

NOTICE OF
VALIDATION

INCH FOUND

MIL-STD-1320/171(OS)

NOTICE 2

14 March 1989

MILITARY SPECIFICATION

TRUCKLOADING DISPENSER AND BOMB AIRCRAFT
CBU-MK 20 AND MODS (ROCKEYE II) OR CBU-55A/B OR
CBU-72/B (FAE) OR CBU-59/B (APAM) IN CONTAINER,
CNU-238/E FLEET ISSUE UNIT LOADS

MIL-STD-1320/171(OS) dated 03 SEPT.1982, has been reviewed and determined to be valid for use in acquisition.

Preparing Activity:
Navy - OS

AMSC N/A

FSC 8140

DISTRIBUTION STATEMENT A: Approved for public release,
distribution is unlimited.

MILITARY STANDARD

TRUCKLOADING

Dispenser and Bomb Aircraft
CBU-Mk 20 & Mods (ROCKEYE)
CBU-55/B, CBU-55A/B or CBU-72/B (FAE) or
CBU-59/B (APAM)
in Container, CNU-238/E
Fleet Issue Unit Load

TO ALL HOLDERS OF MIL-STD-1320-171 (NAVY)

Page 2.

1. Delete General Note 7 and substitute
"7. Chains, Fittings and Loadbinders shall meet the requirements of the basic Truckloading Document MIL-STD-1320 (NAVY) and applied as shown on Page 5 of this document."
2. Delete General Note 9 and substitute
"9. Steel strap used as tiedowns shall be 2 X .050 and shall conform to and be applied as specified in the basic Truckloading Document MIL-STD-1320 (NAVY) and as shown on Page 3 of this document."
3. In General Note 13 delete "Class A" and substitute "Heavy Duty, Finish A, B, or C."

Page 4.

1. Delete Load Strapping and all material under that heading.

Page 5.

1. In List of Materials add "or 5/16" to Size of Piece No. 7.

Page 6.

1. Add to WARNING "When loading/unloading trailers with unitized containers, extra caution should be taken to prevent toppling. Special attention should be given to appropriate backup of outboard containers. Containers shall be deunitized after unloading the vehicle."

Review Activities

Preparing Activity:
NAVY - OS
(Project No. 8140-N437)

NAVY - OS, AS

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FSC 8140

MILITARY STANDARD

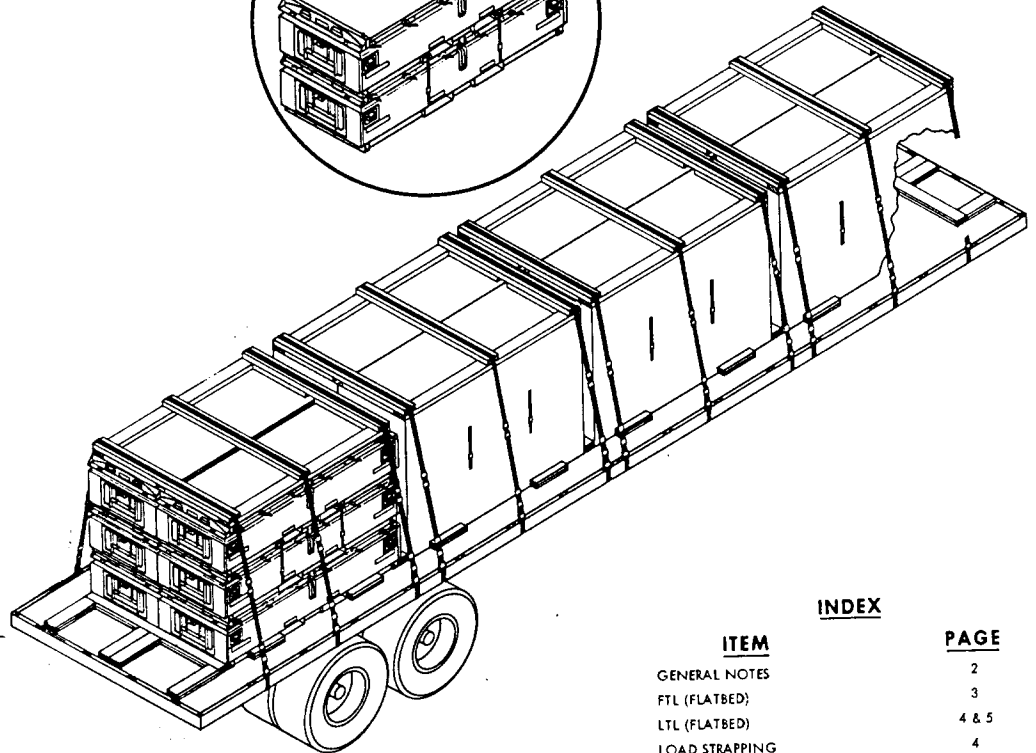
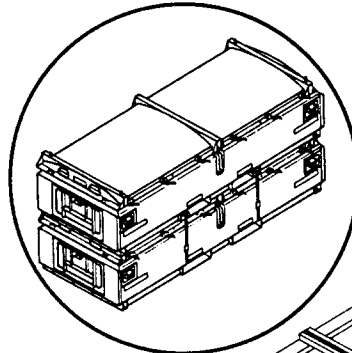
MIL-STD-1320-171
(NAVY)

25 MARCH 1976

TRUCKLOADING DISPENSER AND BOMB AIRCRAFT CBU-MK20 & MODS (ROCKEYE II) OR CBU-55/B, CBU-55A/B OR CBU-72/B (FAE) OR CBU-59/B (APAM) IN CONTAINER, CNU-238/E FLEET ISSUE UNIT LOAD

UNIT LOAD DATA

UNIT LOAD DRAWINGS SEE GENERAL NOTE 1
DIMENSIONS 104LX38WX53H
WEIGHT SEE TABLE I
CUBE 121.2 CU. FT.
DOT HAZARD CLASSIFICATION EXPLOSIVES A



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LTL (FLATBED)	4 & 5
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STRAPPING & STACKING	6
FTL & LTL (VANS)	6, 7 & 8

