

# CHAPARRAL

UNITIZATION PROCEDURES FOR GUIDED  
MISSILE WARHEAD, PACKED 1 PER METAL  
DRUM, UNITIZED 6 DRUMS PER 42" X 53"  
PALLET; DRUM SIZE 19-1/2" DIA X 28-1/2" H

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				U.S. ARMY AMC DRAWING			
				APRIL 1985			
				CLASS	DIVISION	DRAWING	FILE
				19	48	5257	GM 20CH4

DO NOT SCALE

## GENERAL NOTES

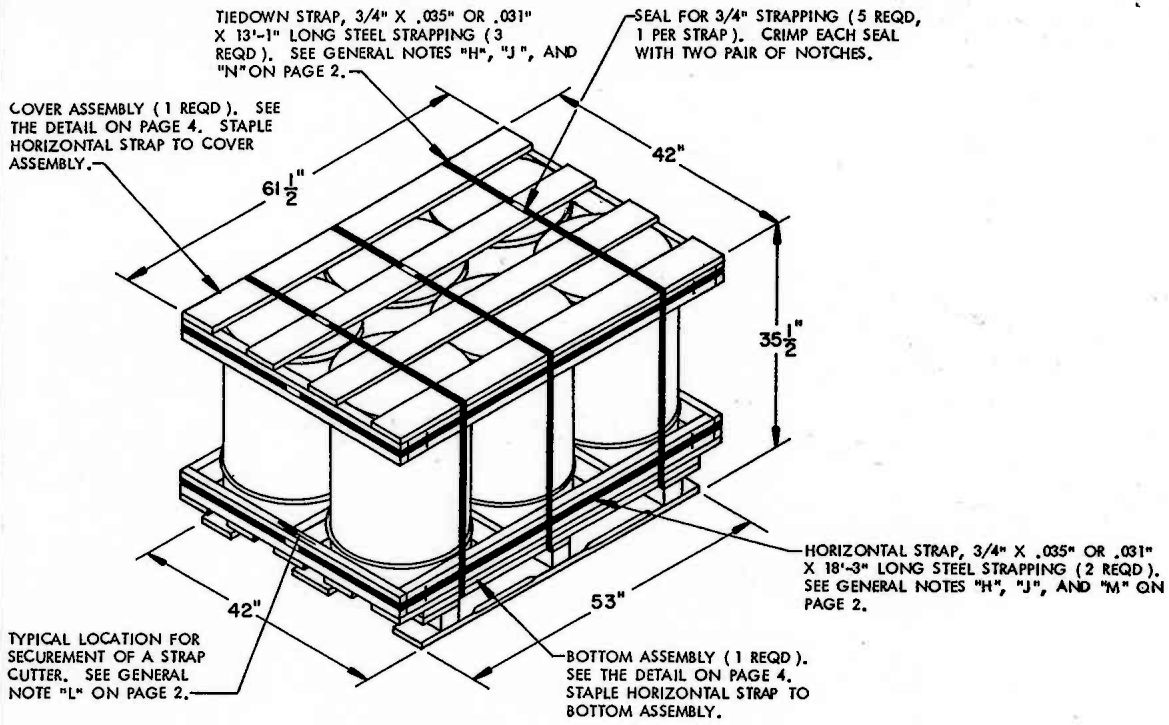
- A. THIS DOCUMENT HAS BEEN PREPARED AND ISSUED IN ACCORDANCE WITH AR 740-1 AND AUGMENTS TM 743-200-1 ( CHAPTER 5 ) AND CONFORMS TO MIL-STD-1660.
- B. DIMENSIONS, CUBE AND WEIGHT OF A PALLET WILL VARY SLIGHTLY DEPENDING UPON THE ACTUAL DIMENSIONS OF THE DRUMS AND THE WEIGHT OF THE SPECIFIC ITEM BEING UNITIZED.
- C. FOR DETAILS OF THE GUIDED MISSILE WARHEAD METAL DRUM, SEE US ARMY MISSILE COMMAND DRAWING NO. 10240553.
- CONTAINER DIMENSIONS --- 19-1/2" DIA BY 28-1/2" HIGH.  
GROSS WEIGHT ----- 60 POUNDS ( APPROX ).
- D. DIMENSIONAL LUMBER SPECIFIED THROUGHOUT THIS PROCEDURAL DRAWING IS OF NOMINAL SIZE UNLESS OTHERWISE SPECIFIED. FOR EXAMPLE, 1" X 4" MATERIAL IS ACTUALLY 3/4" THICK BY 5-1/2" WIDE AND 2" X 4" MATERIAL IS ACTUALLY 1-1/2" THICK BY 3-1/2" WIDE.
- E. IN ORDER TO OBTAIN COMPACT ( SOUND ) UNITS, ALL STRAPS SHALL BE LOCATED IN PROPER ALIGNMENT AND TENSIONED UNTIL THEY CUT INTO THE EDGE OF THE DUNNAGE AND THE PALLET DECK. AFTER TENSIONING, ALL STRAPS WILL BE SECURED USING ONE SEAL AND TWO PAIR OF NOTCHES PER SEAL.
- F. WHEN ASSEMBLING A PALLETIZED UNIT, CARE SHALL BE TAKEN TO INSURE THAT THE DRUMS ARE EVENLY ALIGNED Laterally AND LONGITUDINALLY SO THAT THE SIDES AND ENDS OF THE PALLET UNIT DO NOT EXCEED A 1/2" TOLERANCE.
- G. A PLUS OR MINUS 1/4" IS ALLOWED ON OVERALL DIMENSIONS OF ANY DUNNAGE ASSEMBLY. HOWEVER, SIMILAR PIECES IN AN ASSEMBLY MUST BE WITHIN 1/8" OF THE SAME DIMENSION.
