

CHAPARRAL

UNITIZATION PROCEDURES FOR GUIDED
MISSILE GUIDANCE SECTION, PACKED 1
PER METAL DRUM, UNITIZED 2 DRUMS
PER 25-3/4" X 50-1/2" SPECIAL PALLET;
DRUM SIZE 24-1/16" DIA X 35-3/16" H

INDEX

<u>ITEM</u>	<u>PAGE(S)</u>
GENERAL NOTES -----	2
MATERIAL SPECIFICATIONS-----	3
PALLET UNIT FOR MISSILE GUIDANCE SYSTEM ----	4
DETAILS -----	5

REVISIONS				DRAFTSMAN TRS / dsjb	PROJ ENG JAF / WRF	AMSH-850P m2 / 2.000
1	AUG 85	WRF WFE	<i>William F. Ernst</i>	GWS	WFE WFE	WFE
				APPROVED, U.S. ARMY MISSILE COMMAND <i>[Signature]</i>		
				APPROVED BY ORDER OF COMMANDING GENERAL, U.S. ARMY MATERIEL COMMAND (AMC) <i>[Signature]</i> U.S. ARMY DEFENSE AMMUNITION CENTER AND SCHOOL		
				U.S. ARMY AMC DRAWING APRIL 1985		
				CLASS	DIVISION	DRAWING
				19	48	5256
						FILE GM 20CH3

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 UNIT 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 MISSILE GUIDANCE SECTION METAL DRUM, SEE U.S. ARMY MISSILE COMMAND DRAWING NO. 10240516.
- CONTAINER DIMENSIONS ---- 24-1/16" DIA BY 35-3/16" HIGH.
GROSS WEIGHT ----- 100 POUNDS (APPROX).
- D. DIMENSIONAL LUMBER SPECIFIED THROUGHOUT THIS PROCEDURAL DRAWING IS OF A NOMINAL SIZE, UNLESS OTHERWISE SPECIFIED. FOR EXAMPLE, 1" X 4" MATERIAL IS ACTUALLY 3/4" THICK BY 3-1/2" WIDE AND 2" X 4" MATERIAL IS ACTUALLY 1-1/2" THICK BY 3-1/2" WIDE.
- E. 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.
- F. WHEN ASSEMBLING A "SPECIAL PALLET", CARE SHALL BE TAKEN TO INSURE THAT THE DRUMS ARE EVENLY ALIGNED SO THAT THE SIDES AND ENDS OF THE PALLET UNIT DO NOT EXCEED A 1/2" TOLERANCE.
- G. 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 COVER ASSEMBLY AND THE PALLET DECK. AFTER TENSIONING, ALL STRAPS WILL BE SECURED USING ONE SEAL CRIMPED WITH TWO PAIR OF NOTCHES PER SEAL. ALL STRAPPING MUST BE STRAIGHT WITHIN 2" ON ANY SURFACE OF THE UNITIZED LOAD; I.E., TOP, BOTTOM, SIDES, OR ENDS THAT IT ENCOMPASSES.
- 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 TYPE TENSIONING TOOL, MANUAL OR PNEUMATIC, AND THE APPLICATION OF ONE ADDITIONAL SEAL.
- J. FOR THE METHOD OF SECURING A STRAP CUTTER TO THE PALLET UNIT, SEE DARCOM DRAWING 19-48-4127-20P1000.
- K. THE UNITIZATION PROCEDURES DEPICTED IN THIS DRAWING WILL REQUIRE THE USE OF A SPECIAL PALLET. SPECIFICATIONS PERTAINING TO THE MATERIAL TO BE USED IN CONSTRUCTION OF THE PALLET UNIT ARE CONTAINED ON PAGE 3. FOR CONSTRUCTION SPECIFICATIONS, SEE THE "SPECIAL PALLET" AND "COVER ASSEMBLY" DETAIL AND KEY NUMBERS ON PAGE 5.
- L. 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 25.4MM AND ONE POUNDS EQUALS 0.454KG.
- M. INSTALL EACH HORIZONTAL STRAP TO ENCIRCLE A DUNNAGE ASSEMBLY AS SHOWN. HORIZONTAL STRAPS WILL BE TENSIONED AND SEALED PRIOR TO APPLICATION OF 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. THE LETTERS "PA" DENOTING PQ56 (COPPER-8-QUINOLINOLATE) OR "PB" DENOTING M-GARD W550 (ZINC NAPHTHENATE EMUSIFIABLE) MUST BE APPLIED TO A PRESERVATIVE TREATED PALLET OR DUNNAGE ASSEMBLY. THE LETTERS WILL BE AT LEAST ONE-INCH HIGH AND WILL BE APPLIED ON THE OUTER FACE OF THE CENTER POST ON THE 50-1/2" SIDES OF THE PALLET AND TO AN OUTER FACE OF THE DUNNAGE ASSEMBLY.