- 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

**AUTHORIZED AND RELEASED
FOR HIGHWAY SHIPMENTS
ONLY**

M.S. Gray NWHL 3/19/76
SIGNATURE TECHNICAL DIRECTION AGENT (TDA) DATE
J.E. Kelly 3/19/76
SIGNATURE AIRSYSCOM, BY DIRECTION DATE

ORIGINATOR *Charles M. ... 3/19/76*
SIGNATURE

NAVAL WEAPONS HANDLING LABORATORY
WPNSTA EARLE, NEW JERSEY

PAGE 1 OF 8

MIL-STD-1320-171 (NAVY)

GENERAL NOTES

1. THIS DOCUMENT PROVIDES DETAILED INSTRUCTIONS FOR TRUCKLOADING THE FLEET ISSUE UNIT LOADS OF DISPENSER AND BOMB, AIRCRAFT:
 - A. CBU-MK 20 & MODS (ROCKEYE II) UNITIZED WR-54/268
 - B. CBU-55/B, 55A/B AND 72/B (FAE) UNITIZED WR-54/269
 - C. CBU-59/B (APAM) UNITIZED PER WR-54/270
2. THE PROCEDURES DESCRIBED HEREIN ARE INTENDED FOR 40 FT FLATBED TRAILERS AND 40, 42 & 44 FT VANS WITH WOOD FLOORS OR METAL FLOORS WITH WOOD NAILING STRIPS. THE TRAILERS SHALL HAVE THEIR TANDEM AXLES LOCATED IN THE "WESTERN" POSITION (AT THE EXTREME REAR OF THE TRAILER). DO NOT USE TRAILERS WITH ALL METAL FLOORS.
3. SWAY BRACE, DETAIL G, IS ASSEMBLED IN PLACE. PIECES 6 ARE POSITIONED IN THE CONTAINER FORK POCKET, WITH PIECES 7 AGAINST THE CONTAINER, NAIL TO PIECE 6 WITH THREE 12D NAILS PER JOINT. CUT PIECE 8 TO FIT BETWEEN PIECES 7 AND NAIL TO PIECE 6 WITH THREE 12D NAILS.
4. WHEN REQUIRED BY THIS STANDARD, ONE ADDITIONAL CONTAINER IS STRAPPED TO THE FLEET ISSUE UNIT LOAD AS DESCRIBED ON PAGE 6.

NOTE

WHEN THE TRUCK TRANSPORTATION CYCLE IS COMPLETED, THE TOP CONTAINER IS REMOVED BY CUTTING THE TOP STRAPPING. THE LOOSE CONTAINERS SHALL BE UNITIZED PER THE APPROPRIATE DOCUMENT (SEE NOTE T ABOVE) FORMING A FLEET ISSUE UNIT LOAD.

5. STACKS OF CONTAINERS TWO HIGH REQUIRE TWO TIE DOWNS PER STACK WHILE STACKS THREE HIGH REQUIRED THREE TIE DOWNS PER STACK.
6. CHAINS AND STEEL STRAPS MAY BE USED INTERCHANGEABLY FOR TIE-DOWNS ON A 1 TO 1 BASIS.
7. STEEL STRAPS SHALL BE 2 X .050 AND APPLIED AS SPECIFIED BY THE LOAD STRAPPING REQUIREMENTS SHOWN ON PAGE 4.
8. A CONTAINER PROTECTOR (DETAIL A PAGE 3 OR DETAIL D PAGE 5) SHALL BE USED BETWEEN THE TIE-DOWNS (CHAIN OR STRAP) AND THE CONTAINERS TO PREVENT CONTAINER DAMAGE. ASSEMBLE PROTECTOR IN PLACE CUTTING THE LENGTH OF THE CROSS PIECE TO SUIT. THE CENTER CROSS PIECE IN DETAIL D IS REQUIRED WHEN THREE TIE-DOWNS ARE USED.
9. CHAINS AND LOAD BINDERS SHALL MEET THE FOLLOWING CONDITIONS:
 - A. CHAINS AND FITTINGS SHALL BE 3/8 INCH AND LOADBINDERS 3/8 INCH CAPACITY.
 - B. CHAINS, FITTINGS AND LOADBINDERS SHALL HAVE A MINIMUM SAFE WORKING LOAD OF 5000 LBS.
 - C. LOADBINDERS SHALL BE SAFETY WIRED WITH 16 GAUGE SOFT ANNEALED IRON WIRE OR SECURED USING THE END PIECE OF THE 3/8 CHAIN.
10. PRIOR TO LOADING THE TRAILER AND DURING THE PRELOADING INSPECTION REQUIRED BY OP2165 AND REPORTED ON DD FORM 626, THE CHAINS, FITTINGS AND LOADBINDERS SHALL BE INSPECTED FOR STRETCH, GOUGING, BENT LINKS, WEAR AND ANY OTHER NOTICEABLE DEFECTS. THE INSPECTOR SHALL CONFIRM THAT THE CHAINS AND LOADBINDERS HAVE BEEN INSPECTED AND SHALL SO NOTE IN ITEM NO. 22 OF DD FORM 626. ANY DEFICIENCY SHALL BE CAUSE FOR REJECTION OF A CHAIN OR LOADBINDER.
11. 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.
12. AFTER BLOCKING AND BRACING HAS BEEN INSPECTED, ATTACH SHIPPING DOCUMENTS TO TRAILER IN AN ACCESSIBLE AREA AND ATTACH "EXPLOSIVE A" PLACARD TO BOTH SIDES, FRONT AND BACK OF TRAILER.
13. APPLICABLE MATERIAL SPECIFICATIONS: DUNNAGE LUMBER, MM-L-751; NAILS, FF-N-105, TYPE II STYLE 10, COMMON BRIGHT; STRAPPING, QQ-S-781, TYPE I CLASS A.
14. FOR GENERAL TRUCKLOADING PROCEDURES REFER TO THE GENERAL TRUCKLOADING DOCUMENT, MIL-STD-1320 (NAVY).