- H. WHEN APPLYING ANY STRAP, CARE MUST BE EXERCISED TO ASSURE THAT THE END OF THE STRAP ON THE UNDERSIDE OF THE JOINT EXTENDS AT LEAST 6" BEYOND THE SEAL. THIS EXTRA MINIMUM LENGTH OF STRAP IS REQUIRED TO PERMIT SUBSEQUENT TIGHTENING OF LOOSENED STRAPPING. RETENSIONING CAN BE ACCOMPLISHED WITHOUT REPLACING STRAPPING OR SPLICING STRAPPING THROUGH THE USE OF A FEEDWHEEL TENSIONING TOOL, MANUAL OR PNEUMATIC, AND THE APPLICATION OF ONE ADDITIONAL SEAL.
- J. CAUTION. STRAPPING LESS THAN 3/4" WIDE OR LESS THAN .031" THICK WILL NOT BE USED. IF THE SPECIFIED STRAPPING IS NOT AVAILABLE, STRAPPING WIDER THAN SPECIFIED AND AT LEAST .031" THICK MAY BE USED ON AN INTERIM BASIS UNTIL THE SPECIFIED STRAPPING CAN BE ACQUIRED.
- K. CONVERSION TO METRIC EQUIVALENTS: DIMENSIONS WITHIN THIS DOCUMENT ARE EXPRESSED IN INCHES, AND WEIGHTS ARE EXPRESSED IN POUNDS. WHEN NECESSARY, THE METRIC EQUIVALENTS MAY BE COMPUTED ON THE BASIS OF ONE INCH EQUALS 25.4 MM, AND ONE POUND EQUALS 0.454 KG.
- L. FOR THE METHOD OF SECURING A STRAP CUTTER TO THE PALLET UNIT, SEE DARCOM DRAWING 19-48-4127-20P1000.
- M. INSTALL EACH HORIZONTAL STRAP TO ENCIRCLE A DUNNAGE ASSEMBLY AS SHOWN. HORIZONTAL STRAPS WILL BE TENSIONED AND SEALED PRIOR TO APPLICATION OF THE TIEDOWN STRAPS.
- N. 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 HORIZONTAL STRAPS HAVE BEEN TENSIONED AND SEALED.
- O. ALL WOODEN DUNNAGE AND PALLETS MUST BE PRESERVATIVE TREATED WITH EITHER COPPER-B-QUINOLINOLATE OR ZINC NAPHTHENATE EMULSIFIABLE. PALLETS AND DUNNAGE ASSEMBLIES MUST BE ASSEMBLED PRIOR TO TREATMENT. THE LETTERS "PA" DENOTING PQ56 ( COPPER-B-QUINOLINOLATE ) OR "PB" DENOTING M-GARD W550 ( ZINC NAPHTHENATE EMULSIFIABLE ) MUST BE APPLIED TO THE OUTER FACE OF THE CENTER POST ON THE 45-1/2" SIDES OF THE PALLET AND TO AN OUTER FACE OF THE DUNNAGE ASSEMBLY IN LETTERS AT LEAST ONE-INCH HIGH.

