

Code Ident.
10001

Naval Sea Systems Command
Department of the Navy

WR-51/144
Change Notice 2
15 August 1979

WEAPONS REQUIREMENT, PALLETIZING

Dispenser & Bomb, Aircraft, CBU-59/B, Complete (APAM)
or Dispenser & Bomb, Aircraft, CBU-(T-1) 1B, Training
in Container MK427 MOD 0
Fleet Issue Unit Load

Make the following pen and ink changes:

Page 2

1. Delete all of General Note 6 except that part starting with "Prior to loading the trailer-----etc" and substitute:
 - "6. 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.
 - 6A. Chains, fittings and loadbinders shall meet the requirements of and be applied as shown in the basic truckloading document MIL-STD-1320 (NAVY)."
2. Delete General Note 9 and substitute:
 - "9. Unless otherwise specified, all material shall be as specified in the General Truckloading Document, MIL-STD-1320 (NAVY)."
3. In General Note 10, delete "Weapons Requirement, WR-51" and substitute "Document, MIL-STD-1320 (NAVY)."
4. Delete "Load Strapping" and all material under that heading.

Page 7

1. Add at end of WARNING note: "Stacked loads shall be broken down to unit loads after unloading the vehicle."

Distribution
WR-51

Preparing Activity
WPNSTA Earle (NWHC)

WR-51/144
Change Notice 1
30 September 1975

NAVAL SEA SYSTEMS COMMAND
DEPARTMENT OF THE NAVY
WEAPONS REQUIREMENT, TRUCKLOADING
BOMB, CLUSTER
CBU-59/B (APAM)
IN CONTAINER MK 427 MOD 0

This notice forms a part of WR-51/144 of 15 September 1971.

Page 1.

1. Delete title "Bomb, Cluster CBU-59/B (APAM) in Container Mk 427 Mod 0" and insert:
Dispenser and Bomb, Aircraft, CBU-59/B, Complete (APAM)
or
Dispenser and Bomb, Aircraft, CBU (T-1)/B, Training
in Container Mk 427 Mod 0
Fleet Issue Unit Load
2. In Unit Load Data delete "Explosives A" and insert:
CBU-59/B-----Explosives A
CBU-59 (T-1)/B-----Explosives C

Page 2.

1. Delete General Note 1. and substitute:
"This document gives detailed instructions for truckloading the Dispenser and Bomb, Aircraft CBU-59/B, Complete (APAM) and CBU-59 (T-1)/B, Training in Container Mk 427 Mod 0. The containers shall be unitized in accordance with Fleet Issue Unit Load WR-54/215."
2. Change in General Note 6.b.:
"break load of 9000 lbs." to
"safe working load of 5000 lbs."
3. Change second line of General Note 8 from:
"Explosives A" placard to both sides, front and back of trailer." to
"appropriate placard, see unit load data, Page 1, to both sides, front and back of trailer."

Distribution

WR-51 & WR-52
distribution list

Preparing Activity

WPNSTA Earle (NWHL)

Code Ident
10001

Naval Ordnance Systems Command
Department of the Navy

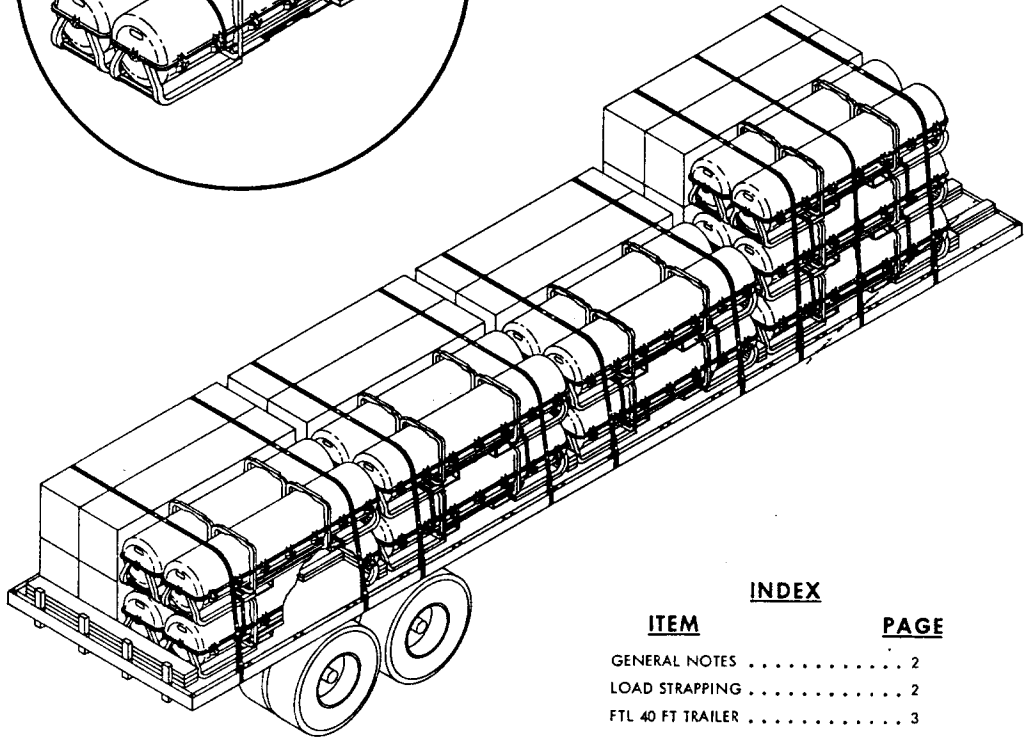
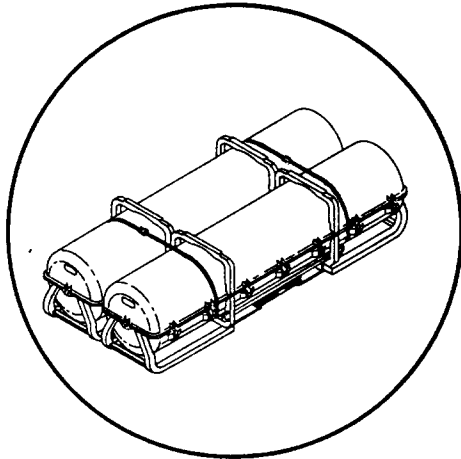
WR-51/144