FTL 40 FT. TRAILERS (FLATBED)

1. A FTL CONSISTS OF 12 UNIT LOADS (24 CONTAINERS) OF FAE OR ROCKEYE II AS SHOWN ON PAGE 3 OR 10 UNIT LOADS (20 CONTAINERS) OF APAM LOADED IN ACCORDANCE WITH THE 10 UNIT LOAD PATTERN ON PAGE 4.

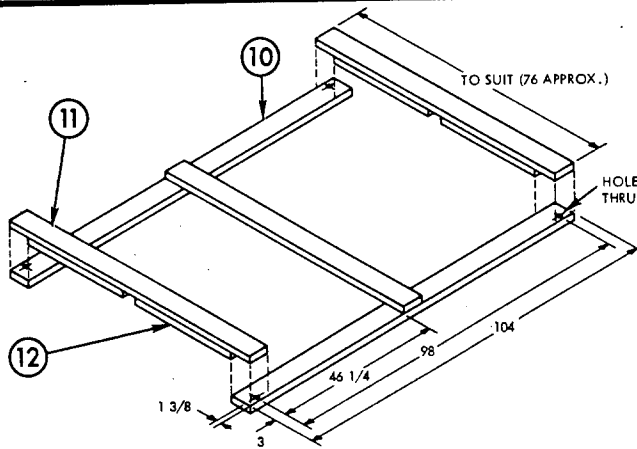
TABLE I
FTL DATA (FLATBED)

ITEM	NUMBER OF UNIT LOADS	UNIT LOAD WEIGHT (LBS) APPROX.	TRUCKLOAD WEIGHT (LBS) APPROX.
CBU-59/B (APAM)	10	4325	43,250
CBU-55/B, 55 A/B OR 72/B (FAE)	12	3405	40,860
CBU-MK 20 & MODS (ROCKEYE II)	12	3325	39,900

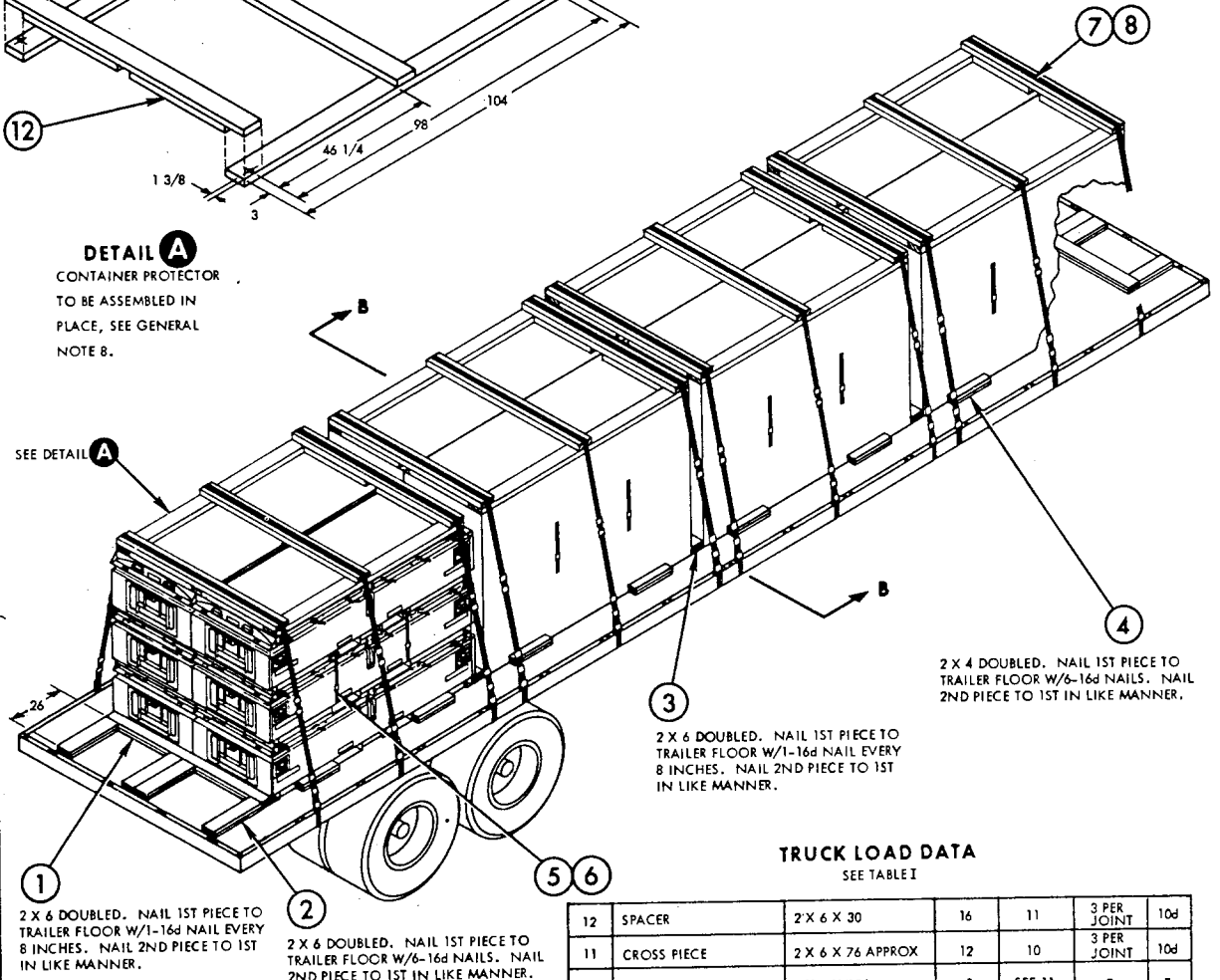
MIL-STD-1320-171 (NAVY)

NOTE

THIS FTL ILLUSTRATES THE USE OF STRAPS AS TIE-DOWNS. CHAINS AND LOAD BINDERS ARE A AUTHORIZED ALTERNATE (SEE GENERAL NOTES 8, 9 & 10) AND SHOULD BE APPLIED AS SHOWN ON PAGE 5.



DETAIL A
CONTAINER PROTECTOR
TO BE ASSEMBLED IN
PLACE, SEE GENERAL
NOTE 8.



