

TOW

PALLETIZED UNIT LOADS OF 12 EACH
GUIDED MISSILES PACKED ONE PER
WIREBOUND WOODEN BOX (OVERPACK)

INDEX

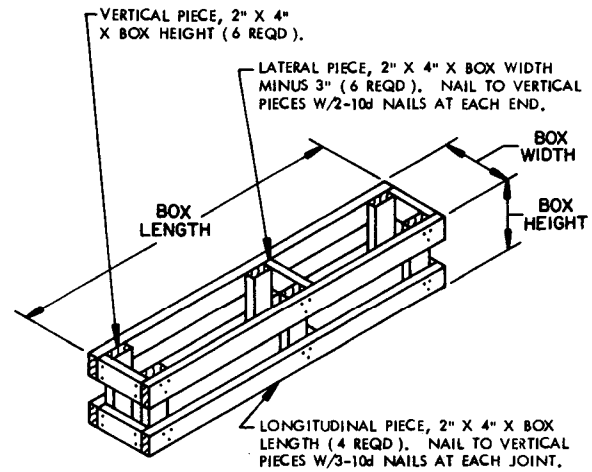
<u>ITEM</u>	<u>PAGE</u>
GENERAL NOTES, AND MATERIAL SPECIFICATIONS -----	2
12-UNIT LOAD, 4-WIDE BY 3-HIGH -----	3
12-UNIT LOAD, 3-WIDE BY 4-HIGH -----	4

REVISIONS				DRAFTSMAN	PROJ. ENG.	CHECKER	DRC OFFICE
4	FEB 77	WRF WFE WRF WFE WRF WFE	[Signature] [Signature] [Signature] [Signature] [Signature] [Signature]	RJA / [Signature]	MWD / [Signature]	[Signature]	DRS M I - 3 P
				APPROVED, U. S. ARMY MISSILE MATERIEL READINESS COMMAND			
				[Signature]			
				APPROVED BY ORDER OF COMMANDING GENERAL, U. S. ARMY MATERIEL DEVELOPMENT AND READINESS COMMAND (DARCOM)			
				[Signature]			
				DARCOM AMMO CENTER			
				U. S. ARMY DARCOM DRAWING			
				FEBRUARY 1977			
7	AUG 85	WRF WFE WRF WFE	[Signature] [Signature]	[Signature]	[Signature]	[Signature]	[Signature]
				CLASS	DIVISION	DRAWING	FILE
				19	48	5229	GM 20T01

