

# MILITARY STANDARD

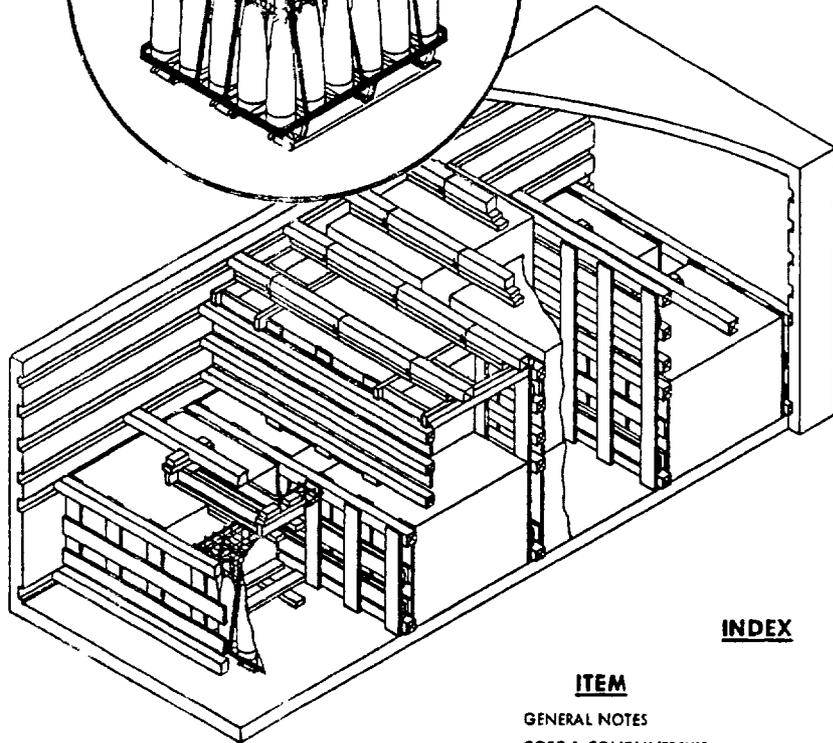
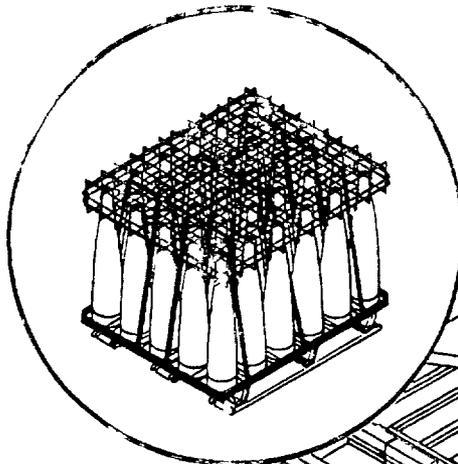
MIL-STD-1386-13  
(NAVY)

10 NOVEMBER 1972

## LOADING OF HAZARDOUS MATERIALS AND ASSOCIATED ITEMS IN MILITARY CONTAINERS PROJECTILE, 6 INCH AAC OR HC WITH PROTECTIVE CAP MK 4 IN PALLET ADAPTER MK 20 FLEET ISSUE UNIT LOAD

### UNIT LOAD DATA

UNIT LOAD GRAMING . . . . . WR-51/8  
WEIGHT . . . . . 7340 LBS  
DIMENSIONS . . . . . 48" x 40" W x 37 5/8" H  
CUBE . . . . . 11.8 CU FT  
DANGER CLASSIFICATION . . . . . EXPLOSIVES A  
HAZARD CLASS . . . . . X



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### NOTES

- UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
- FOR CROSS REFERENCE TO ASSOCIATED PALLETIZING, TRUCKLOADING AND CARLOADING MILITARY STANDARDS REFER TO FULL INDEX TO STANDARDS, MIL-HDBK-236