## MATERIAL SPECIFICATIONS

<u>PALLET</u> -----	MIL SPEC MIL P-15011; 4-WAY ENTRY, STYLE IB, TYPE I, CLASS I, PRESERVATIVE TREATED. SEE GENERAL NOTE "O".
<u>LUMBER</u> -----	SEE TM 743-200-1 ( DUNNAGE LUMBER ) AND FED SPEC MM-L-751.
<u>NAILS</u> -----	FED SPEC FF-N-105; COMMON, ALT: ANNULAR-RING TYPE NAIL OR PALLET TYPE ( MECHANICALLY DEFORMED ) NAIL OF SAME SIZE.
<u>STRAPPING, STEEL</u> -----	FED SPEC QQ-S-781; CLASS I, TYPE I OR IV, HEAVY DUTY, FINISH B ( GRADE 2 ), SIZE 3/4" X .035" OR .031".
<u>SEAL, STRAP</u> -----	FED SPEC QQ-S-781, TYPE D, STYLE I, II, OR IV, CLASS H, FINISH B ( GRADE 2 ).
<u>STAPLE, STRAP</u> -----	FED SPEC FF-N-105; TYPE III, STYLE 3, SIZE 15/16" WIDE BY 3/4" LEG LENGTH FOR 3/4" STRAPPING.
<u>PLYWOOD</u> -----	FED SPEC NN-P-530, GROUP B, PS-1, CONSTRUCTION AND INDUSTRIAL PLYWOOD, INTERIOR WITH EXTERIOR GLUE, GRADE C-D. IF SPECIFIED GRADE IS NOT AVAILABLE, A BETTER INTERIOR OR AN EXTERIOR GRADE MAY BE SUBSTITUTED.

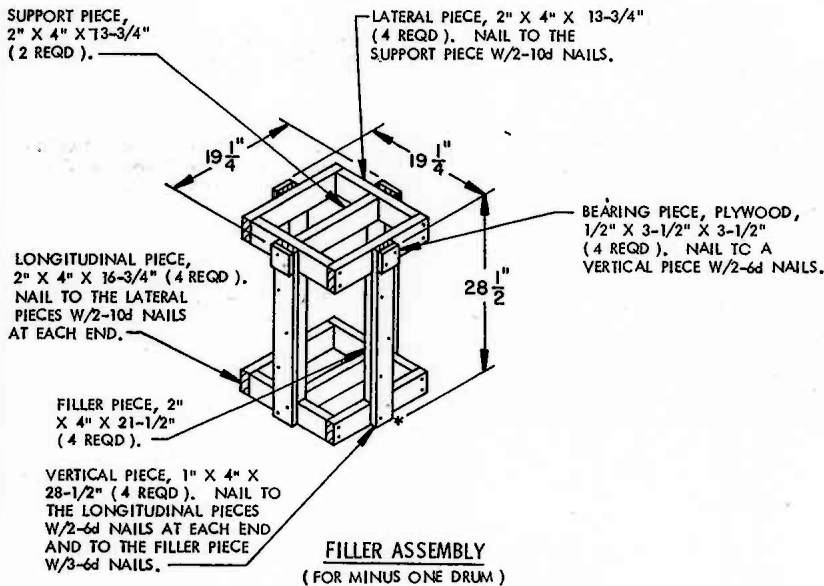
## REVISION

REVISION NO. 1, DATED AUGUST 1985, CONSISTS OF:  
UPDATING MATERIAL SPECIFICATIONS TO CONFORM TO CURRENT STANDARDS.