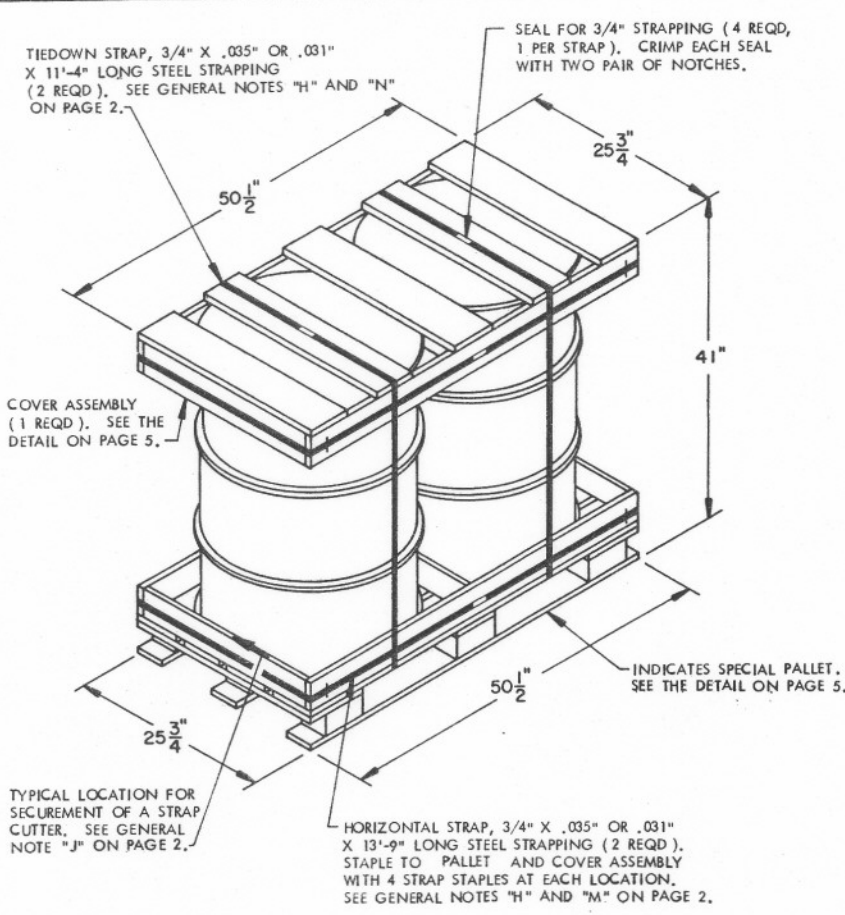
REVISION

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

MATERIAL SPECIFICATIONS FOR PALLET UNITS				
SPECIAL PALLET (SEE PAGE 5)				
NAME OF PART	KEY NO.	MATERIAL		SPEC. NO.
		KIND	GRADE	
TOP DECK BOARD	1,2,6,7,8&9	WOOD CLASS 2 STRUCTURAL	GROUP I, II, OR III (SEE TABLE 1)	MIL-STD-731
POST	5	"	GROUP II OR III (SEE TABLE 1)	MIL-STD-731
STRINGER BOARD	3	"	GROUP II OR III (SEE TABLE 1)	MIL-STD-731
RUNNER	4	"	GROUP III (SEE TABLE 1)	MIL-STD-731
NAILS	1, 2 & 4	SEE KEY NO'S		FED SPEC FF-N-105
PRESERVATIVE		WOOD PRESERVATIVE , PQ56 (COPPER -8-QUINOLINOLATE) , OR M-GARD W550 (ZINC NAPHTHENATE EMUSIFIABLE) .		SEE GENERAL NOTE "O" ON PAGE 2 .
PALLET UNIT ASSEMBLY				
NAME OF PART	KEY NO.	MATERIAL		SPEC. NO.
		KIND	GRADE	
LUMBER	DUNNAGE		SEE TM 743-200-1, DUNNAGE LUMBER	FED SPEC MM-L-751
NAILS	COMMON		ALT: ANNULAR-RING TYPE NAIL OR PALLET TYPE (MECHANICALLY DE- FORMED) NAIL OF THE SAME SIZE.	FED SPEC, FF-N-105
STRAPPING		STEEL, 3/4" X .035" OR .031"	CLASS I, TYPE I OR IV, HEAVY DUTY, FINISH B (GRADE 2)	FED SPEC QQ-5-781