15 SEPTEMBER 1971

WEAPONS REQUIREMENT, TRUCKLOADING
BOMB, CLUSTER
CBU-59/B (APAM)
IN CONTAINER MK 427 MOD 0

UNIT LOAD DATA

LENGTH..... 102 17/32
WIDTH 46 5/16
HEIGHT 25 31/32
WEIGHT 2300 LBS
CUBE..... 71.4 CU. FT.
D.O.T HAZARD CLASSIFICATION
EXPLOSIVES A



UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES

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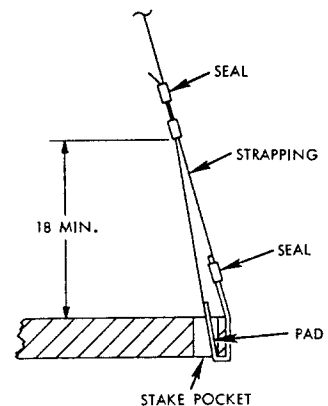
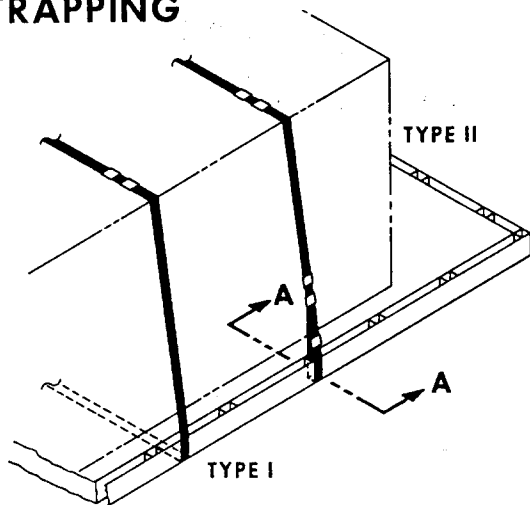
52/144 CARLOADING		REV							
54/215 PALLETIZING, F.I.U.L.		LTR		REVISION DESCRIPTION		DATE		TDA	
WR NO. ASSOCIATED PROCESS								APPROVAL	
<p>AUTHORIZED AND RELEASED FOR HIGHWAY SHIPMENT ONLY</p>					<p>ORIGINATOR <u>Charles D. Dole 10/4/71</u> SIGNATURE</p> <p>NAVAL WEAPONS HANDLING LABORATORY U.S.N.A.D. EARLE, NEW JERSEY</p>				