1
2 X 6 DOUBLED. NAIL 1ST PIECE TO TRAILER FLOOR W/1-16d NAIL EVERY 8 INCHES. NAIL 2ND PIECE TO 1ST IN LIKE MANNER.

2
2 X 6 DOUBLED. NAIL 1ST PIECE TO TRAILER FLOOR W/6-16d NAILS. NAIL 2ND PIECE TO 1ST IN LIKE MANNER.

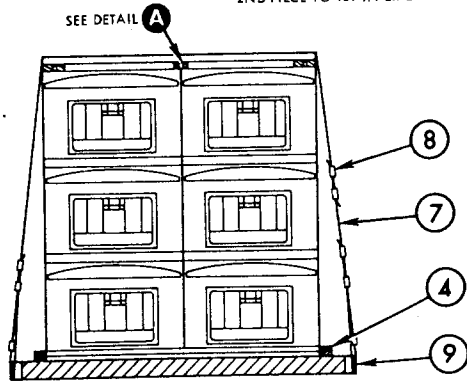
3
2 X 6 DOUBLED. NAIL 1ST PIECE TO TRAILER FLOOR W/1-16d NAIL EVERY 8 INCHES. NAIL 2ND PIECE TO 1ST IN LIKE MANNER.

4
2 X 4 DOUBLED. NAIL 1ST PIECE TO TRAILER FLOOR W/6-16d NAILS. NAIL 2ND PIECE TO 1ST IN LIKE MANNER.

TRUCK LOAD DATA
SEE TABLE I

12	SPACER	2 X 6 X 30	16	11	3 PER JOINT	10d
11	CROSS PIECE	2 X 6 X 76 APPROX	12	10	3 PER JOINT	10d
10	LONGITUDINAL	2 X 6 X 104	8	SEE 11	-	-
9	STAKE POCKET PAD	2 X .050 X 18	24	-	-	-
8	SEAL	FOR 2" STRAP	96	-	-	-
7	HOLD-DOWN STRAP	2 X .050 X 19 FT	12	-	-	-
6	SEAL	FOR 1 1/4" STRAP	16	-	-	-
5	UNITIZING STRAP	1 1/4 X .035 X 12 FT	16	-	-	-
4	SLEEPER	2 X 4 X 18	32	SEE FIELD NOTE		
3	SPACER	2 X 6 X 76	6	SEE FIELD NOTE		
2	BACKUP CLEAT	2 X 6 X 20	16	SEE FIELD NOTE		
1	CROSSMEMBER	2 X 6 X 76	4	SEE FIELD NOTE		
PIECE NO.	DESCRIPTION	SIZE	NO. OF PIECES REQ'D	NAIL TO	NUMBER	SIZE
					NUMBERS	SIZE

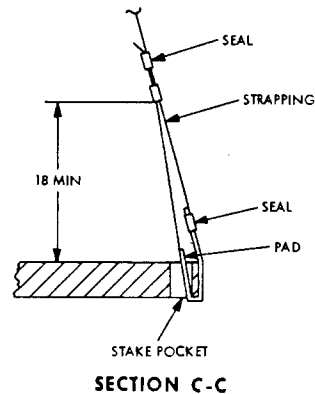
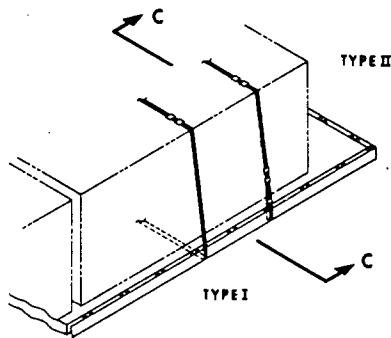
LIST OF MATERIALS & NAILING DATA



SECTION B-B

40 FT FLATBED TRAILER WITH 12 UNIT LOADS

**MIL-STD-1320-171 (NAVY)
LOAD STRAPPING**



TIE-DOWN STRAPPING

THE FOLLOWING TWO METHODS OF TIE-DOWN STRAPPING ARE APPROVED FOR USE WITH THE SHIPMENT OF LOADS ON FLATBED TRAILERS. STEEL STRAPPING SHALL BE IN ACCORDANCE WITH FEDERAL SPECIFICATION QQ-S-781. STRAP JOINTS SHALL HAVE A MINIMUM TENSILE STRENGTH EQUAL TO 75 PERCENT OF THE STRAP STRENGTH. FOR EACH OF THE TYPES ILLUSTRATED ABOVE IT IS PREFERRED TO POSITION, TENSION AND DOUBLE CRIMP THE STRAP SEALS AT THE TOP OF THE LOAD, IF PRACTICABLE.

TYPE I - CONTINUOUS STRAPPING AROUND THE FLATBED AND THE LOAD.

TYPE II - THE STRAPPING IS SECURED TO THE STAKE POCKETS, ONE PIECE ON EACH SIDE OF THE TRAILER, AND IS BROUGHT UP OVER THE LOAD, TENSIONED, AND SEALED WITH TWO DOUBLE-CRIMPED SEALS. METHOD OF SECURING STRAPPING TO STAKE POCKET IS SHOWN IN SECTION C-C. THE SHORT END IS ON THE INSIDE AND IS SECURED WITH TWO DOUBLE-CRIMPED SEALS AT A MINIMUM OF 18 INCHES ABOVE THE TRAILER BED. A STAKE POCKET PAD (A SHORT PIECE OF THE SAME STRAPPING 18 INCHES LONG) IS INSERTED BETWEEN THE MAIN STRAP AND THE STAKE POCKET AND IS SECURED TO THE MAIN STRAP WITH A SEAL AS SHOWN.

LTL-FLATBED (TRAILER)

1. WHEN REQUIRED TO SHIP 9, 10 OR 11 UNIT LOADS, SHIPMENT SHALL BE MADE ON A FLATBED TRAILER. POSITION UNIT LOADS ON THE TRAILER AS SHOWN IN TABLE II. BLOCK AND TIE DOWN USING THE PRINCIPLES SHOWN ON PAGE 5.

