

# MILITARY STANDARD

MIL-STD-1320-281  
(NAVY)

## TRUCKLOADING

29 JULY 1991

HELI-FIRE MISSILE, AGM 114

IN CONTAINER SHIPPING AND STORAGE, CNU-448/E

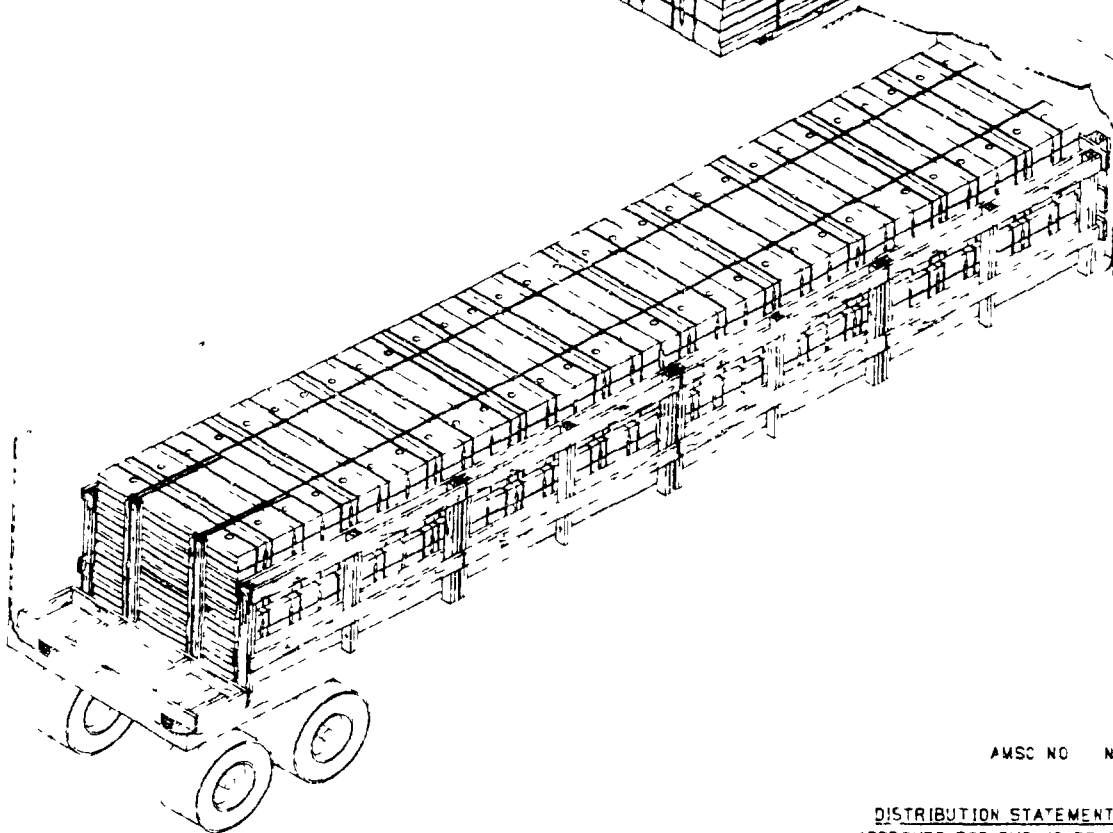
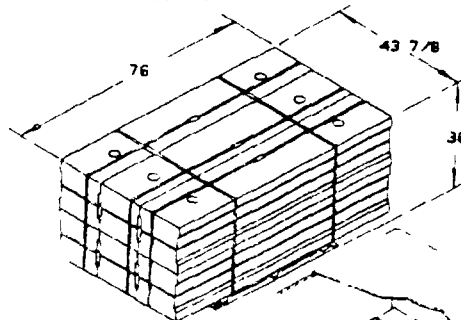
UNIT LOAD FOR UNDERWAY REPLENISHMENT

### UNIT LOAD DATA

UNIT LOAD DOCUMENT MIL-STD-1323-334  
 DIMENSIONS 76 L X 43 7/8 W X 36 H  
 GROSS WEIGHT 1174 LBS Δ  
 CUBE 69.5 CU FT

Δ DO NOT USE FOR SHIPPING WEIGHT

FOR HAZARD CLASSIFICATIONS SEE NAVSEA OP 7135



AMSC NO N/A

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**NOTES**

- 1 UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES
- 2 FOR CROSS REFERENCE TO ASSOCIATED PALLETIZING CONTAINERLOADING AND CARLOADING MILITARY STANDARDS REFER TO INDEX TO STANDARDS MIL-HDBK-236 (NAVY)

