

WR-51/80  
Change Notice 1  
10 November 1972

NAVAL ORDNANCE SYSTEMS COMMAND  
DEPARTMENT OF THE NAVY  
WEAPONS REQUIREMENT, TRUCKLOADING

BOMB, CLUSTER CBU-55/B (FUEL AIR EXPLOSIVE)  
IN CONTAINER CNU-120/E  
FLEET ISSUE UNIT LOAD

This notice forms a part of WR-51/80 dated 11 June 1969 and is mandatory for use by establishments of the Naval Systems Command within the Naval Material Command.

Page 1

1. Delete title and substitute "Bomb, Cluster CBU-55/B in Container CNU-120/E or CBU-72/B in Container CNU-194/E (Fuel Air Explosive), Fleet Issue Unit Loads."

Page 2

1. Add at end of General Note 1 "or CBU-72/B in Container CNU-194/E."

Distribution

WR-51 & WR-52  
distribution list

Preparing Activity

NAD Earle (NWHL)

Code Ident  
10001

Naval Ordnance Systems Command  
Department of the Navy

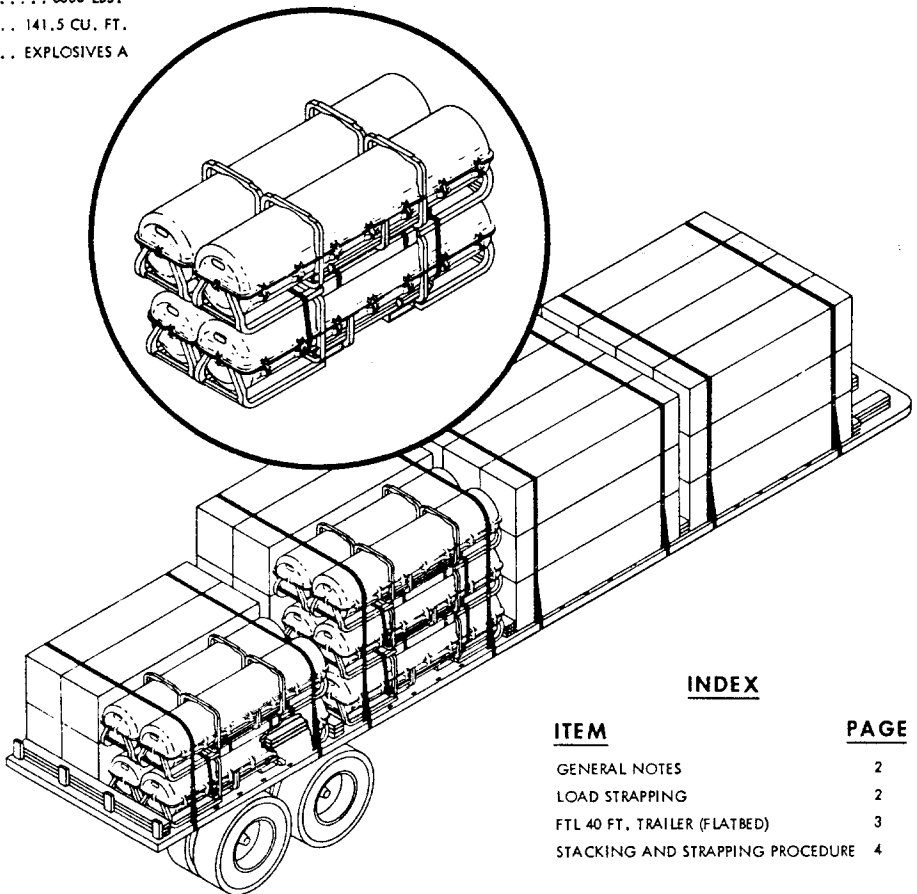
WR-51/80

11 JUNE 1969

**WEAPONS REQUIREMENT, TRUCKLOADING  
BOMB, CLUSTER CBU-55/B (FUEL AIR EXPLOSIVE)  
IN CONTAINER CNU-120/E  
FLEET ISSUE UNIT LOAD**

**UNIT LOAD DATA**

NUMBER OF ITEMS PER CONTAINER ..... 1  
 NUMBER OF CONTAINERS PER UNIT LOAD ..... 4  
 GROSS WEIGHT OF ONE CONTAINER ..... 942 LBS.  
 DIMENSIONS ..... L - 102 17/32, W - 46 5/16, H - 51 1/2  
 WEIGHT ..... 3808 LBS.  
 CUBE ..... 141.5 CU. FT.  
 D.O.T. HAZARD CLASSIFICATION ..... EXPLOSIVES A