SEAL, STRAP		STEEL	TYPE D, STYLE I, II OR IV, CLASS H, FINISH B (GRADE 2)	FED SPEC QQ-5-781
STAPLE, STRAP		STEEL, 15/16" X 3/4" LEG LENGTH	TYPE III, STYLE 3	FED SPEC FF-N-105
FILLER ASSEMBLY				
MATERIAL				
KIND	GRADE			SPEC. NO.
LUMBER	SEE TM 743-200-1, DUNNAGE LUMBER			FED SPEC MM-L-751
NAILS	COMMON, ALT: ANNULAR-RING TYPE NAIL OR PALLET TYPE (MECHANICALLY DEFORMED) NAIL OF THE SAME SIZE.			FED SPEC FF-N-105
PLYWOOD	GROUP B (CONSTRUCTION & INDUSTRIAL) WOOD, CLASS 2 STRUCTURAL, GRADE CD (INTERIOR WITH EXTERIOR GLUE)			FED SPEC NN-P-350

TABLE 1 WOOD GROUPS *		
GROUP I	GROUP II	GROUP III
TAMARACK HEMLOCK, WESTERN FIR, SILVER PINE, ALASKA FIR, DOUGLAS HEMLOCK, EASTERN MAGNOLIA CEDAR ASPEN LARCH, WESTERN SPRUCE CHESTNUT COTTONWOOD FIR, WHITE PINE, PONDEROSA	ELM, AMERICAN ASH (EXCEPT WHITE) PINE, SOUTHERN YELLOW GUM MAPLE, SOFT LARCH, WESTERN FIR, DOUGLAS (COAST) SYCAMORE TUPELO, WATER	HICKORY PECAN ELM, ROCK BIRCH, SWEET OR YELLOW HACKBERRY MAPLE, HARD ASH, WHITE BEECH LOCUST OAK

* THE WOOD GROUPS AS IDENTIFIED ABOVE ARE ONLY APPLICABLE TO THE FABRICATION OF THE SPECIAL PALLET.