FSC 8140

REV LTR	REVISION DESCRIPTION	DATE	TDA	SYSCOM
			APPROVAL	

**AUTHORIZED AND RELEASED  
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ORIGINATOR *[Signature]* DATE *7/27/91*  
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WPN/FA EARLE, NEW RSEY

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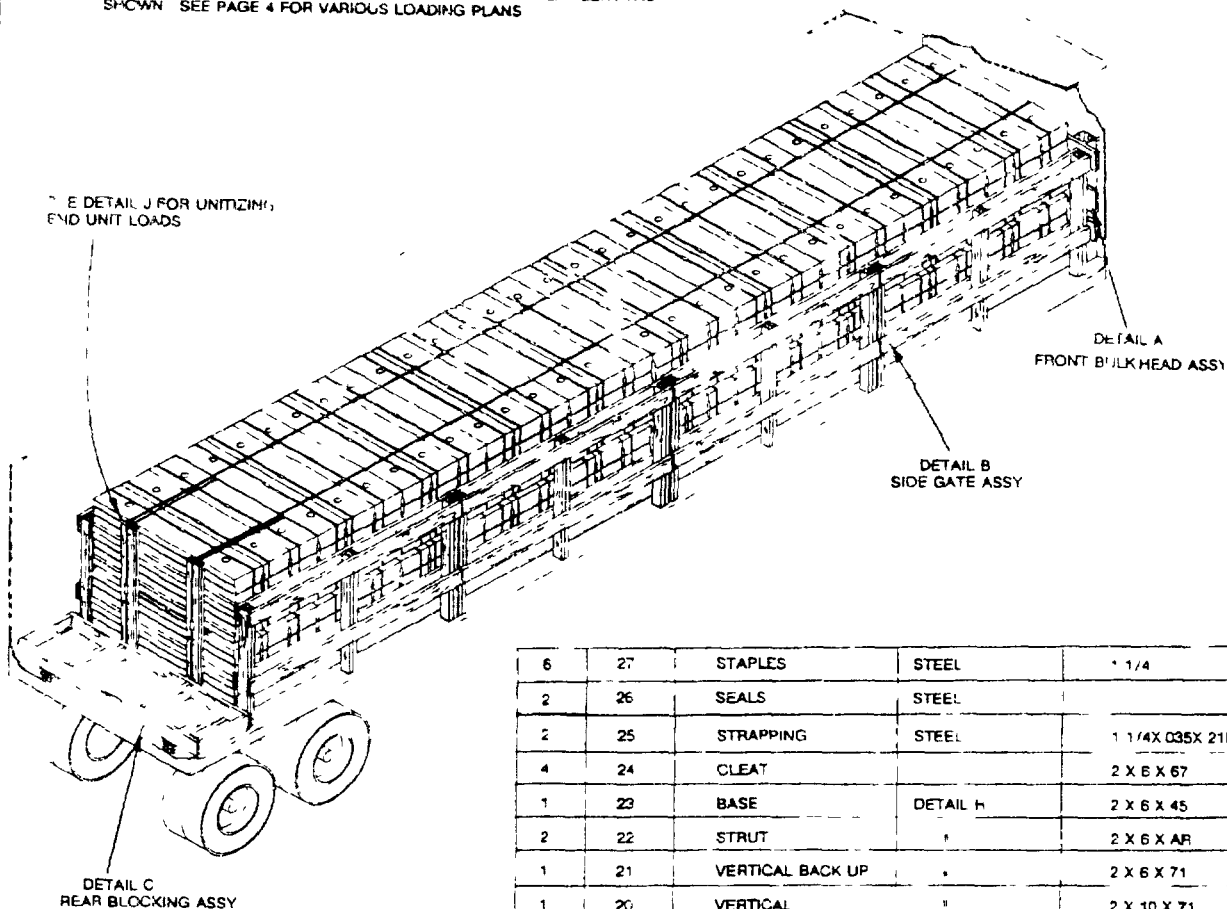
MIL-STD-1320-334 (NAVY)