GENERAL NOTES

1. THIS DOCUMENT GIVES DETAILED INSTRUCTIONS FOR TRUCKLOADING THE CLUSTER BOMB CBU - 59/B (APAM) IN CONTAINER MK 427 MOD 0. THE CONTAINERS SHALL BE UNITIZED TWO (2) TO A UNIT LOAD IN ACCORDANCE WITH WR-54/215.
2. PROCEDURE AND PRACTICES DESCRIBED HEREIN ARE INTENDED FOR A 40 FT FLAT BED TRAILER. THE TRAILER'S TANDEM AXLES SHALL BE LOCATED IN THE "WESTERN" POSITION (AT THE EXTREME REAR OF THE TRAILER). DO NOT USE TRAILERS WITH METAL FLOORS.
3. WHEN THE UNIT LOADS ARE STACKED TWO (2) OR MORE HIGH, THEY SHALL BE UNITIZED AS SHOWN ON PAGE 7.
4. SLEEPER, PIECE NO. 3, MUST BE PREPOSITIONED. IT SHOULD BE LOCATED AGAINST THE INSIDE EDGE OF THE CONTAINER RUNNER AS SHOWN IN SECTION B-B.
5. LOAD BINDERS AND CHAINS MAY BE USED AS AN ALTERNATE FOR THE TWO (2) INCH STRAPPING, SUBSTITUTING ONE CHAIN AND LOAD BINDER FOR EACH TWO (2) INCH STRAP. LAMINATED DOUBLED 2 x 6's SHALL BE USED OVER THE TOP OF THE CONTAINERS TO PREVENT DAMAGE BY THE CHAIN AND THE CHAIN SHALL BE SECURED TO THE BOARDS WITH FOUR (4) 20d NAILS BY DRIVING THE NAIL THROUGH THE CHAIN LINK AND CLINCHING THE NAIL OVER THE CHAIN.
6. CHAINS AND LOAD BINDERS SHALL MEET THE FOLLOWING CONDITIONS:
 - a. CHAIN AND FITTINGS SHALL BE 3/8 INCH AND LOAD BINDERS 3/8 INCH CAPACITY.
 - b. CHAIN, FITTINGS, AND LOAD BINDERS SHALL HAVE A MINIMUM BREAK LOAD OF 9,800 LBS.
 - c. LOAD BINDERS SHALL BE SAFETY WIRED WITH 16 GAUGE SOFT ANNEALED IRON WIRE OR SECURED USING THE END PIECE OF THE 3/8 CHAIN.

PRIOR TO LOADING THE TRAILER AND DURING THE PRELOADING INSPECTION REQUIRED BY NAVWEPS OP 2165 AND REPORTED ON DD FORM 626, CHAINS, FITTINGS, AND LOAD BINDERS SHALL BE INSPECTED FOR STRETCH, GOUGING, BENT LINKS, WEAR AND ANY OTHER NOTICEABLE DEFECTS. THE INSPECTOR SHALL CONFIRM THAT THE CHAINS AND LOAD BINDERS 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 LOAD BINDER.
7. 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.
8. AFTER BLOCKING AND BRACING HAS BEEN INSPECTED, ATTACH SHIPPING DOCUMENTS TO AN ACCESSIBLE AREA AND ATTACH "EXPLOSIVES A" PLACARD TO BOTH SIDES, FRONT, AND BACK OF TRAILER.
9. APPLICABLE MATERIAL SPECIFICATIONS: DUNNAGE LUMBER, MM-L-751; NAILS FF-N-105, COMMON CEMENT COATED; STRAPPING QQ-S-781, TYPE I, CLASS A.
10. FOR GENERAL TRUCKLOADING PROCEDURES REFER TO THE GENERAL TRUCKLOADING WEAPONS REQUIREMENT, WR-51.

LOAD STRAPPING



SECTION A-A

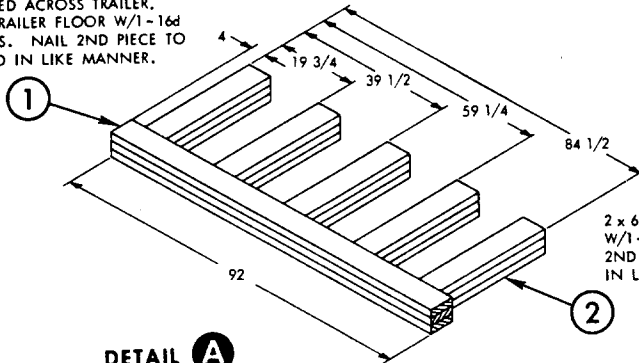
TIE-DOWN STRAPPING

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. STRAPPING SEALS 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 ON THE TOP. METHOD OF SECURING STRAPPING TO STAKE POCKET IS SHOWN IN SECTION A-A. 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.

2 x 6 TRIPLED CENTERED ACROSS TRAILER. NAIL 1ST PIECE TO TRAILER FLOOR W/1-16d NAIL EVERY 8 INCHES. NAIL 2ND PIECE TO 1ST AND 3RD TO 2ND IN LIKE MANNER.



2 x 6 TRIPLED. NAIL TO TRAILER FLOOR W/1-16d NAIL EVERY 8 INCHES. NAIL 2ND PIECE TO 1ST AND 3RD TO 2ND IN LIKE MANNER.