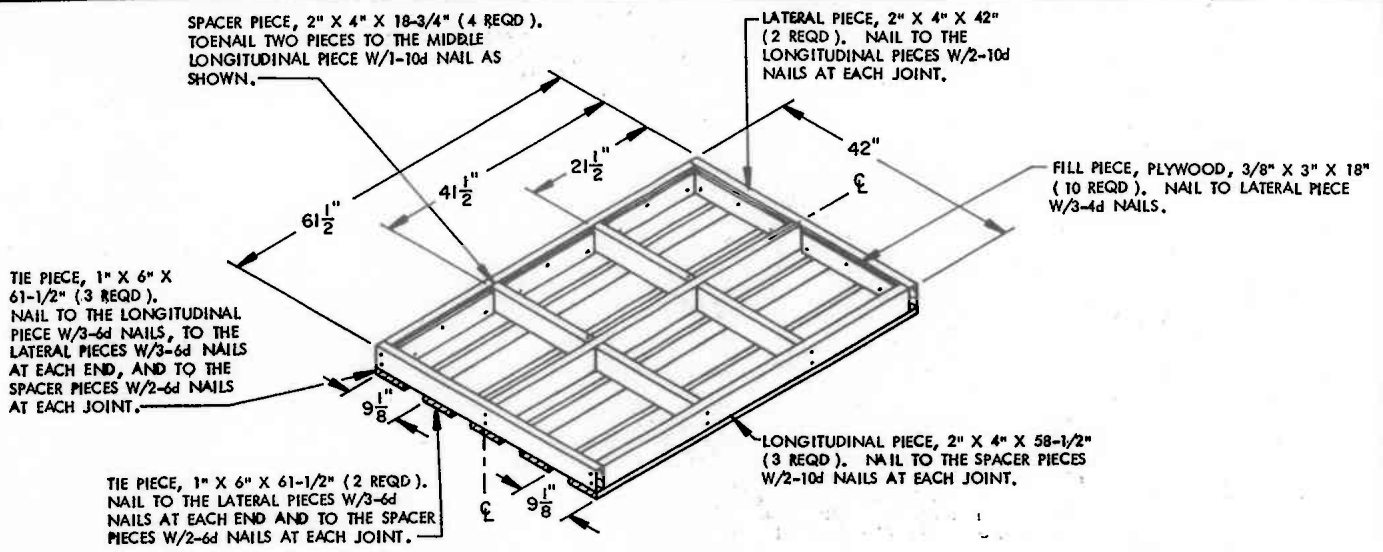


**PALLET UNIT**

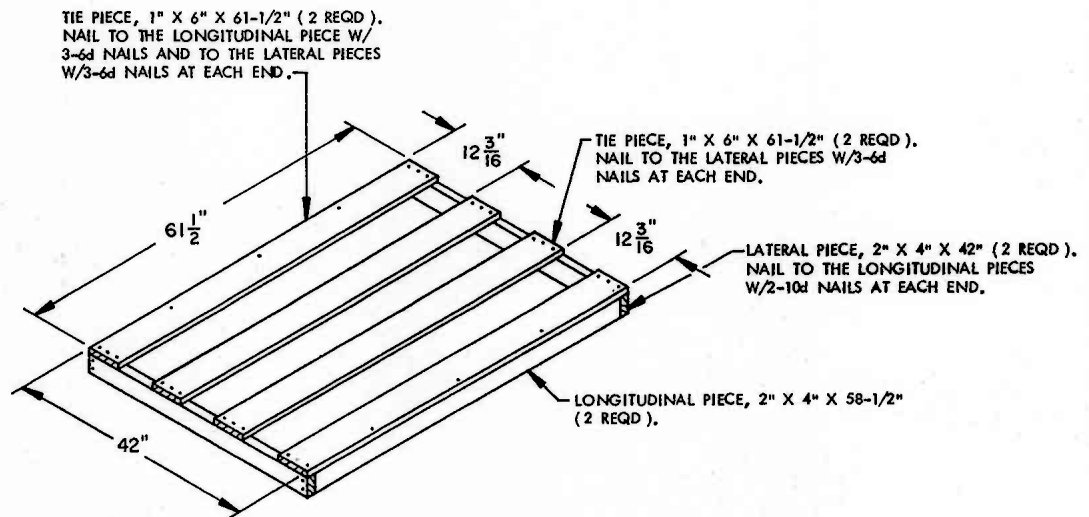
6 DRUMS (1 WARHEAD PER DRUM) @ 60 LBS	360 LBS (APPROX)
DUNNAGE	116 LBS
PALLET	90 LBS
<b>TOTAL WEIGHT</b>	<b>566 LBS (APPROX)</b>
<b>CUBE</b>	<b>53.1 CU FT (APPROX)</b>



BILL OF MATERIAL		
LUMBER	LINEAR FEET	BOARD FEET
1" X 6"	46.13	23.07
2" X 4"	44.63	29.75
NAILS	NO. REQD	POUNDS
4d (1-1/2")	30	0.10
6d (2")	85	0.49
10d (3")	34	0.52
PLYWOOD, 3/8"	3.75 SQ FT REQD	3.87 LBS
PALLET, 42" X 53"	1 REQD	90 LBS
STEEL STRAPPING, 3/4"	75.75' REQD	5.41 LBS
SEAL FOR 3/4" STRAPPING	5 REQD	NIL
STAPLE, 15/16" X 3/4"	8 REQD	NIL



**BOTTOM ASSEMBLY**



**TOP ASSEMBLY**