## GENERAL NOTES

1. THIS DOCUMENT GIVES DETAILED INSTRUCTIONS FOR TRUCKLOADING UNIT LOADS FOR UNDERWAY REPLENISHMENT OF HELLFIRE MISSILE AGM 114 IN CONTAINER SHIPPING AND STORAGE CNU-648/E WHEN PALLETIZED IN ACCORDANCE WITH MIL-STD-1320-334 (NAVY)
2. THE PROCEDURES DESCRIBED HEREIN ARE INTENDED FOR 40 FT THROUGH 48 FT VAN TRAILERS WITH THE TRAILERS TANDEM AXLES LOCATED AS REQUIRED TO STAY WITHIN THE AXLE LOAD LIMITS OF THE STATES TO BE TRAVERSED. TRAILERS WITH NAILABLE FLOORS ARE REQUIRED. TRAILERS WITH NON-NAILABLE FLOORS SHALL NOT BE USED.
3. TO PREVENT LONGITUDINAL MOVEMENT OF THE UNIT LOADS IN THE SECOND LAYER THE LOADS SHALL BE UNITIZED (SEE DETAIL J) WHERE THE PATTERN CHANGES FROM TWO LAYERS HIGH TO ONE LAYER HIGH THE STIFFENERS SHALL FACE THE SINGLE LAYER SIDE.
4. SIDE FRAME ASSEMBLIES DETAILS B OR D SHALL BE POSITIONED IN THE TRAILER AND TOENailed TO THE FLOOR WITH TWO 16d NAILS PER JOINT TO PREVENT LONGITUDINAL MOVEMENT. THESE SIDE FRAME ASSEMBLIES ARE SUITABLE FOR USE IN VAN TRAILERS WITH 96 INCH OUTSIDE WIDTH. FOR WIDER TRAILERS ADD ADDITIONAL LAYERS OF HORIZONTAL BOARDS ITEMS 6 OR 10 TO FILL THE ADDITIONAL INSIDE WIDTH OF THE TRAILER.
5. REAR BLOCKING SHALL BE USED BETWEEN REAR END OF LADING AND THE TRAILER DOORS AS FOLLOWS:  
SPACE BETWEEN LADING IS LESS THAN 12 INCHES USE DETAIL K  
SPACE BETWEEN LADING AND DOORS IS 12 TO 36 INCHES USE DETAIL C  
SPACE BETWEEN LADING AND DOORS IS GREATER THAN 36 INCHES USE DETAIL E OR H.
6. WHEN LOADING ONLY ONE LAYER OF UNIT LOADS USE FRONT BULKHEAD SHOWN IN DETAIL G.
7. SINGLE LAYER UNIT LOADS SHALL ALWAYS BE TO THE REAR OF DOUBLE STACKED UNIT LOADS.
8. UNLESS OTHERWISE SPECIFIED DUNNAGE LUMBER STEEL STRAPPING STRAP SEALS AND NAILS SHALL BE AS SPECIFIED IN THE GENERAL TRUCKLOADING DOCUMENT MIL-STD-1320 (NAVY).
9. THE MAXIMUM GROSS WEIGHT OF THE TRACTOR-TRAILER AND THE ALLOWABLE AXLE WEIGHTS ARE THE RESPONSIBILITY OF THE CARRIER. THE CARRIER WILL ADVISE THE SHIPPER OF THESE LIMITATIONS AND THE SHIPPER SHALL LOAD THE TRAILER IN SUCH A MANNER THAT THE TRACTOR-TRAILER WILL NOT EXCEED THESE LIMITATIONS.
10. AFTER THE BLOCKING AND BRACING HAS BEEN INSPECTED ATTACH SHIPPING DOCUMENTS TO INSIDE OF TRAILER IN AN ACCESSIBLE AREA. CLOSE AND SEAL TRAILER DOORS AND ATTACH APPLICABLE HAZARDOUS MATERIALS PLACARDS TO BOTH SIDES FRONT AND BACK OF THE TRAILER.
11. FOR GENERAL TRUCKLOADING PROCEDURES REFER TO THE GENERAL TRUCKLOADING DOCUMENT MIL-STD-1320 (NAVY).

FILE 40 FT THROUGH 48 FT TRAILER (VAN)

NOTE: THE PLAN SHOWN BELOW IS THE FULL TRUCKLOAD PLAN FOR A 40 FT TRAILER (NO UNIT LOADS). IT DOES NOT LIMIT FTL SHIPMENTS TO THE QUANTITIES OF UNIT LOADS OR TRAILER LENGTHS SHOWN. SEE PAGE 4 FOR VARIOUS LOADING PLANS.