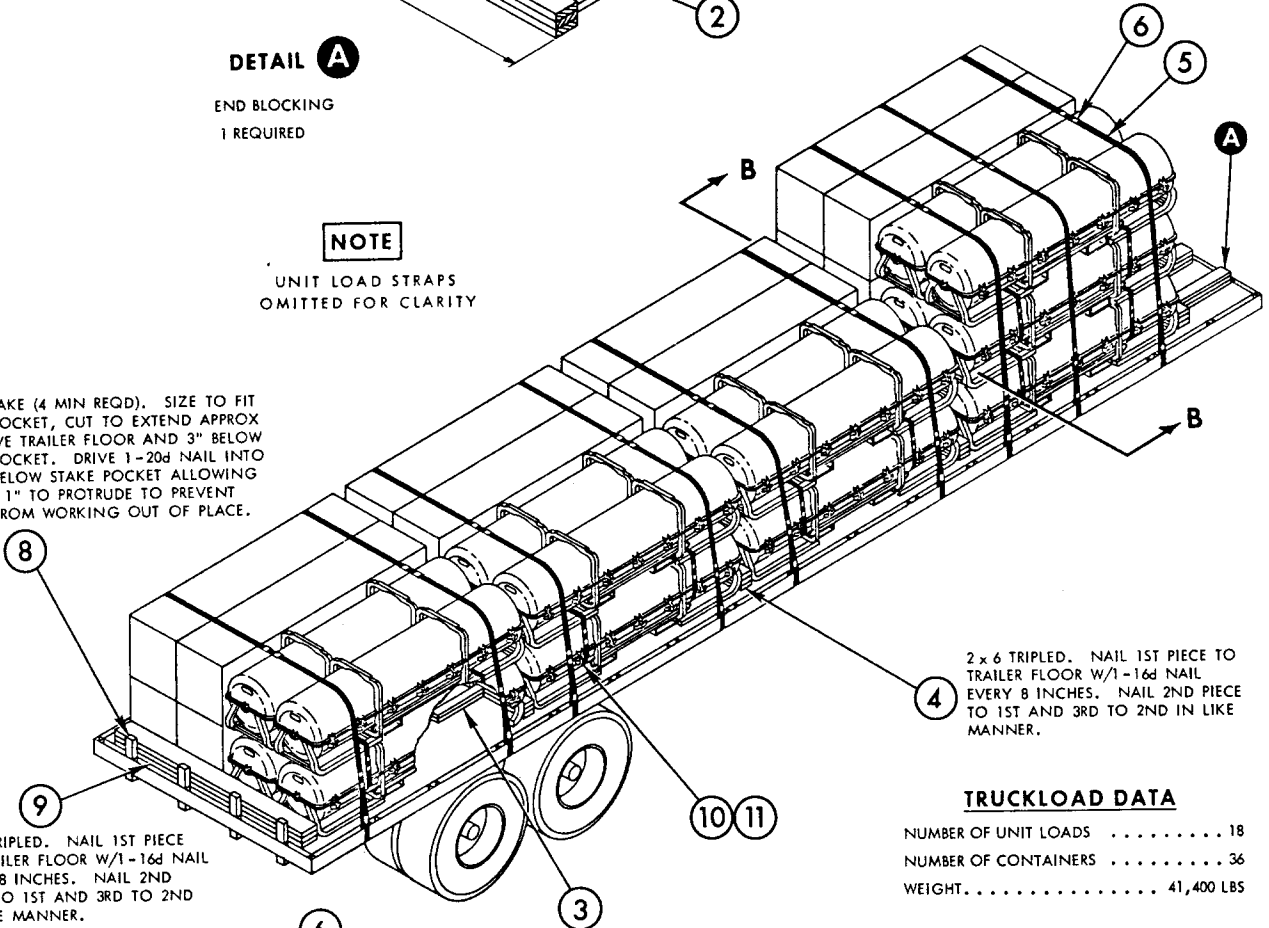
DETAIL A

END BLOCKING
1 REQUIRED

NOTE

UNIT LOAD STRAPS
OMITTED FOR CLARITY

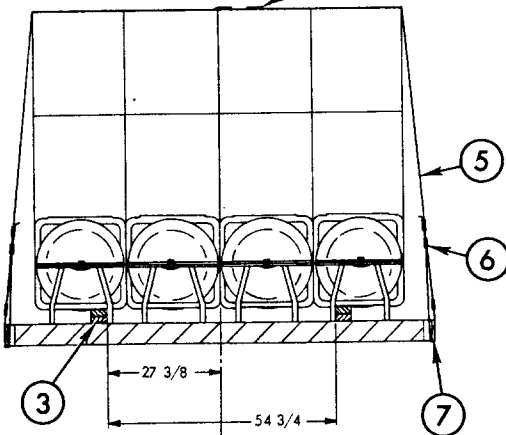
STUB STAKE (4 MIN REQD). SIZE TO FIT STAKE POCKET, CUT TO EXTEND APPROX 9" ABOVE TRAILER FLOOR AND 3" BELOW STAKE POCKET. DRIVE 1-20d NAIL INTO STAKE BELOW STAKE POCKET ALLOWING APPROX 1" TO PROTRUDE TO PREVENT STAKE FROM WORKING OUT OF PLACE.