THIS WR SUPERSEDES  
AND CANCELS ALL PRIOR  
DRAWINGS COVERING TRUCKLOADING  
OF THIS ITEM  
  
UNLESS OTHERWISE SPECIFIED  
DIMENSIONS ARE IN INCHES

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FTL 40 FT. TRAILER (FLATBED)	3
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54/181	PALLETIZING					
52/114	CARLOADING					
WR NO.	ASSOCIATED PROCESS	REV LTR	REVISION DESCRIPTION	DATE	TDA	SYSCOM
					APPROVAL	

**AUTHORIZED AND RELEASED  
FOR HIGHWAY SHIPMENTS  
ONLY**

*J. E. Kelly* NWHL 4/28/69  
SIGNATURE TECHNICAL DIRECTING ACTIVITY (TDA) DATE  
*Robert E. Albrecht* AIR 53442 5/8/69  
SIGNATURE [AIR] SYSCOM, BY DIRECTION DATE

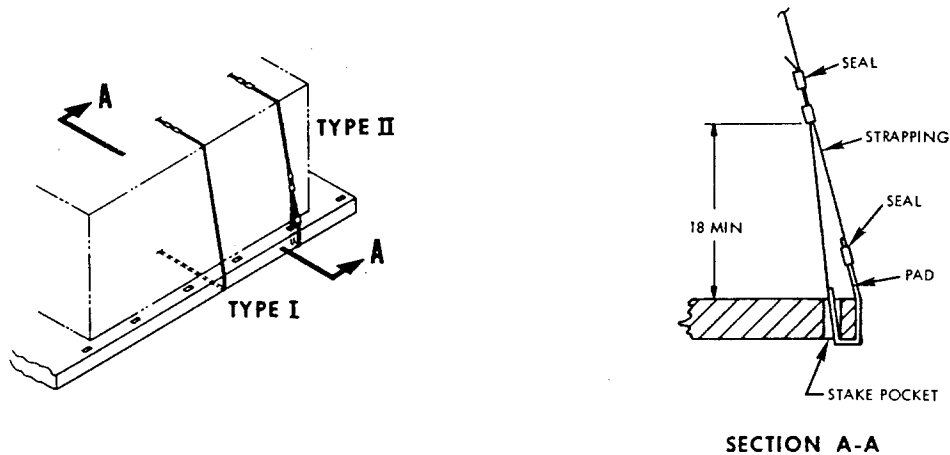
**ORIGINATOR** *C. P. Troutman*  
SIGNATURE

**NAVAL WEAPONS HANDLING LABORATORY  
U.S.N.A.D. EARLE, NEW JERSEY**

## GENERAL NOTES

1. THIS DOCUMENT GIVES DETAILED INSTRUCTIONS FOR TRUCKLOADING THE CLUSTER BOMB CBU-55/B (FUEL AIR EXPLOSIVE) IN CONTAINER CNU-120/E.
2. PROCEDURES AND PRACTICES DESCRIBED HEREIN ARE INTENDED FOR 40 FT. FLATBED TRAILERS. DO NOT USE TRAILERS WITH METAL FLOORS.
3. THE CONTAINERS ARE UNITIZED FORMING THE FLEET ISSUE UNIT LOAD WR-54/181.
4. TO INCREASE THE TOTAL NUMBER OF CONTAINERS IN A TRUCKLOAD, TWO ADDITIONAL CONTAINERS ARE STRAPPED TO A FLEET ISSUE UNIT LOAD. WHEN THE TRUCK TRANSPORTATION CYCLE IS COMPLETED, THE TOP TWO CONTAINERS ARE REMOVED BY CUTTING THE TOP STRAPS AND REMOVING THE RESTRAINER. THE LOOSE CONTAINERS ARE UNITIZED PER WR-54/181 FORMING A FLEET ISSUE UNIT LOAD.
5. FOR STACKING AND STRAPPING PROCEDURE SECURING THE TWO CONTAINERS TO THE FLEET ISSUE UNIT LOAD, SEE PAGE 4.
6. ALWAYS USE TRAILERS WITH SLIDING TANDEM AXLES. TRAILERS WITH FIXED AXLES LOCATED IN THE " WESTERN " POSITION ( AT EXTREME REAR OF TRAILER ) MAY BE USED PROVIDED THE EMPTY WEIGHT ON THE DRIVE AXLES DOES NOT EXCEED 11,600 LBS.
7. GROSS WEIGHT AND AXLE DISTRIBUTION OF WEIGHT IS THE RESPONSIBILITY OF THE CARRIER. THE CARRIER WILL ADVISE THE SHIPPER OF THE APPLICABLE WEIGHT REQUIREMENTS AND THE SHIPPER WILL LOAD ACCORDINGLY.
8. AFTER DUNNAGE AND STRAPPING HAS BEEN INSPECTED, ATTACH "EXPLOSIVES A" PLACARD TO BOTH SIDES, FRONT, AND REAR OF TRAILER.
9. APPLICABLE MATERIAL SPECIFICATIONS:  
 DUNNAGE LUMBER - MM-L-751  
 NAILS - FF-N-105  
 STRAPPING - QQ-5-781 TYPE I CLASS A.
10. FOR GENERAL TRUCKLOADING PROCEDURES REFER TO THE GENERAL TRUCKLOADING WEAPONS REQUIREMENT, WR-51.