6	27	STAPLES	STEEL	1 1/4
2	26	SEALS	STEEL	
2	25	STRAPPING	STEEL	1 1/4X 035X 21FT
4	24	CLEAT		2 X 6 X 67
1	23	BASE	DETAIL H	2 X 6 X 45
2	22	STRUT	"	2 X 6 X 48
1	21	VERTICAL BACK UP	"	2 X 6 X 71
1	20	VERTICAL	"	2 X 10 X 71
4	19	BACK UP CLEAT (LTL)	"	2 X 6 X 30
2	18	HORIZ SUPPORT	DETAIL G	2 X 6 X TW 1
6	17	VERTICAL	"	2 X 4 X 40
2	16	HORIZ SUPPORT	"	2 X 6 X 79
4	15	SLEEPER	DETAIL F	2 X 6 X 41
2	14	STRUT	DETAIL E	2 X 6 AR
1	13	BASE	"	2 X 6 X 32
1	12	VERTICAL	"	2 X 6 X 35
1	11	VERTICAL	"	2 X 10 X 35
5	10	HORIZ	DETAIL D	2 X 6 X 86
4	9	BRACE	DETAIL C	2 X 6 X AR
2	8	HORIZ	"	2 X 6 TW 1
6	7	BASE	"	2 X 4 X AR
5	6	HORIZ SUPPORT	DETAIL B	2 X 6 X AR
6	5	VERTICAL SUPPORT	"	2 X 4 X 53 5/8
1	4	HORIZ SUPPORT	DETAIL A	2 X 8 X TW 1
2	3	HORIZ SUPPORT	"	2 X 6 X TW-1
2	2	HORIZ SUPPORT	"	2 X 6 X 8
3	1	VERTICAL SUPPORT	DETAIL A	2 X 4 X 71
QTY	ITEM	DESCRIPTION	MATERIAL	QUANTITY

LIST OF MATERIALS

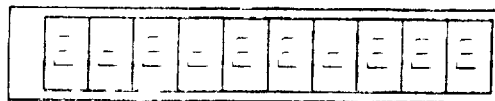
MIL-STD-1320-261  
(NAVY)

- 1 THE LOADING PLANS BELOW ARE FOR FTL SHIPMENTS (40FT THRU 48FT VANS)
- 2 WHEN REQUIRED TO SHIP LESS THAN TRUCKLOAD REFER TO NOTES 5-7 ON PAGE 2 AND THE BLOCKING AND BRACING TECHNIQUES AND DETAILS AS SHOWN ON PAGES 5 7 & 8 AND THE GENERAL DOCUMENT MIL-STD-1320 (NAVY)
- 3 THE LTL PLAN SHOWN ON PAGE 5 IS A TYPICAL LTL LAYOUT PLAN THIS DOES NOT LIMIT SHIPMENTS TO THIS QUANTITY SINCE LTL SHIPMENTS MAY CONSIST OF A GREATER OR LESSER NUMBER OF UNIT LOADS