TABLE II

NO. OF UNIT LOAD	LOAD PATTERN*				FWD →
11	1.5 1.5	1.5 1.5	1 1	1.5 1.5	
10	1.5 1.5	1 1	1 1	1.5 1.5	
9	1 1	1 1	1.5 1.5	1 1	

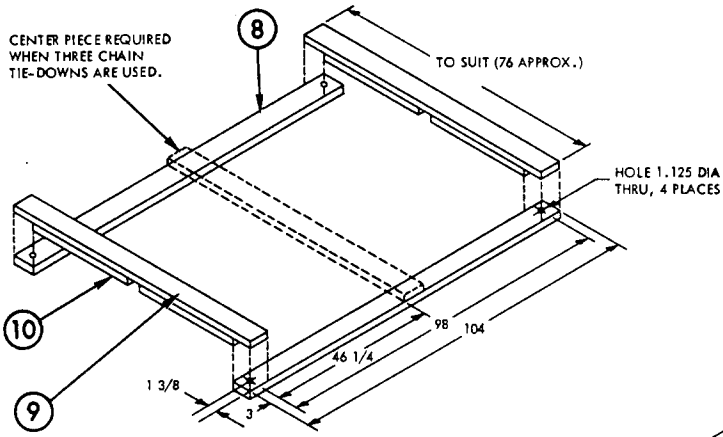
*LOAD PATTERN IS THE FLOOR PLAN FOR THE LOAD. THE NUMBER IN THE BLOCKS IS THE NUMBER OF LAYERS OF UNIT LOADS IN THE STACK. THE NUMBER 1.5 INDICATES THAT THE STACK IS 1.5 UNIT LOADS HIGH (OR THREE CONTAINERS HIGH - SEE GENERAL NOTE 4, PAGE 2).

- THE FLATBED LOAD SHOWN ON PAGE 5 IS FOR 9 UNIT LOADS AND SHOWS THE CORRECT BLOCKING AND TIE-DOWN PROCEDURES.
- WHEN REQUIRED TO SHIP 8 OR LESS UNIT LOADS, FLATBED TRAILERS MAY BE USED. BLOCKING AND TIEDOWNS SHALL BE IN ACCORDANCE WITH THIS PRINCIPLE OF THE DOCUMENT.

NOTE

EIGHT OR LESS UNIT LOADS MAY BE LOADED IN VANS AS SHOWN ON PAGE 7.

MIL-STD-1320-171 (NAVY)

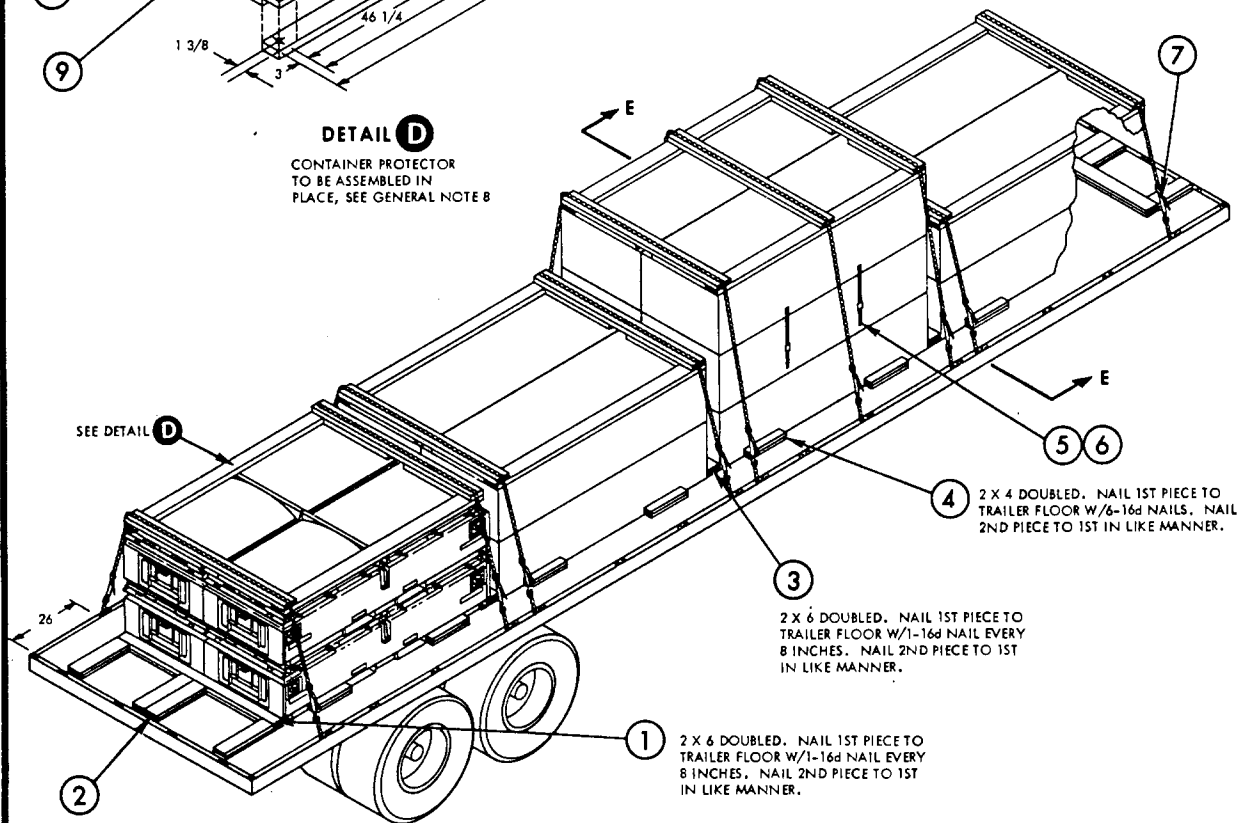


NOTE

THIS LTL ILLUSTRATES THE USE OF CHAINS AS TIE-DOWNS. STEEL STRAPS ARE A AUTHORIZED ALTERNATE (SEE GENERAL NOTES 6 & 7) AND SHALL BE APPLIED AS SHOWN ON PAGE 3.