## LOAD STRAPPING



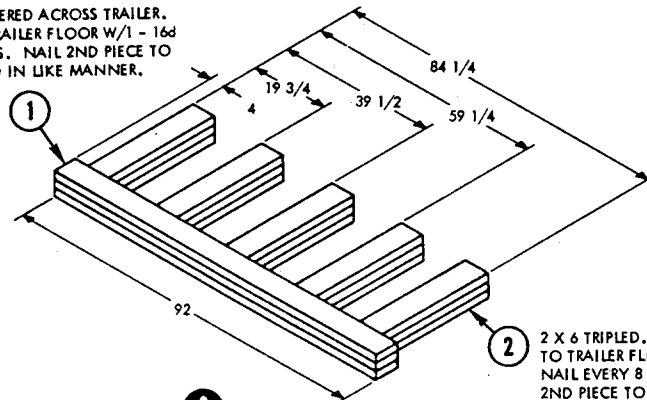
### TIE-DOWN STRAPPING

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-5-781. STRAPPING SEALS SHALL HAVE A MINIMUM TENSILE STRENGTH EQUAL TO 75 PER CENT 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.



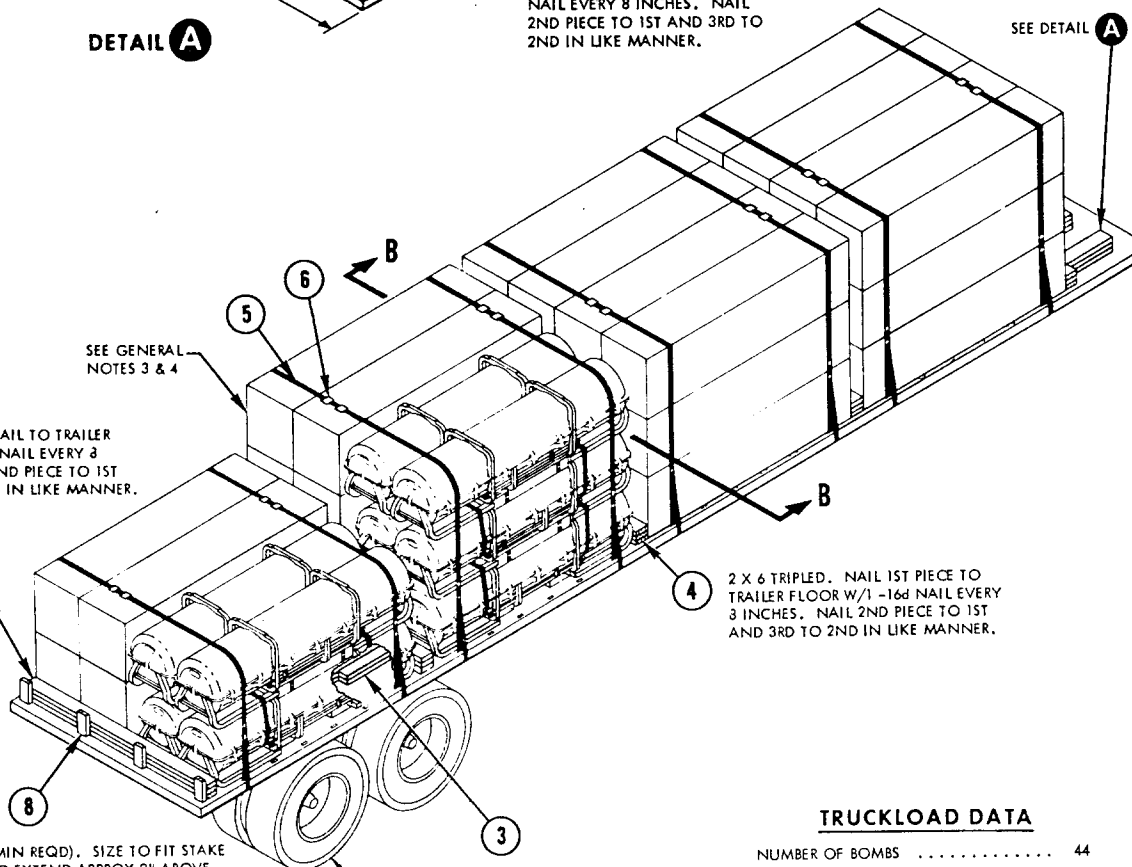
DETAIL A

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 A

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

7



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

4

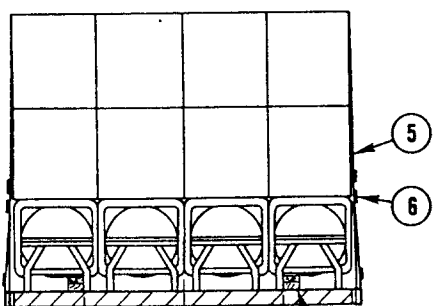
STUB STAKE (4 MIN REQ'D). SIZE TO FIT STAKE POCKET, CUT TO EXTEND APPROX 9" ABOVE TRAILER FLOOR AND 3" BELOW STAKE POCKET. DRIVE 1 - 20d NAIL INTO STAKE BELOW STAKE POCKET ALLOWING APPROX 1" TO PROTRUDE TO PREVENT STAKE FROM WORKING OUT OF PLACE.