2 x 8 TRIPLED. NAIL 1ST PIECE TO TRAILER FLOOR W/1-16d NAIL EVERY 8 INCHES. NAIL 2ND PIECE TO 1ST AND 3RD TO 2ND IN LIKE MANNER.

TRUCKLOAD DATA

NUMBER OF UNIT LOADS 18
NUMBER OF CONTAINERS 36
WEIGHT..... 41,400 LBS



2 x 4 DOUBLED. NAIL 1ST PIECE TO TRAILER FLOOR W/6-20d NAILS. NAIL 2ND PIECE TO 1ST IN LIKE MANNER.

OF TRAILER

SECTION B-B

11	SEAL	FOR 1 1/4 IN. STRAP	40	—	—	—
10	UNITIZING STRAP	1 1/4 x .035 x 13 FT 0	20	SEE PAGE 7		
9	ATF CROSS MEMBER	2 x 8 x 92	3	SEE FIELD NOTE		
8	STUB STAKE	TO SUIT	4 MIN.	SEE FIELD NOTE		
7	STAKE POCKET PAD (STRAPPING)	2 x .050 x 24	18	—	—	—
6	SEAL	FOR 2 INCH STRAP	72	—	—	—
5	TIE DOWN STRAP	2 x .050 x LENGTH TO SUIT	9	SEE LOAD STRAPPING, PAGE 2		
4	SEPARATOR	2 x 6 x 92	9	SEE FIELD NOTE		
3	SLEEPER	2 x 4 x 24	32	SEE SECTION B-B		
2	CLEAT	2 x 6 x 30	15	SEE DETAIL A		
1	FWD CROSS MEMBER	2 x 6 x 92	3	SEE DETAIL A		
PIECE NO.	DESCRIPTION	SIZE	NO. OF PIECES REQ'D	NAIL TO	NUMBER NAILS	SIZE

LIST OF MATERIAL & NAILING DATA

FTL 40 FT TRAILER (FLATBED)

LTL 40 FT TRAILER (FLATBED)

1. WHEN REQUIRED TO SHIP LESS-THAN-TRUCKLOAD, SELECT THE CORRECT LOAD PATTERN FOR THE NUMBER OF UNIT LOADS TO BE SHIPPED FROM TABLE 1 AND POSITION THE UNIT LOADS ON THE TRAILER ACCORDINGLY.
2. WHEN USING CHAIN TIE-DOWNS AND ONE SIDE OF THE STACK IS HIGHER THAN THE OTHER (SEE 15 & 17 UNIT LOADS, TABLE 1) USE 2 x 4 x 12 PROTECTOR PIECES UNDER THE CHAIN WHERE THE CHAIN BEARS AGAINST THE LOWER CONTAINER COVERS. SECURE BLOCK TO CHAIN TO PREVENT THEIR WORKING LOOSE. THIS IS IN ADDITION TO PROTECTOR BOARDS.
3. THE LTL PLANS SHOWN ON PAGES 5 & 6 INDICATE THE CORRECT LESS-THAN-TRUCKLOAD FOR THE QUANTITY OF UNIT LOADS SHOWN. THEY DO NOT LIMIT LTL SHIPMENTS TO THESE QUANTITIES SINCE LTL SHIPMENTS MAY CONSIST OF A GREATER OR LESSER NUMBER OF UNIT LOADS.

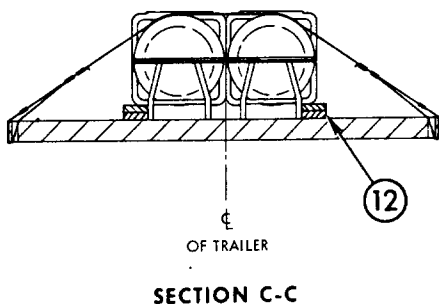
TABLE I
LOAD PATTERN *

NO. OF UNIT LOADS	→ FWD	NO. OF UNIT LOADS	→ FWD	NO. OF UNIT LOADS	→ FWD
17		11		5	
16		10		4	
15		9		3	
14		8		2	
13		7		1	
12		6			

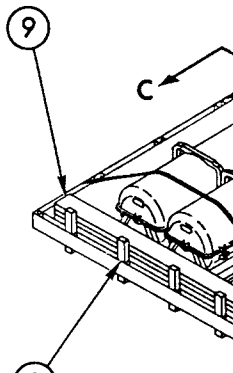
* LOAD PATTERN GIVES FLOOR PLAN FOR TRAILER. NUMBER IN BLOCKS GIVES NUMBER OF LAYERS OF UNIT LOADS.