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. FOR DETAILS OF WIREBOUND WOODEN BOX (OVERPACK) SEE DRAWING NUMBER D 10224699 (U. S. ARMY MISSILE COMMAND).
 BOX DIMENSIONS ----- 58-1/4" L X 11-5/8" W X 11-5/8" H (APPROX).
 BOX WEIGHT W/ITEM----- 87 LBS (APPROX).
- C. BOXES WILL BE LOADED ON THE PALLET WITH THE AFT ENDS IN ONE DIRECTION AS SHOWN ON THE ISOMETRIC VIEWS.
- D. FOR OUTLOADING AND STORAGE OF THE PALLETIZED LOAD SHOWN HEREIN SEE THE FOLLOWING LISTED DRAWINGS:
- LOADING AND BRACING IN BOX CARS - DRAWING NUMBER 19-48-5489-GM5T01.
 - LOADING AND BRACING IN CLOSED OR OPEN TOP VAN TRAILERS - DRAWING NUMBER 19-48-5912-GM11T02.
 - LOADING AND BRACING IN A VEHICLE EQUIPPED WITH MECHANICAL BRACING SYSTEM FOR CONTAINER/TRAILER ON FLATCAR SHIPMENT-DRAWING NUMBER 19-48-5746-GM15T02.
 - STORAGE IN IGLOO, STRADLEY, OR OVAL-ARCH MAGAZINE-DRAWING NO. 19-48-5230-GM1-14-22T01.
 - LOADING AND BRACING IN A MILVAN CONTAINER EQUIPPED WITH A MECHANICAL BRACING SYSTEM FOR TRAILER/CONTAINER ON FLATCAR, MOTOR, WATER OR AIR CARRIER SHIPMENT - DRAWING NUMBER 19-48-5933-GM15T01.
- E. IN ORDER TO OBTAIN COMPACT (SOUND) UNITS, ALL STRAPS SHALL BE LOCATED IN PROPER ALIGNMENT AND TENSIONED. AFTER TENSIONING, ALL STRAPS WILL BE SECURED USING ONE SEAL AND 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.
- F. 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 SPICING STRAPPING THROUGH THE USE OF A MANUAL OR PNEUMATIC FEEDWHEEL TYPE TENSIONING TOOL, AND THE APPLICATION OF ONE ADDITIONAL SEAL.
- G. FOR THE METHOD OF SECURING A STRAP CUTTER TO THE PALLET UNIT, SEE DARCOM DRAWING 19-48-4127-20P1000.
- H. IF LESS THAN TWELVE CONTAINERS ARE TO BE LOADED ON A PALLET, IT SHALL BE ACCOMPLISHED BY SUBSTITUTING FILLER ASSEMBLIES, AS DEPICTED ON PAGE 2.
- J. ALL FILLER ASSEMBLIES WILL BE POSITIONED IN THE TOP LAYER OR LAYERS OF THE CENTER STACK OF A UNIT LOAD.
- 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. ALL NAILS DRIVEN INTO THE FILLER ASSEMBLIES SHALL BE DRIVEN SO THAT THE NAILHEADS ARE FLUSH OR SLIGHTLY BELOW THE SURFACE OF THE PIECE THAT THEY ARE BEING DRIVEN THROUGH.
- M. ALL ASSEMBLED PALLETS AND DUNNAGE PIECES OR ASSEMBLIES MUST BE PRESERVATIVE TREATED WITH EITHER COPPER-8-QUINOLINOLATE OR ZINC NAPHTHENATE EMULSIFIABLE. THE LETTERS "PA" DENOTING PQ56 (COPPER-8-QUINOLINOLATE) OR "PB" DENOTING M-GARD W550 (ZINC NAPHTHENATE EMULSIFIABLE) MUST BE APPLIED TO A CENTER POST OF A PRESERVATIVE TREATED PALLET OR TO A DUNNAGE PIECE OR ASSEMBLY IN LETTERS AT LEAST ONE-INCH (1") HIGH.



FILLER ASSEMBLY

(FOR MINUS ONE BOX)

REVISIONS

REVISION NO. 1, DATED 28 AUGUST 1969, CONSISTS OF:

- CHANGED PALLET LOAD CONFIGURATION AND ELIMINATED BATTEN REQUIREMENT.

REVISION NO. 2, DATED JULY 1971, CONSISTS OF:

- CHANGED STEEL STRAPPING FROM 1-1/4" X .035" TO 3/4" X .035" WITH 1-1/4" X .035" CITED AS AN ALTERNATE.
- ADJUSTED LOAD WEIGHT AND STRAP SEALS ACCORDINGLY.

REVISION NO. 3, DATED FEBRUARY 1972, CONSISTS OF:

- LOAD AND BANDING ROTATED 90° ON PALLET.
- CHANGED NUMBER OF STRAPS FROM 3 TO 2.

REVISION NO. 4, DATED FEBRUARY 1977, CONSISTS OF:

- CHANGED DRAWING FILE NO. FROM GM20P4 TO GM20T01.
- CHANGED ITEM WEIGHT.
- UPDATED GENERAL NOTES AND MATERIAL SPECIFICATIONS.

REVISION NO. 5, DATED APRIL 1982, CONSISTS OF:

- DELETING GROUP 1 WOODS FROM PALLET MATERIAL SPECIFICATION.
- DELETING FINISH A STRAPPING FROM STEEL STRAPPING MATERIAL SPECIFICATION.

REVISION NO. 6, DATED DECEMBER 1984, CONSISTS OF:

- ADDING PROCEDURES FOR THE 3-WIDE BY 4-HIGH PALLET UNIT.
- UPDATING DRAWING FORMAT.

REVISION NO. 7, DATED AUGUST 1985, CONSISTS OF:

- UPDATING MATERIAL SPECIFICATIONS TO CONFORM TO CURRENT STANDARDS.