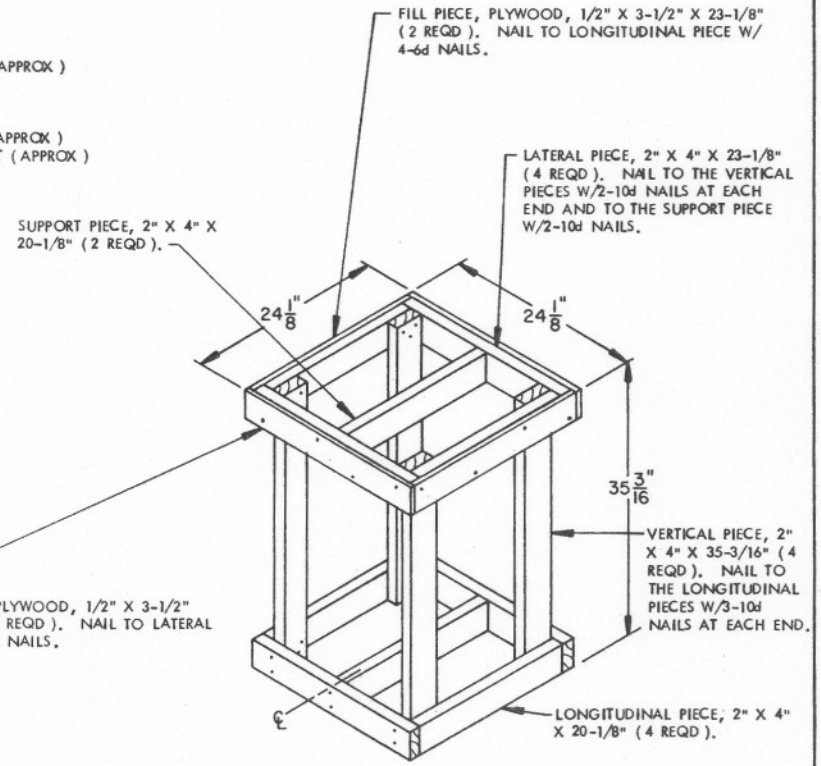
PALLET UNIT

SEE GENERAL NOTE "K" ON PAGE 2.

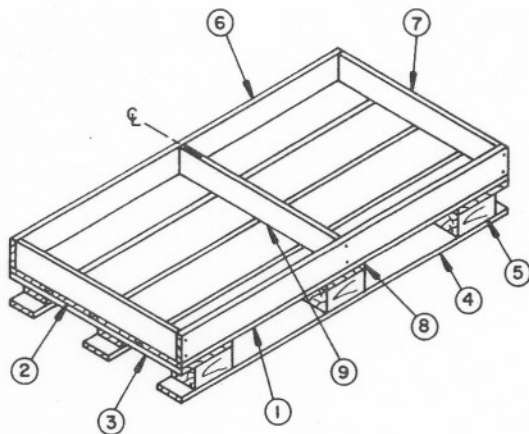
2 DRUMS (GUIDANCE SECTION; 1 PER DRUM) @ 100 LBS ----- 200 LBS (APPROX)
 DUNNAGE ----- 25 LBS
 PALLET ----- 64 LBS

TOTAL WEIGHT ----- 289 LBS (APPROX)
 CUBE ----- 30.9 CU FT (APPROX)

BILL OF MATERIAL		
LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	14.48	4.83
1" X 6"	10.73	5.36
NAILS		POUNDS
6d (2")	48	0.28
PALLET, 25-3/4" X 50-1/2"	1 REQD	64 LBS
STEEL STRAPPING, 3/4"	50.17' REQD	3.58 LBS
SEAL FOR 3/4" STRAPPING	4 REQD	NIL
STAPLE, 15/16" X 3/4"	8 REQD	NIL



FILLER ASSEMBLY
 (FOR MINUS ONE DRUM)



SPECIAL PALLET

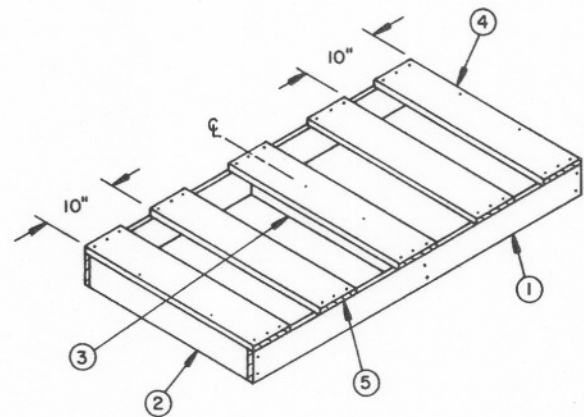
(SEE KEY NUMBERS AT RIGHT AND GENERAL NOTE "K" ON PAGE 2.)