NOTE

UNIT LOAD STRAPS
OMITTED FOR CLARITY



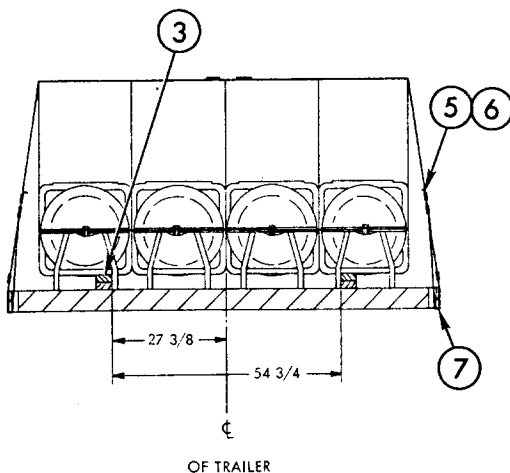
2 x 8 TRIPLED. NAIL 1ST PIECE TO TRAILER FLOOR W/1-16d NAIL EVERY 8 INCHES. NAIL 2ND PIECE TO 1ST AND 3RD TO 2ND IN LIKE MANNER.



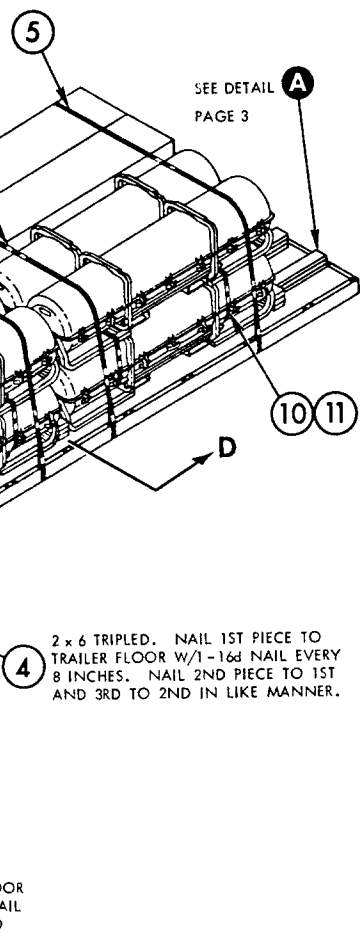
STUB STAKE (4 MIN REQD), SIZE TO FIT STAKE POCKET, CUT TO EXTEND APPROX 9" ABOVE TRAILER FLOOR AND 3" BELOW STAKE POCKET. DRIVE 1-20d NAIL INTO STAKE BELOW STAKE POCKET ALLOWING APPROX 1" TO PROTRUDE TO PREVENT STAKE FROM WORKING OUT OF PLACE.

2 x 4 DOUBLED. NAIL 1ST PIECE TO TRAILER FLOOR W/6-20d NAILS. NAIL 2ND PIECE TO 1ST IN LIKE MANNER.

2 x 4 DOUBLED. NAIL 1ST PIECE TO TRAILER FLOOR W/6-20d NAILS. NAIL 2ND PIECE TO 1ST IN LIKE MANNER.



SECTION D-D



2 x 6 TRIPLED. NAIL 1ST PIECE TO TRAILER FLOOR W/1-16d NAIL EVERY 8 INCHES. NAIL 2ND PIECE TO 1ST AND 3RD TO 2ND IN LIKE MANNER.