DETAIL D

CONTAINER PROTECTOR TO BE ASSEMBLED IN PLACE, SEE GENERAL NOTE B

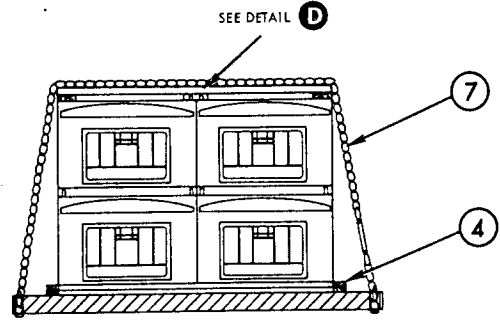


2 X 6 DOUBLED. NAIL 1ST PIECE TO TRAILER FLOOR W/6-16d NAILS. NAIL 2ND PIECE TO 1ST IN LIKE MANNER.

1 2 X 6 DOUBLED. NAIL 1ST PIECE TO TRAILER FLOOR W/1-16d NAIL EVERY 8 INCHES. NAIL 2ND PIECE TO 1ST IN LIKE MANNER.

3 2 X 6 DOUBLED. NAIL 1ST PIECE TO TRAILER FLOOR W/1-16d NAIL EVERY 8 INCHES. NAIL 2ND PIECE TO 1ST IN LIKE MANNER.

4 2 X 4 DOUBLED. NAIL 1ST PIECE TO TRAILER FLOOR W/6-16d NAILS. NAIL 2ND PIECE TO 1ST IN LIKE MANNER.



SECTION E-E

10	SPACER	2 X 6 X 30	16	9	3/JOINT	10d
9	CROSS PIECE	2 X 6 X 76 APPROX.	9	8	3/JOINT	10d
8	LONGITUDINAL	2 X 6 X 104	8	SEE 9	-	-
7	CHAIN & LOADBINDER	3/8	9	-	-	-
6	SEAL	FOR 1 1/4 STRAP	4	-	-	-
5	UNITIZING STRAP	1 1/4 X .035 X 12 FT	4	-	-	-
4	SLEEPER	2 X 4 X 18	32	SEE FIELD NOTE		
3	SPACER	2 X 6 X 76	6	SEE FIELD NOTE		
2	BACKUP CLEAT	2 X 6 X 20	16	SEE FIELD NOTE		
1	CROSSMEMBER	2 X 6 X 76	4	SEE FIELD NOTE		
PIECE NO.	DESCRIPTION	SIZE	NO. OF PIECES REQ'D	NAIL TO	NUMBER NAILS	SIZE

LIST OF MATERIALS & NAILING DATA

MIL-STD-1320-171 (NAVY)

STRAPPING AND STACKING PROCEDURE

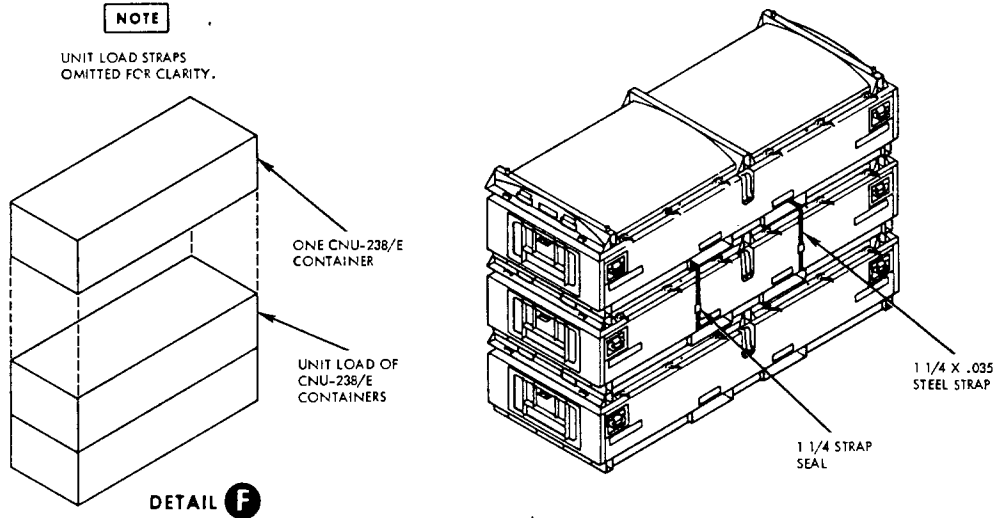
1. POSITION ONE CONTAINER ON TOP OF A UNIT LOAD MAKING SURE THE STACKING PINS ARE ENGAGED. (SEE DETAIL F AND MAIN ISOMETRIC.)
2. THREAD STRAPPING THROUGH THE FORK POCKETS OF THE CENTER CONTAINER AND THE TOP CONTAINER. TENSION AND SECURE WITH ONE DOUBLE NOTCHED SEAL.
3. STACKED AND STRAPPED CNU-238/E CONTAINERS MAY BE HANDLED AND POSITIONED ON FLATBED TRAILERS USING A FORK-LIFT TRUCK OF SUITABLE CAPACITY.

WARNING

IF ADEQUATE CAPACITY HANDLING EQUIPMENT IS NOT AVAILABLE THE STACKING AND STRAPPING SHALL BE ACCOMPLISHED IN POSITION ON THE TRAILER.