MATERIAL SPECIFICATIONS

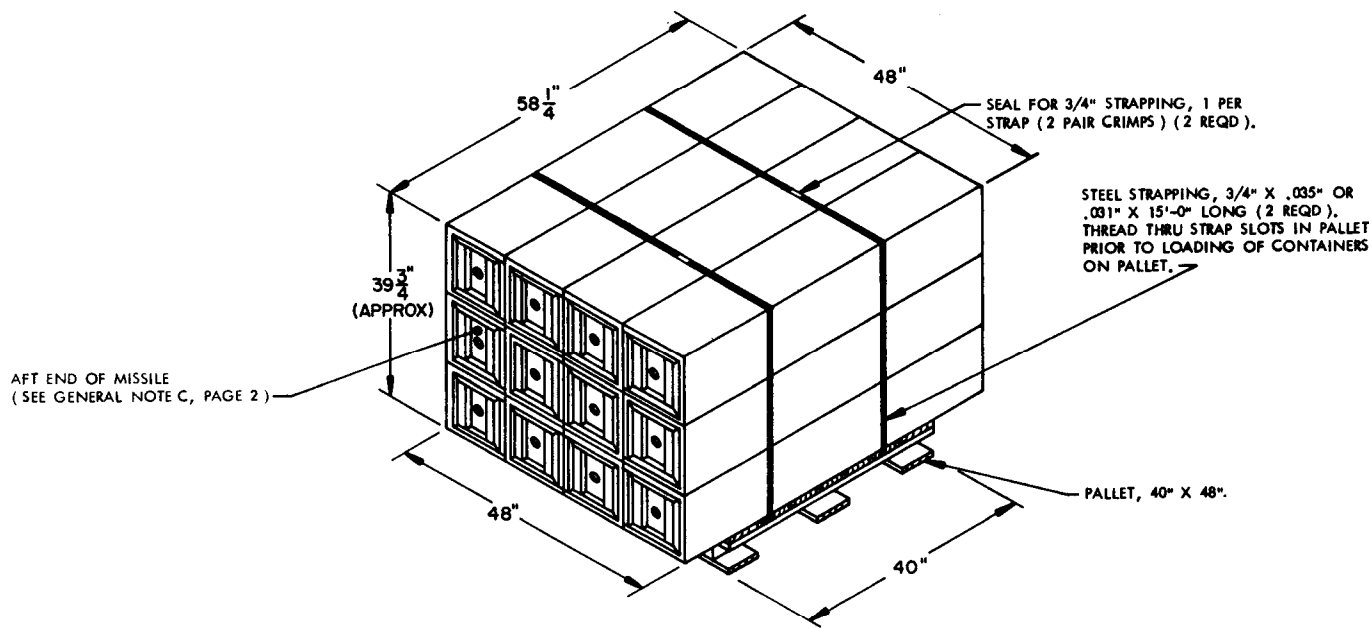
PALLET ----- : MIL SPEC MIL-P-15011; 4-WAY ENTRY, STYLE I, OR STYLE IA, TYPE I, CLASS 1, PRESERVATIVE TREATED, SEE GENERAL NOTE "M".

STRAPPING, STEEL ----- : FED SPEC QQ-S-781; CLASS I, TYPE I OR II, HEAVY DUTY, FINISH B (GRADE 2), SIZE 3/4" X .035" OR .031" (ALTERNATE SIZE 1-1/4" X .035" OR .031").

SEAL, STRAP ----- : FED SPEC QQ-S-781; TYPE D, STYLE I, II, OR III, CLASS H, FINISH B (GRADE 2).

LUMBER ----- : TM 743-200-1 (DUNNAGE LUMBER) AND FED SPEC MM-L-751.

NAILS ----- : FED SPEC FF-N-105 COMMON, ALT: ANNULAR-RING TYPE NAIL OR PALLET TYPE (MECHANICALLY DEFORMED) NAIL OF SAME SIZE.