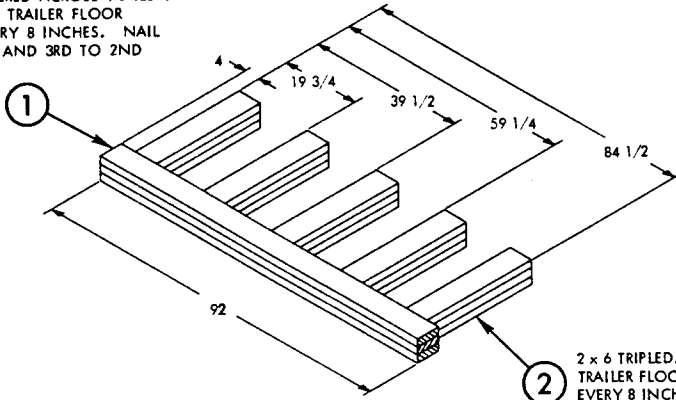
LTL DATA

NUMBER OF UNIT LOADS 11
WEIGHT 25,300 LBS

13	SLEEPER	2 x 4 x 24	4	SEE FIELD NOTE		
12	BACK UP	2 x 6 x 20	6	SEE FIELD NOTE		
11	SEAL	FOR 1 1/4 IN. STRAP	32	—	—	—
10	UNITIZING STRAP	1 1/4 x .035 x 13 FT 0	16	SEE PAGE 7		
9	AFT CROSS MEMBER	2 x 8 x 92	3	SEE FIELD NOTE		
8	STUB STAKE	TO SUIT	4 MIN.	SEE FIELD NOTE		
7	STAKE POCKET PAD (STRAPPING)	2 x .050 x 24	16	—	—	—
6	SEAL	FOR 2 IN. STRAP	64	—	—	—
5	TIE DOWN STRAP	2 x .050 x LENGTH TO SUIT	8	SEE LOAD STRAPPING, PAGE 2		
4	SEPARATOR	2 x 6 x 92	9	SEE FIELD NOTE		
3	SLEEPER	2 x 4 x 24	24	SEE SECTION D-D		
2	CLEAT	2 x 6 x 30	15	SEE DETAIL A, PAGE 2		
1	FWD CROSS MEMBER	2 x 6 x 92	3	SEE DETAIL A, PAGE 2		
PIECE NO.	DESCRIPTION	SIZE	NO. OF PIECES REQ'D	NAIL TO	NUMBER	SIZE
					NAILS	

LIST OF MATERIALS & NAILING DATA

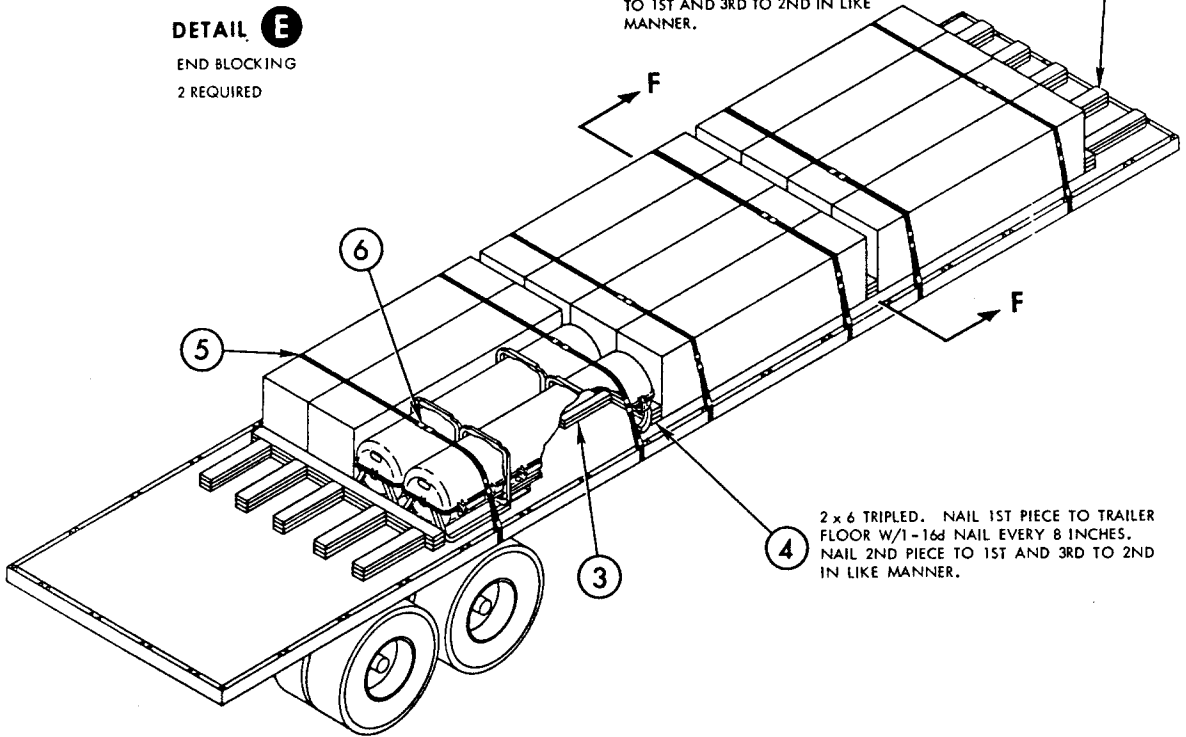
2 x 6 TRIPLED CENTERED ACROSS TRAILER. NAIL 1ST PIECE TO TRAILER FLOOR W/1-16d NAIL EVERY 8 INCHES. NAIL 2ND PIECE TO 1ST AND 3RD TO 2ND IN LIKE MANNER.



DETAIL E
END BLOCKING
2 REQUIRED

2 x 6 TRIPLED. NAIL 1ST PIECE TO TRAILER FLOOR W/1-16d NAIL EVERY 8 INCHES. NAIL 2ND PIECE TO 1ST AND 3RD TO 2ND IN LIKE MANNER.

SEE DETAIL **E**

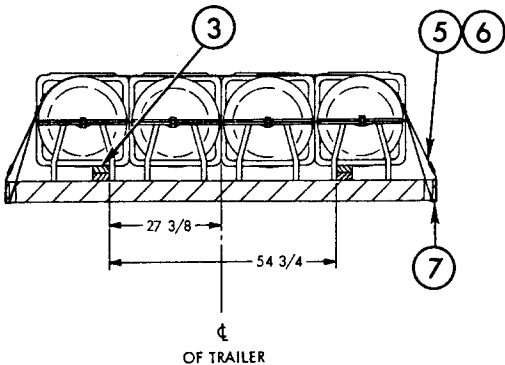


2 x 6 TRIPLED. NAIL 1ST PIECE TO TRAILER FLOOR W/1-16d NAIL EVERY 8 INCHES. NAIL 2ND PIECE TO 1ST AND 3RD TO 2ND IN LIKE MANNER.