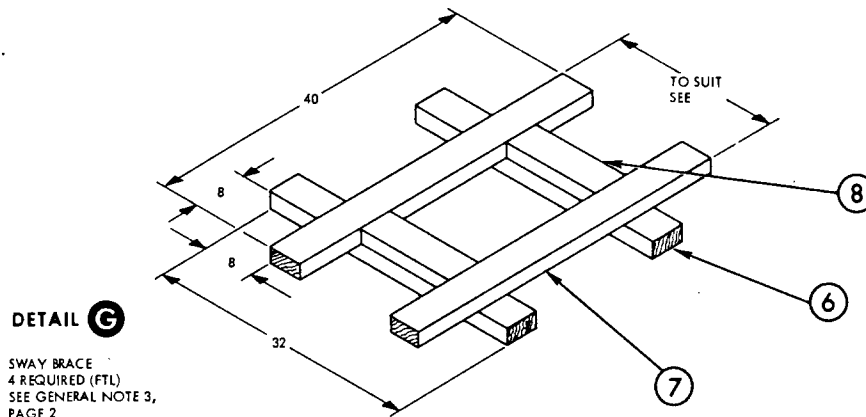
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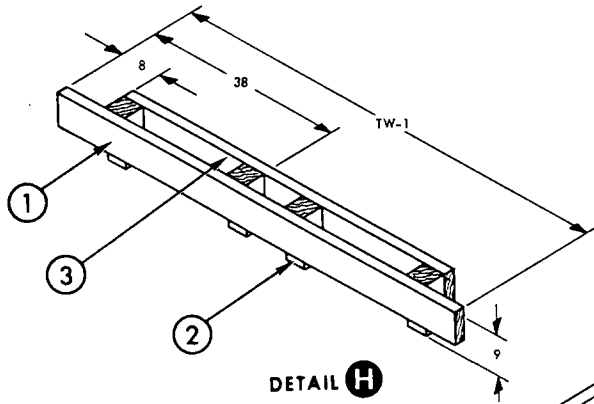
UNIT LOAD STRAPS OMITTED FOR CLARITY.



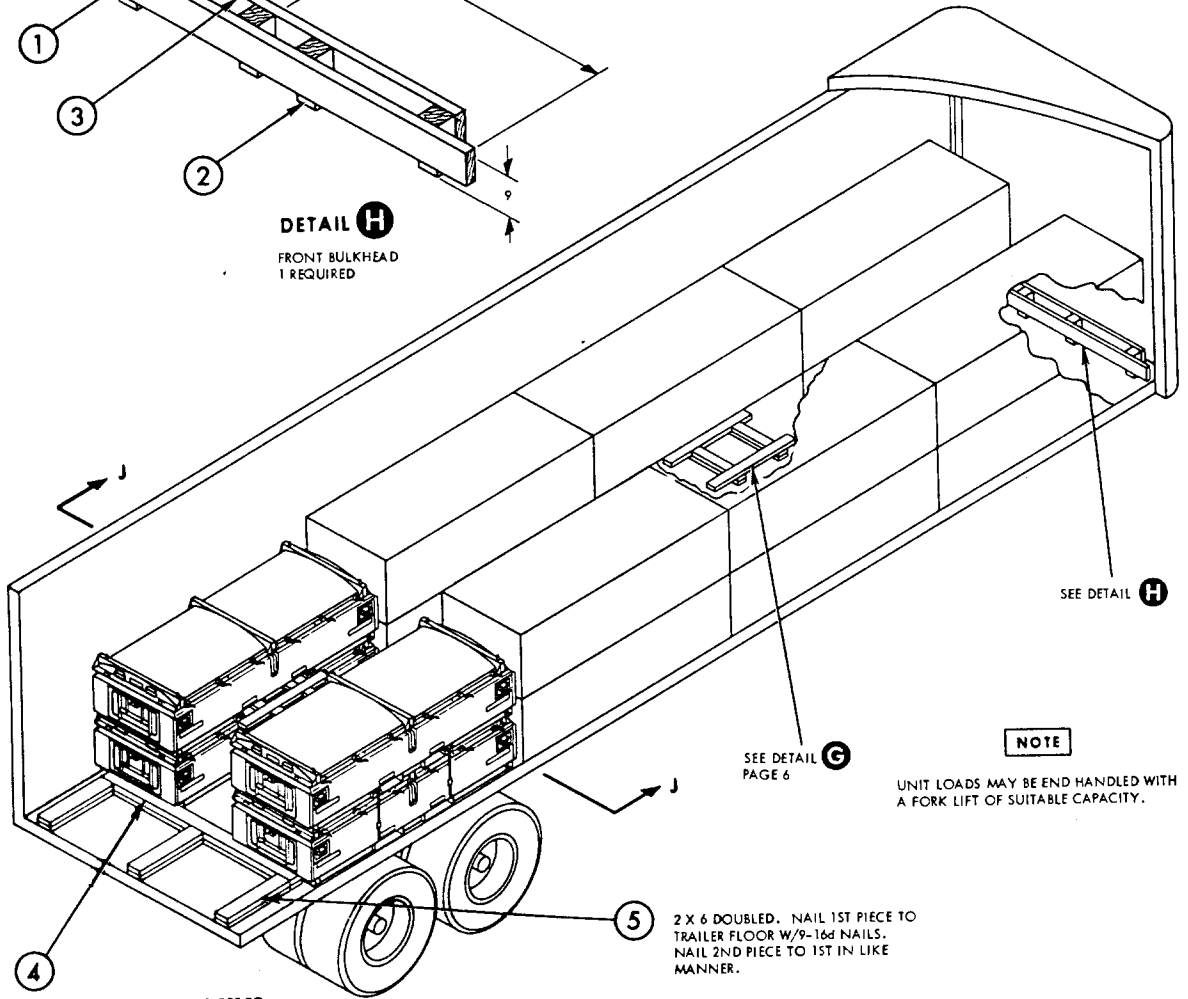
FTL AND LTC VAN TRAILERS

1. A FTL FOR A VAN CONSISTS OF 8 UNIT LOADS. BLOCK AND BRACE AS SHOWN ON PAGE 7.
2. WHEN SHIPPING LESS THAN FTL (VAN) ARRANGE UNIT LOADS IN A DOUBLE ROW PATTERN. BLOCK AND BRACE USING THE PRINCIPLES OF THIS DOCUMENT.
3. WHEN SHIPPING LTL VAN FOLLOW THE PRINCIPLES SHOWN ON PAGE 7 FOR AN EVEN NUMBER OF UNIT LOADS AND THE PRINCIPLES SHOWN ON PAGE 8 FOR AN ODD NUMBER OF UNIT LOADS.