NO OF  
UNIT LOADS

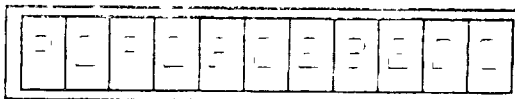
40FT

20



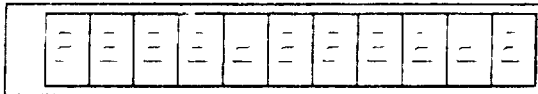
42FT

22



44FT

22



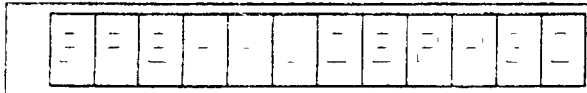
45FT

22

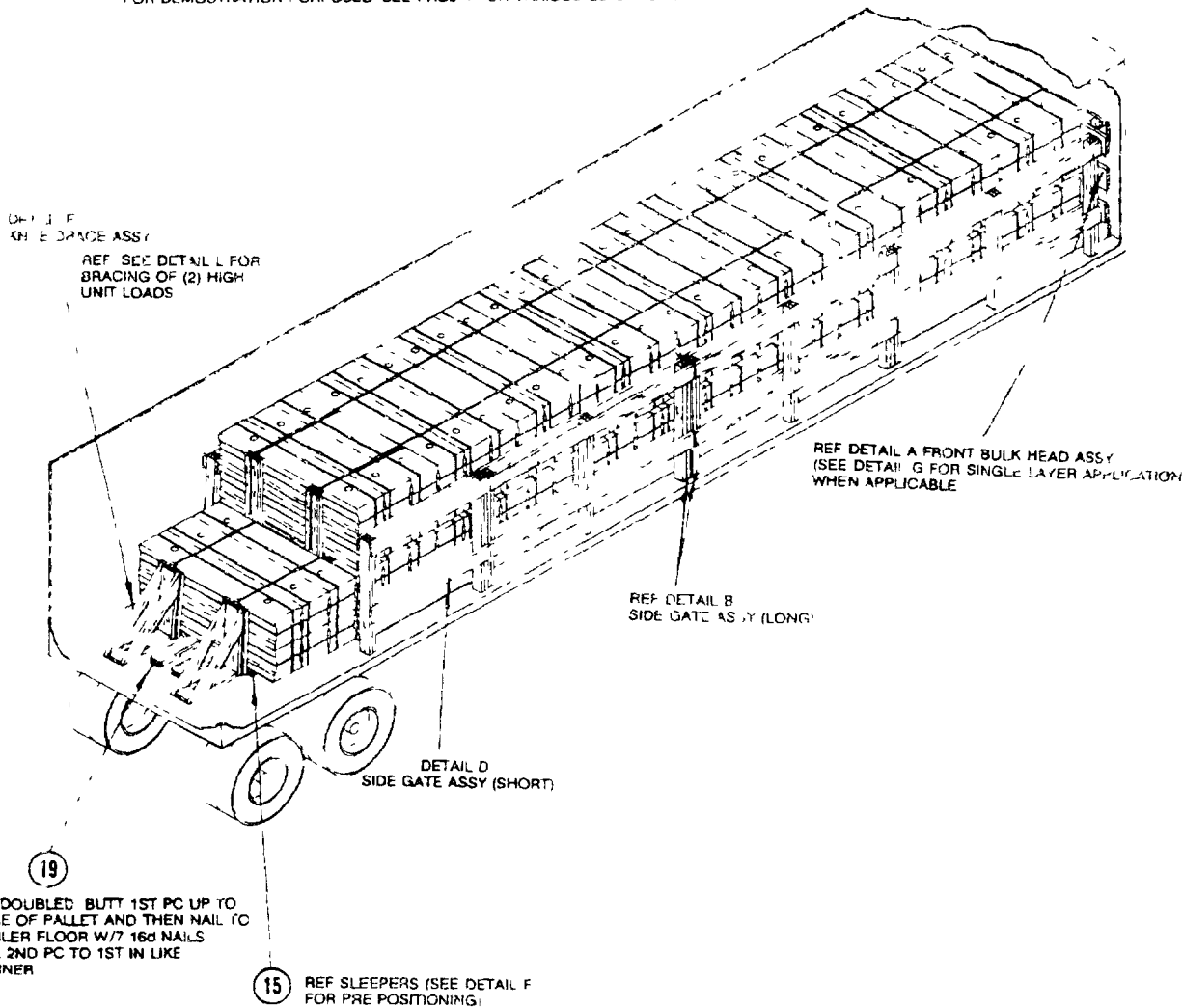


48FT

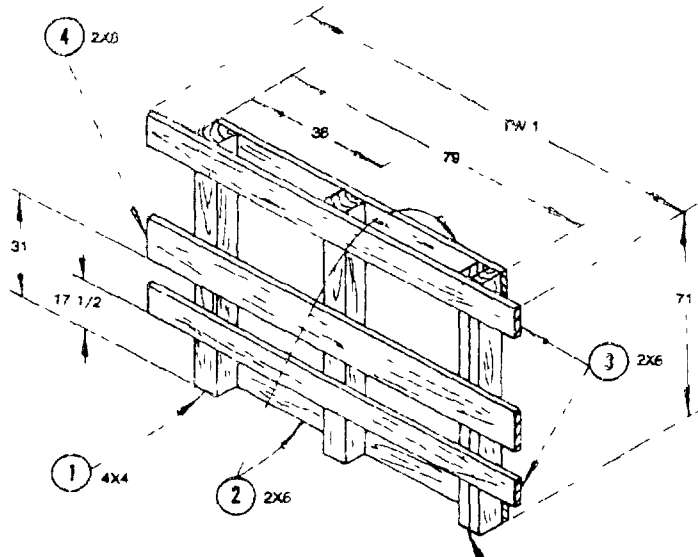
24



NOTE THE LTL BLOCKING AND BRACING TECHNIQUES SHOWN HERE ARE TYPICAL FOR VARIOUS TRAILER LENGTHS. A 42 FT TRAILER IS SHOWN IN THIS VIEW FOR DEMONSTRATION PURPOSES. SEE PAGE 4 FOR VARIOUS LOADING METHODS.