LTL DATA

NUMBER OF UNIT LOADS 6
WEIGHT 13,800 LBS

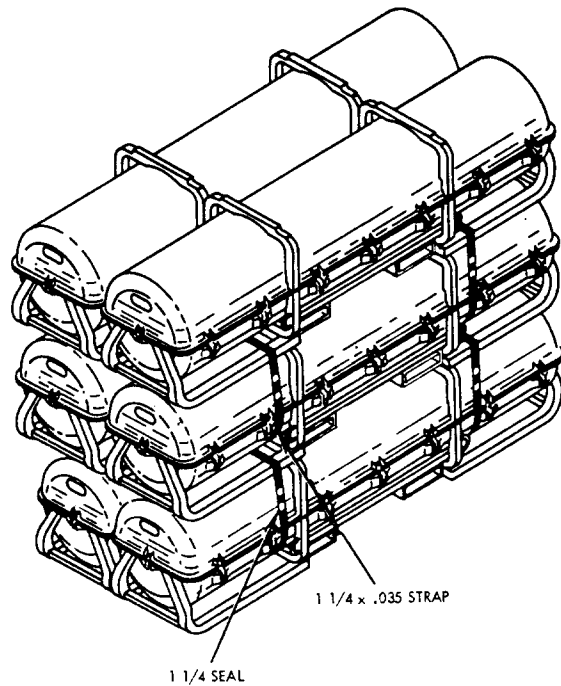
2 x 4 DOUBLED. NAIL 1ST PIECE TO TRAILER FLOOR W/6-20d NAILS. NAIL 2ND PIECE TO 1ST IN LIKE MANNER.



SECTION F-F

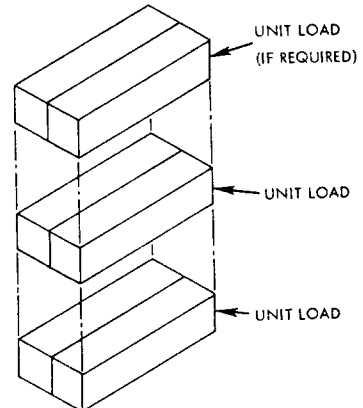
PIECE NO.	DESCRIPTION	SIZE	NO. OF PIECES REQ'D	NAIL TO	NUMBER	SIZE
7	STAKE POCKET PAD (STRAPPING)	2 x .050 x 24	12	—	—	—
6	SEAL	FOR 2 IN. STRAP	48	—	—	—
5	TIE DOWN STRAP	2 x .050 x 14 FT	6	—	—	—
4	SEPARATOR	2 x 6 x 92	6	SEE FIELD NOTE		
3	SLEEPER	2 x 4 x 24	24	SEE SECTION F-F		
2	CLEAT	2 x 6 x 30	30	SEE DETAIL E		
1	CROSS MEMBER	2 x 6 x 92	6	SEE DETAIL E		
LIST OF MATERIAL & NAILING DATA						

UNITIZING PROCEDURE



DETAIL **G**

NOTE
UNIT LOAD STRAPS
OMITTED FOR CLARITY



DETAIL **H**

1. USING A FORK LIFT TRUCK, STACK TWO (2) OR THREE (3) UNIT LOAD, AS REQUIRED, TOGETHER AS SHOWN IN DETAILS G & H. BE SURE TO ALIGN THE STACKING FEATURES.
2. THE MIDDLE CONTAINERS ARE STRAPPED TO THE BOTTOM CONTAINERS AND THE TOP CONTAINERS TO THE MIDDLE CONTAINERS USING 1 1/4 x .035 STEEL STRAPPING, TENSIONED AND SEALED WITH TWO (2) DOUBLE CRIMPED SEALS. THE STRAPS PASS OVER THE SKIDS OF THE UPPER CONTAINER AND UNDER THE BODY OF THE LOWER CONTAINER.

CAUTION

TENSION STRAPS SUFFICIENT TO INSURE
INTEGRITY OF STACK. DO NOT OVER TENSION.

WARNING

THE STRAPPING TOGETHER OF UNIT LOADS
TO FORM A UNIT OF CONTAINERS TWO (2) OR
THREE (3) HIGH IS AUTHORIZED FOR LOADING
AND UNLOADING OF TRAILERS ONLY. ANY
MOVEMENT OF THESE LOADS IS LIMITED TO THAT
NECESSARY TO LOAD OR UNLOAD THE TRAILER.