DETAIL H
FRONT BULKHEAD
1 REQUIRED



SEE DETAIL **H**

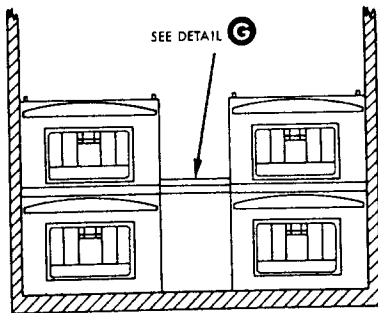
SEE DETAIL **G**
PAGE 6

NOTE

UNIT LOADS MAY BE END HANDLED WITH A FORK LIFT OF SUITABLE CAPACITY.

4 2 X 6 DOUBLED. NAIL 1ST PIECE TO TRAILER FLOOR W/6-16d NAILS. NAIL 2ND PIECE TO 1ST IN LIKE MANNER.

5 2 X 6 DOUBLED. NAIL 1ST PIECE TO TRAILER FLOOR W/9-16d NAILS. NAIL 2ND PIECE TO 1ST IN LIKE MANNER.

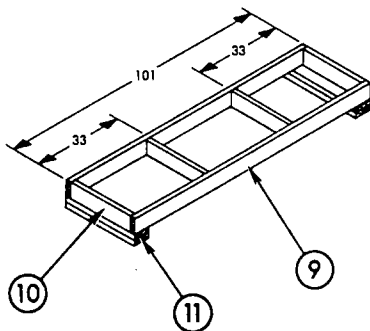
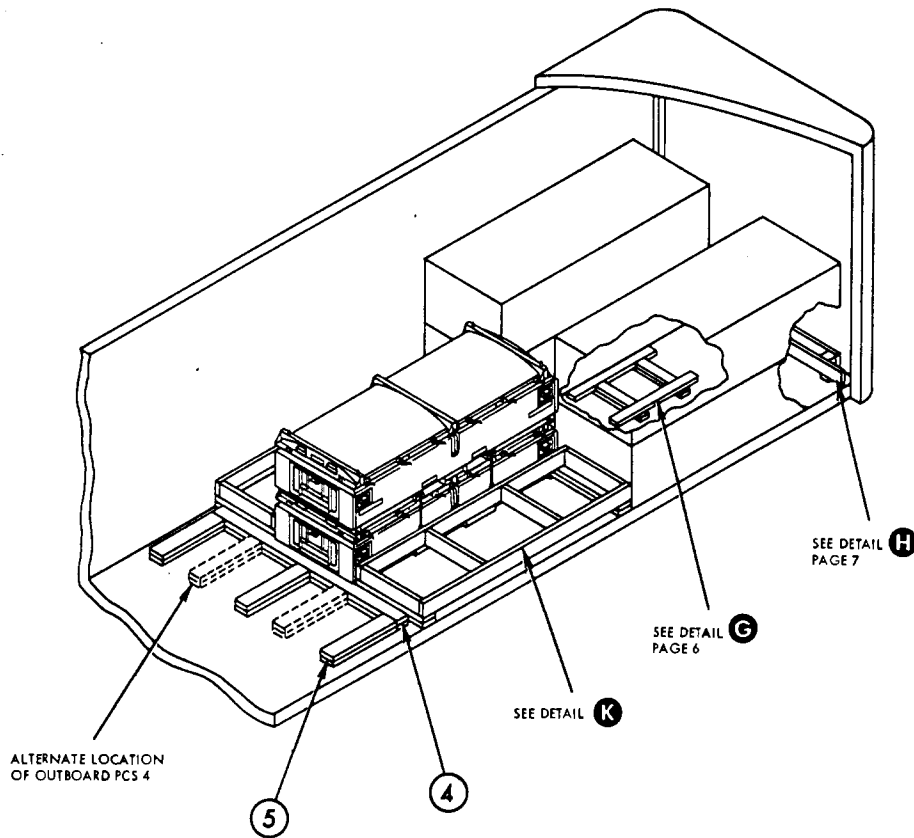


SECTION J-J

8	SPACER	2 X 4 TO SUIT	8	6	4/JOINT	12d
7	STRINGER	2 X 4 X 40	8	6	3/JOINT	12d
6	SUPPORT	2 X 4 X 32	8	SEE 7 & 8	-	-
5	BACKUP CLEAT	2 X 6 X 30	6	SEE FIELD NOTE		
4	CROSSMEMBER	2 X 6 X 1W-1	2	SEE FIELD NOTE		
3	FWD CROSSMEMBER	2 X 6 TO SUIT	1	2	3	12d
2	VERTICAL	4 X 4 X 9	4	SEE 1 & 3	-	-
1	AFT CROSSMEMBER	2 X 6 X TW-1	1	2	3	12d
PIECE NO.	DESCRIPTION	SIZE	NO. OF PIECES REQ'D	NAIL TO	NUMBER	SIZE
					NAILS	

LIST OF MATERIALS & NAILING DATA

MIL-STD-1320-171 (NAVY)



DETAIL K
FILLER ASSEMBLY

11	SUPPORT	2 X 6 TO SUIT	4	9 & 10 11	5 3	12d 12d
10	STRUT	2 X 6 TO SUIT	4	SEE 9	-	-
9	LONGITUDINAL	2 X 6 X 101	2	10	3/JOINT	12d
8	SPACER	2 X 4 TO SUIT	2	6	4/JOINT	12d
7	STRINGER	2 X 4 X 40	2	6	3/JOINT	12d
6	SUPPORT	2 X 4 X 32	2	SEE 7 & 8	-	-
5	BACKUP CLEAT	2 X 6 X 30	6	SEE FIELD NOTE		
4	CROSSMEMBER	2 X 6 X TW-1	2	SEE FIELD NOTE		
3	FWD CROSSMEMBER	2 X 6 TO SUIT	1	2	3	12d
2	VERTICAL	4 X 4 X 9	4	SEE 1 & 3	-	-
1	AFT CROSSMEMBER	2 X 6 X TW-1	1	2	3	12d
PIECE NO.	DESCRIPTION	SIZE	NO. OF PIECES REQ'D	NAIL TO	NUMBER	SIZE
					NAILS	

LIST OF MATERIALS & NAILING DATA

LTL VAN TRAILER

REVIEW ACTIVITY
NAVY - AS, OS

PREPARING ACTIVITY
NAVY - OS
(PROJECT NO. 8140-N309)