8

NOTE:  
SEE GENERAL NOTE 6.

TRUCKLOAD DATA

NUMBER OF BOMBS	44
WEIGHT (W/O DUNNAGE)	41,448 LBS.
WEIGHT (WITH DUNNAGE)	42,268 LBS.



SECTION B-B

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

3

PIECE NO.	DESCRIPTION	SIZE	NO. PCS. REQ'D	NAIL TO	NUMBER NAILS	SIZE
8	STUB STAKE	TO SUIT	4 MIN.			SEE FIELD NOTE
7	AFT CROSS MEMBER	2 X 6 X 92	3			SEE FIELD NOTE
6	SEAL	2 X 22 GA. MIN.	64			
5	STRAP	2 X .050 LENGTH TO SUIT	8			
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

LIST OF MATERIAL AND NAILING DATA

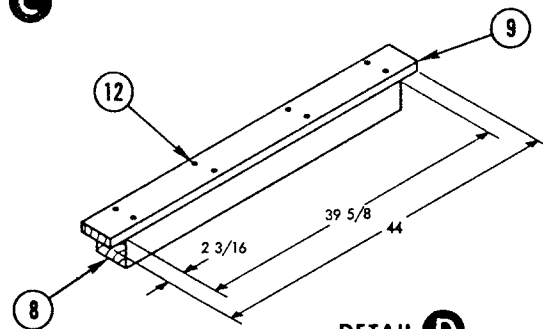
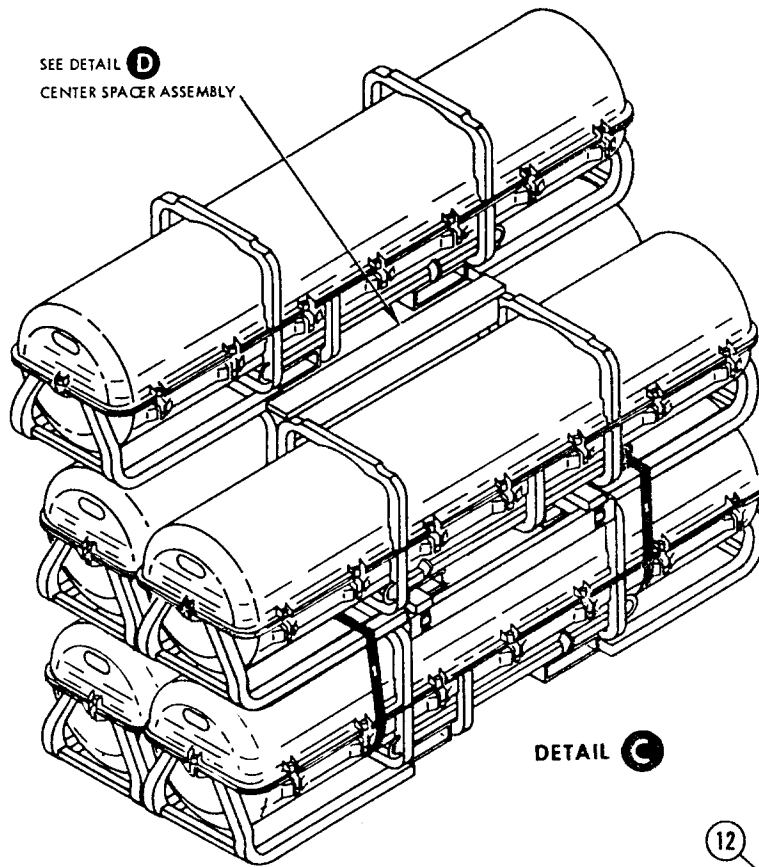
## STACKING AND STRAPPING PROCEDURE