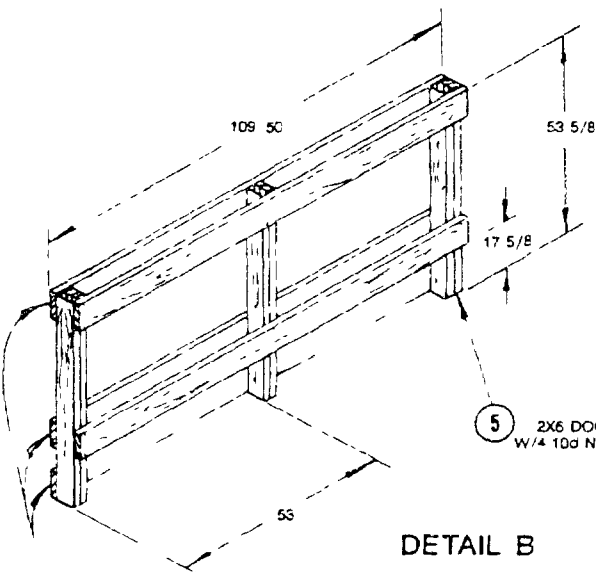


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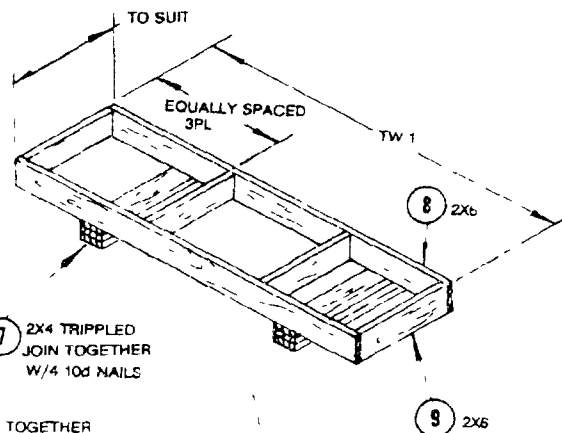


**DETAIL A** BULK HEAD ASSY  
ASSEMBLE TOGETHER W/2 10d NAILS / JOINT

OPTIONAL CONSTRUCTION IN LIEU OF 4X4 POST (2X4) STUDS JOINED TOGETHER WITH 4 10d NAILS



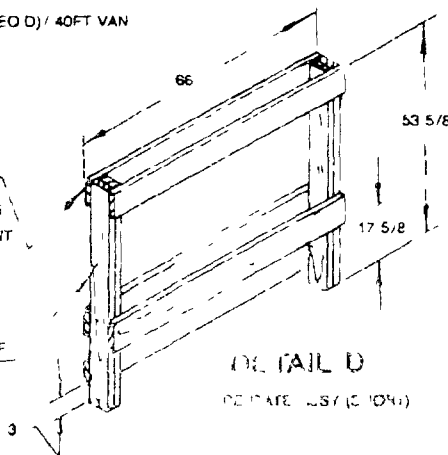
**DETAIL B**  
SIDE GATE ASSY (8 REO D) / 40FT VAN



**DETAIL C**  
REAR BLOCKING ASSY  
ASSEMBLE TOGETHER W/2 10d NAILS / JOINT

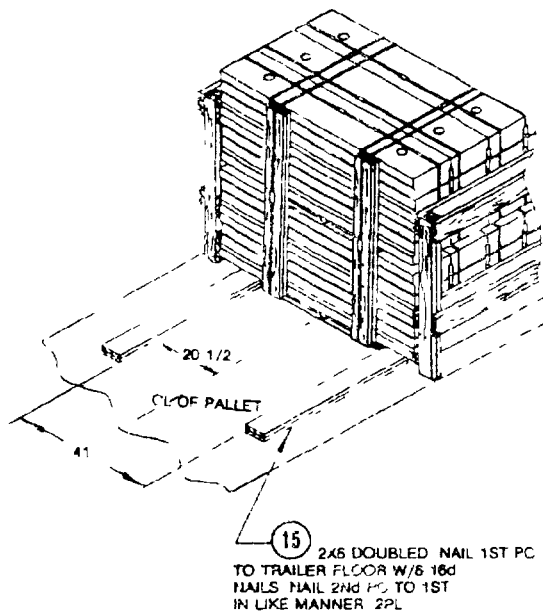
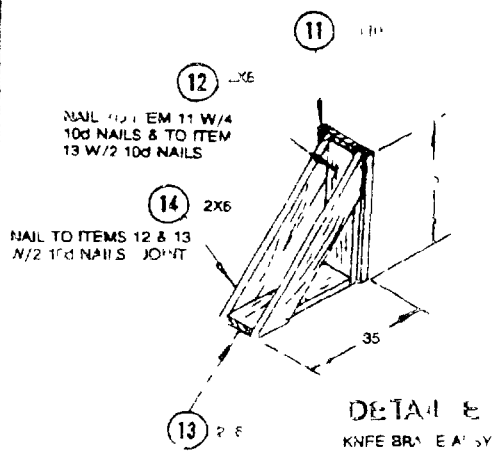
6 2X6 JOIN TO ITEM 5 W/2 10d NAILS PER JOINT