KEY NUMBERS

- ① TOP DECK BOARD, 1" X 6" X 50-1/2" (2 REQD). NAIL TO LONGITUDINAL PIECE W/4-6d NAILS AND TO LATERAL PIECES W/2-6d NAILS AT EACH END. POSITION AS SHOWN AND NAIL THRU STRINGER PIECE INTO POST W/3 NAILS (TYPE II-STYLE 18) 3" TO 3-1/4" LONG X 0.135" DIA. AT EACH END USING A STAGGERED NAILING PATTERN.
- ② TOP DECK BOARD, 1" X 6" X 50-1/2" (2 REQD). NAIL TO LATERAL PIECES W/2-6d NAILS AT EACH END. POSITION AS SHOWN AND NAIL TO STRINGER PIECES W/3 NAILS (TYPE II-STYLE 18) 1-1/2" LONG X 0.120" DIA. AT EACH JOINT USING A STAGGERED NAILING PATTERN. NOTE: USE 3" TO 3-1/4" X 0.135" DIA. NAILS TO PENETRATE THE CENTER POST.
- ③ OUTSIDE STRINGER, 1" X 8" X 25-3/4" (2 REQD). POSITION AS SHOWN.
- ④ RUNNER, 1" X 4" X 50-1/2" (3 REQD). POSITION AS SHOWN AND NAIL TO POST W/4 NAILS (TYPE II-STYLE 18) 2-1/4" LONG X 0.120" DIA. AT EACH JOINT USING A STAGGERED NAILING PATTERN.
- ⑤ POST, 3-1/2" WIDE X 2-3/4" HIGH X 5-1/2" LONG (ACTUAL) (9 REQD).
- ⑥ LONGITUDINAL PIECE, 2" X 4" X 50-1/2" (2 REQD). NAIL TO THE LATERAL PIECES W/2-10d NAILS AT EACH END AND TO SPACER PIECE W/2-10d NAILS.
- ⑦ LATERAL PIECE, 2" X 4" X 22-3/4" (2 REQD).
- ⑧ CENTER STRINGER, 1" X 6" X 25-3/4" (1 REQD).
- ⑨ SPACER PIECE, 2" X 4" X 22-3/4" (1 REQD).

KEY NUMBERS

- ① LONGITUDINAL PIECE, 1" X 4" X 50-1/2" (2 REQD). NAIL TO THE LATERAL PIECES W/2-6d NAILS AT EACH END AND TO THE SPACER PIECE W/2-6d NAILS.
- ② LATERAL PIECE, 1" X 4" X 24-1/4" (2 REQD).
- ③ SPACER PIECE, 1" X 4" X 24-1/4" (1 REQD). POSITION AS SHOWN.
- ④ TIE PIECE, 1" X 6" X 25-3/4" (2 REQD). NAIL TO THE LATERAL PIECE W/2-6d NAILS AND TO THE LONGITUDINAL PIECES W/3-6d NAILS AT EACH END.
- ⑤ TIE PIECE, 1" X 6" X 25-3/4" (3 REQD). NAIL TO THE LONGITUDINAL PIECES W/3-6d NAILS AT EACH END AND TO THE SPACER PIECE W/2-6d NAILS, AS APPLICABLE.



COVER ASSEMBLY

(SEE KEY NUMBERS AT LEFT.)