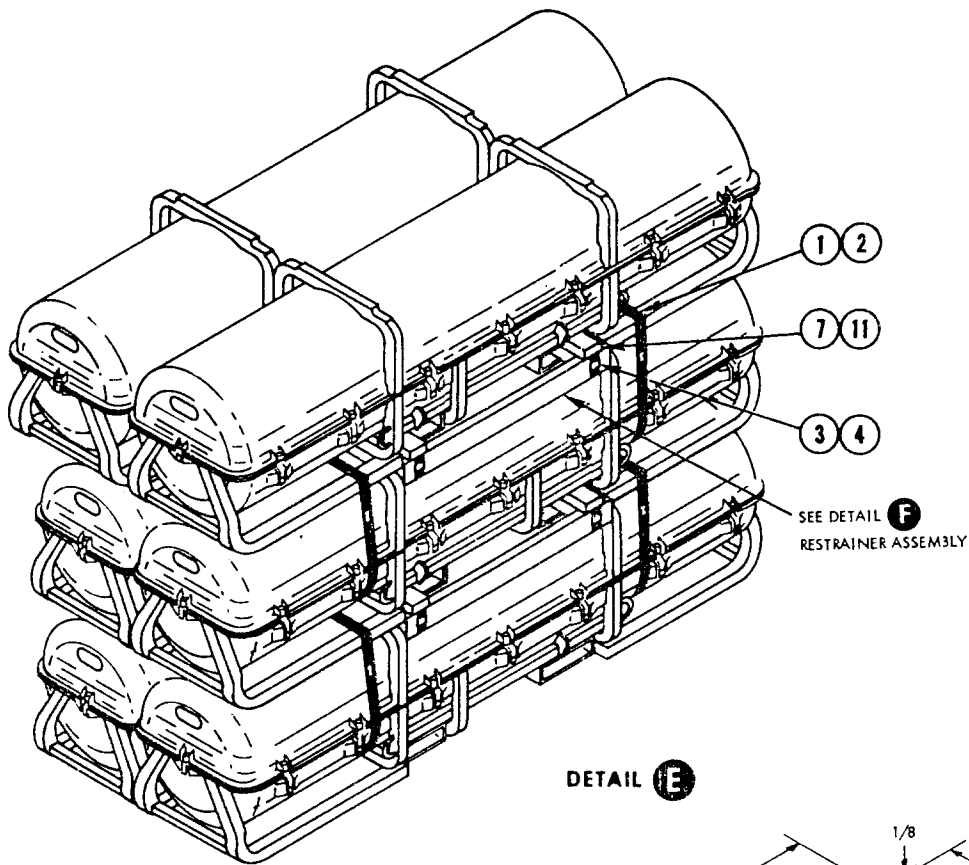
1. POSITION ONE CONTAINER ATOP UNIT LOAD OF CONTAINERS AS SHOWN IN DETAIL C. THE FORE END OF THE CONTAINER SHALL BE IN THE OPPOSITE DIRECTION OF THE FORE END OF THE CONTAINER SUPPORTING IT.