10 2X6 NAIL TO ITEM 5 W, 2 10d NAILS/JOINT



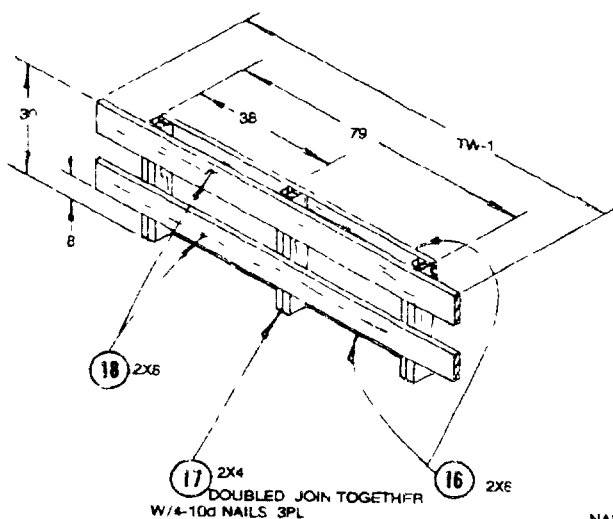
**DETAIL D**  
REAR ASSY (C 1094)

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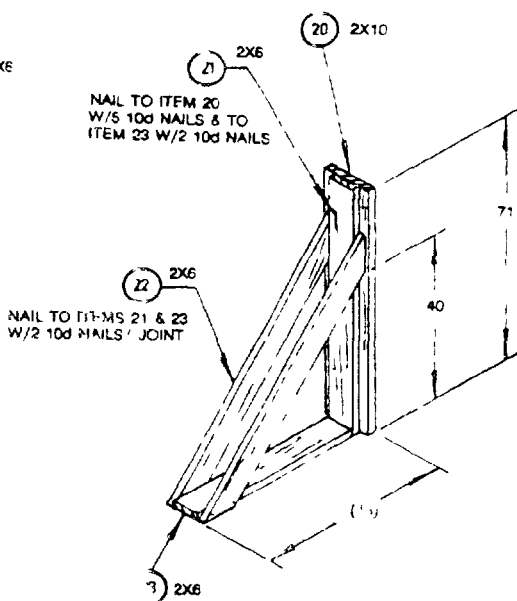
DETAIL F  
PREPOSITION BLOCKING

(THIS BLOCKING LAYOUT CAN ALSO BE USED WHEN SHIPPING ANY COMBINATION OF SINGLE LAYER HIGH UNIT LOADS)



DETAIL G  
BULK HEAD ASSY  
(FOR SINGLE LAYER HIGH UNIT LOADS)

ASSEMBLE ITEMS 16 & 18 TO ITEM 17 W/2 10d NAILS PER JOINT



DETAIL H  
BRACE

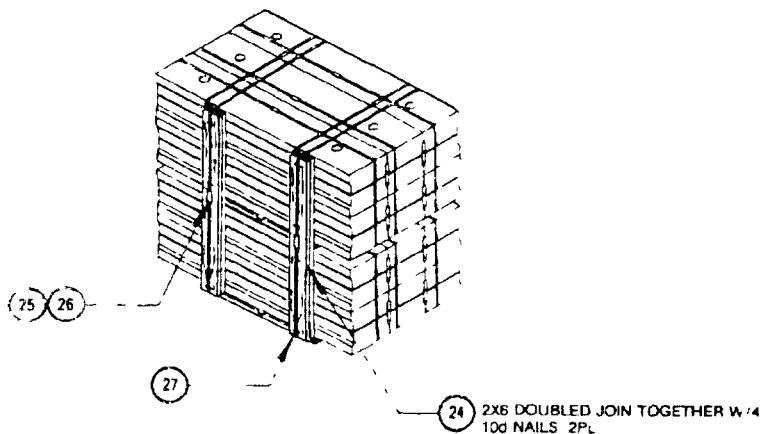
(FOR 2 HIGH UNIT LOADS) (FOR 3 HIGH UNIT LOADS) (FOR 4 HIGH UNIT LOADS)

