  - STORAGE ----- DRAWING 19-48-4118-1-2-3-4-14-22PA1002
- F. FOR METHOD OF SECURING A STRAP CUTTER TO THE PALLET UNIT, SEE DARCOM DRAWING 19-48-4127-20P1000.
- G. IF ITEMS COVERED HEREIN ARE UNITIZED PRIOR TO ISSUANCE OF THIS APPENDIX, THE BOXES NEED NOT BE REUNITIZED SOLELY TO CONFORM TO THIS APPENDIX.
- H. THE UNITIZATION PROCEDURES DEPICTED HEREIN MAY ALSO BE USED FOR UNITIZING EXPPELLING CHARGES 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 EXPPELLING CLASSIFICATION OF OTHER ITEMS MAY BE DIFFERENT THAN WHAT IS SHOWN.
- J. 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 11'-6", AND LOAD STRAP LENGTHS MUST BE DECREASED TO 12'-10". THIS WILL RESULT IN AN OVERALL UNIT HEIGHT OF 27'-1/2", A GROSS UNIT WEIGHT OF 661 POUNDS, AND A UNIT CUBE OF 30.2 CUBIC FEET. ADDITIONALLY, THE UNIT LOAD MAY BE MODIFIED AS DESCRIBED WHEN BEING SHIPPED BY MILVAN OR COMMERCIAL INTER-MODAL 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.