**NOTE**

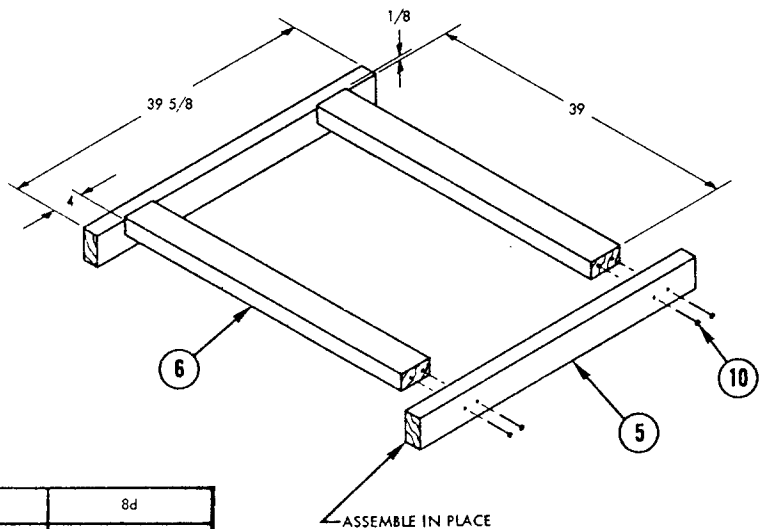
ALL STACKING BANDS MUST BE IN ALIGNMENT.

2. INSERT CENTER SPACER ASSEMBLY (DETAIL D) BETWEEN THE TOP CONTAINERS OF THE UNIT LOAD AS SHOWN IN DETAIL C.
3. POSITION SIXTH CONTAINER ON TOP ROW, AS SHOWN IN DETAIL E. CONTINUE TO ALTERNATE FORE AND AFT END.
4. POSITION STRAPPING (ITEM 1) UNDER THE BODY OF THE CENTER TWO CONTAINERS AND OVER SKIDS OF TOP TWO CONTAINERS. TENSION STRAPS AND DOUBLE CRIMP THE SEALS (ITEM 2).
5. PARTIALLY ASSEMBLE RESTRAINER AS SHOWN IN DETAIL F. INSERT RESTRAINER SPACERS (ITEM 6) THROUGH FORK LIFT POCKETS OF TOP TWO CONTAINERS.
6. POSITION STRAPPING (ITEM 3) AROUND FIRST RESTRAINER (ITEM 5) BETWEEN CONTAINER LAYERS AND UNDER AND OVER SECOND RESTRAINER. NAIL SECOND RESTRAINER IN PLACE. TENSION STRAPS AND DOUBLE CRIMP THE SEALS (ITEM 4).
7. POSITION FORK POCKET SPACER (ITEM 7) INTO FORK POCKET OVER RESTRAINER ASSEMBLY AND NAIL IN PLACE WITH ITEM 11.





DETAIL E



DETAIL F  
RESTRAINER ASSEMBLY  
(1 REQUIRED)

8	12	NAIL, STD. BOX	STEEL	FF-N-105 TY II, ST 4	8d
4	11	NAIL, STD. BOX	STEEL	FF-N-105 TY II, ST 4	6d
8	10	NAIL, STD. BOX	STEEL	FF-N-105 TY II, ST 4	12d
1	9	CENTER SPACER CLEAT	WOOD DRESSED	MM-L-751	1 X 4 X 44
1	8	CENTER SPACER	WOOD DRESSED	MM-L-751	4 X 4 X 39 5/8
2	7	SPACER, FORK POCKET	WOOD DRESSED	MM-L-751	1 X 2 X 42 1/4
2	6	RESTRAINER, SPACER	WOOD DRESSED	MM-L-751	2 X 4 X 39
2	5	RESTRAINER	WOOD DRESSED	MM-L-751	2 X 4 X 39 5/8
2	4	SEAL	STEEL, ZINC COATED	COM'L	3/4
2	3	STRAPPING	STEEL, ZINC COATED	QQ-S-781 TY I, CL B	3/4 X .020 X 8 FT. 6
2	2	SEAL	STEEL, ZINC COATED	COM'L	1 1/4 X 22 GA MIN
2	1	STRAPPING (SEE NOTE)	STEEL, ZINC COATED	QQ-S-781 TY I, CL B	1 1/4 X .035 X 13 FT.
REQ.	ITEM	DESCRIPTION	MAT'L	MAT'L SPEC.	DIMENSIONS

LIST OF MATERIALS