DETAIL MILL FOR FINISHING  
NAIL TO TRAILER FLOOR

UNIT 26  
(NAVY)

UNITIZING PROCEDURE

- 1 USING A FORK LIFT TRUCK CAREFULLY STACK ONE UNIT LOAD ON TOP OF ANOTHER
- 2 ALIGN THE JOINTS 2X6'S ITEM 24 IN POSITION SHOWN
- 3 THREAD STRAPPING ITEM 25 THRU THE PALLET LEGS AND OVER ITEM 24 AND ENTIRE UNIT LOAD
- 4 TENSION AND DOUBLE NOTCH SEAL ITEM 26
- 5 AFTER STRAPPING IS SECURED STAPLE IN PLACE TO ITEM 24 WITH ITEM 27 AS SHOWN

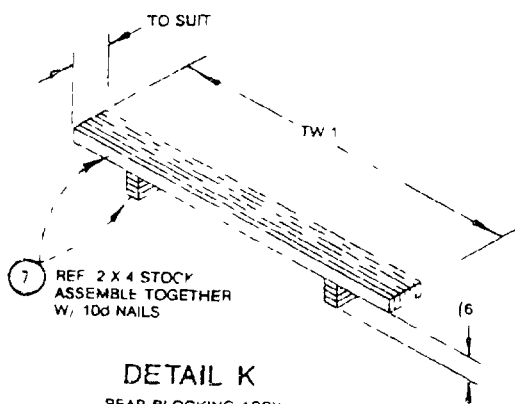


**DETAIL J**

UNITIZING PROCEDURE

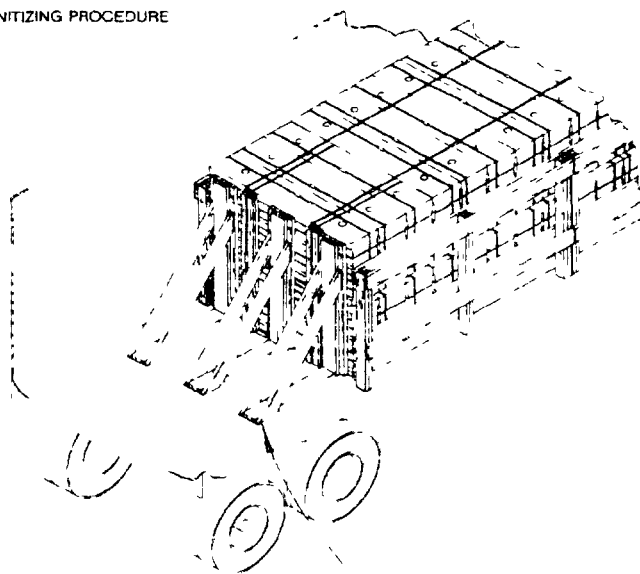
DEUNITIZING PROCEDURE

- 1 CUT AND REMOVE STRAPPING AND BACK UP BOARDS
- 2 REMOVE UNIT LOAD



**DETAIL K**

REAR BLOCKING ASSY



**DETAIL L**

BRACE (NAILING PROCEDURE)

REVIEW ACTIVITY

NAVY OS AS

PREPARING ACTIVITY  
NAVY-OS  
(PROJECT NO N990)



FOLD

POSTAGE AND FEES PAID



OFFICIAL BUSINESS  
PENALTY FOR PRIVATE USE \$300

Commanding Officer  
Naval Weapons Station Earle  
Attn: Code 502  
Colts Neck, New Jersey 07722-5000

FOLD

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<p>1. HAS ANY PART OF THE DOCUMENT CREATED PROBLEMS OR REQUIRED INTERPRETATION IN PROCUREMENT USE?</p> <p>A. GIVE PARAGRAPH NUMBER AND WORDING</p> <p>B. RECOMMENDATIONS FOR CORRECTING THE DEFICIENCIES</p>		
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