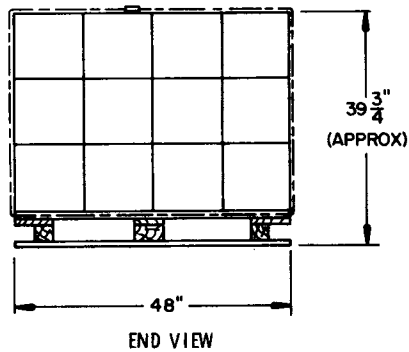
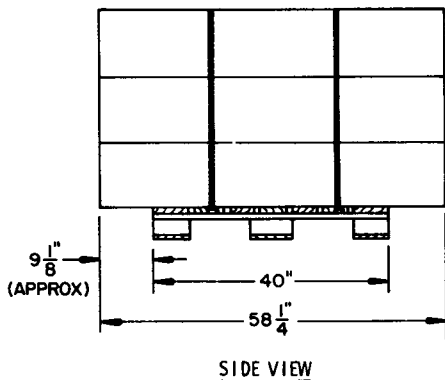


PALLET UNIT

12 BOXES OF TOW MISSILE (1 PER BOX) @ 87 LBS -----	1,044 LBS (APPROX)
DUNNAGE -----	3 LBS
PALLET -----	80 LBS
<hr/>	
TOTAL WEIGHT -----	1,127 LBS (APPROX)
CUBE -----	64.3 CU FT (APPROX)

BILL OF MATERIAL

PALLET, 40" X 48" -----	1 REQD -----	80 LBS
STEEL STRAPPING, 3/4" -----	30.00' REQD -----	2.14 LBS
SEAL FOR 3/4" STRAPPING -----	2 REQD -----	NIL



12-UNIT LOAD, 4-WIDE BY 3-HIGH

STEEL STRAPPING, 3/4" X .035" OR .031" X 14'-7" LONG STEEL STRAPPING (2 REQD). PASS STRAPS UNDER THE TOP DECK BOARDS OF THE PALLET AND LOCATE AS SHOWN.

SEAL FOR 3/4" STRAPPING (2 REQD). DOUBLE CRIMP EACH SEAL.

51 1/4" (APPROX)

AFT END OF MISSILES TO BE IN SAME DIRECTION ON THE PALLET.

35" X 45-1/2" PALLET.

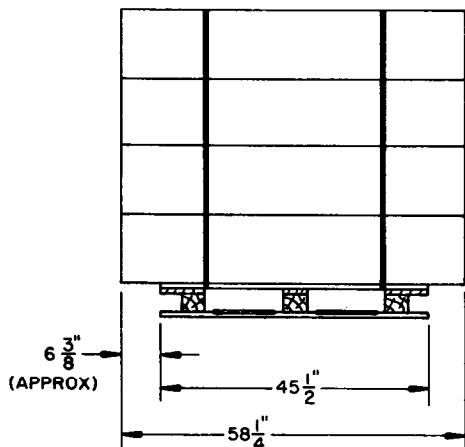
PALLET UNIT

12 BOXES OF TOW MISSILES (1 PER BOX) ----- 87 LBS ----- 1,044 LBS (APPROX)
 DUNNAGE ----- 3 LBS
 PALLET ----- 65 LBS

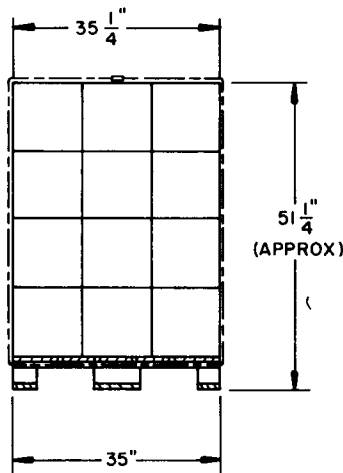
TOTAL WEIGHT ----- 1,112 LBS (APPROX)
 CUBE ----- 60.9 CU FT (APPROX)

BILL OF MATERIAL

PALLET, 35" X 45-1/2"	1 REQD	65 LBS
STEEL STRAPPING, 3/4"	29.17' REQD	2.08 LBS
SEAL FOR 3/4" STRAPPING	2 REQD	NIL



SIDE VIEW



END VIEW