**AUTHORIZED FOR TRAILER-ON-FLATCAR (TOFC), CONTAINER-ON-FLATCAR (COFC), CONTAINERSHIP, AND HIGHWAY SHIPMENTS.**

**APPROVED BY  
US COAST GUARD**

*John C. ...*  
DATE 10 November 1972

**APPROVED BY  
BUREAU OF EXPLOSIVES**

*L. G. Brasenmark*  
DATE 10/31/72

*W. J. ...*  
TITLE: DIRECTOR, WEAPON (DWA) DATE: 11/25/72  
*J. E. Kelly*

ORIGINATOR *A. R. Oring*  
SIGNATURE

NAVAL WEAPONS HANDLING LABORATORY  
MILITARY AVIATION CENTER, NEW JERSEY

## MIL 510-1385 13 (NAVY)

## GENERAL NOTES

- THIS DOCUMENT GIVES DETAILED INSTRUCTIONS FOR LOADING THE MILVAN CONTAINER WITH FLEET ISSUE UNIT LOADS OF 6 INCH AAC OR HC (PROJECTILES WITH PROTECTIVE CAP MK 4) IN PALLET ADAPTER MK 20. THE UNIT LOAD SHALL BE IN ACCORDANCE WITH V-54/B.
- THE MILVAN SHALL BE EQUIPPED WITH A MECHANICAL LOAD-BRACING SYSTEM THAT MEETS THE REQUIREMENTS OF THE BUREAU OF EXPLOSIVES PAMPHLET 6 C AND SHIPPED ON FLATCARS THAT MEET THE REQUIREMENTS OF PAMPHLET 6 C.
  - IN ADDITION TO THE BELT RAILS REQUIRED BY PAMPHLET 6 C, THE MILVAN CONTAINER HAS BELT RAILS AT THE 72 AND 83 INCH HEIGHTS FROM THE CONTAINER FLOOR.
  - CROSSMEMBERS ARE EQUIPPED WITH 25 CROSSMEMBERS. UNUSED CROSSMEMBERS MUST REMAIN WITH THE CONTAINER AND SHALL BE FASTENED TO BELT RAILS FOR SHIPMENT.

**CAUTION**

WHEN POSITIONING CROSSMEMBERS MAKE A VISUAL CHECK TO ENSURE THAT CROSSMEMBERS ARE LOCKED SECURELY IN PLACE.

- THE DUNNAGE SPECIFIED IS OF NOMINAL SIZE. FOR EXAMPLE, 1 x 4 MATERIAL IS ACTUALLY 3/4 THICK BY 3 5/8 WIDE AND 2 x 6 MATERIAL IS ACTUALLY 1 5/8 THICK BY 5 1/2 WIDE.
- WHEN THE VOID BETWEEN THE CROSSMEMBER AND THE SEPARATOR GATE IS GREATER THAN ONE INCH, USE FILL MATERIAL TO SHIM BETWEEN CROSSMEMBER AND GATE AS SHOWN IN DETAIL J.
- APPLICABLE MATERIAL SPECIFICATIONS
  - DUNNAGE LUMBER - FED. SPEC MM-L-751
  - NAILS - FED. SPEC FF-N-105, COMMON CEMENT COATED
- AFTER BLOCKING AND BRACING HAS BEEN INSPECTED ATTACH SHIPPING DOCUMENTS INSIDE THE CONTAINER IN AN ACCESSIBLE AREA, CLOSE AND SEAL CONTAINER DOORS, AND ATTACH APPLICABLE PLACARDS TO THE OUTSIDE OF THE CONTAINER FOR THE APPROPRIATE MODE OF TRANSPORTATION AS PRESCRIBED IN OP 2165 VOL. 1.

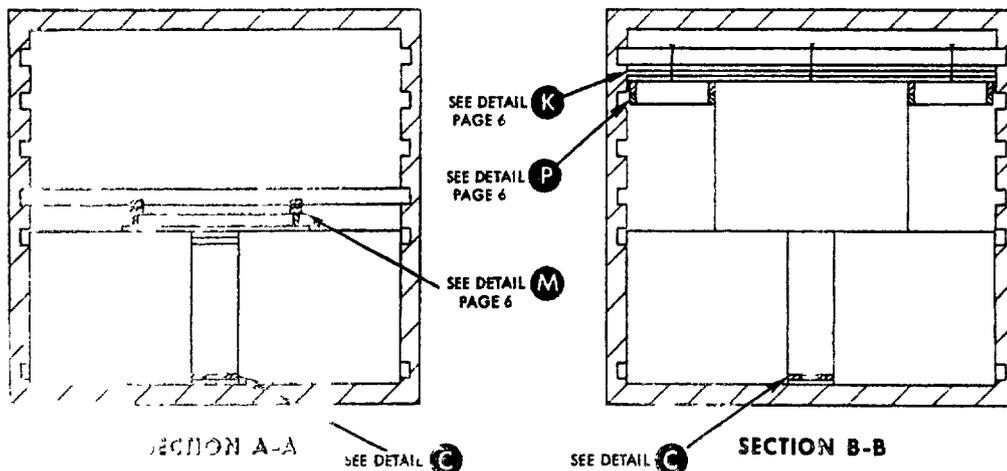
## COFC AND CONTAINERSHIP ONLY

- THE CONTAINERLOAD CONSISTS OF 11 UNIT LOADS WHICH MUST BE LOADED AND DUNNAGED IN ACCORDANCE WITH THIS DOCUMENT.

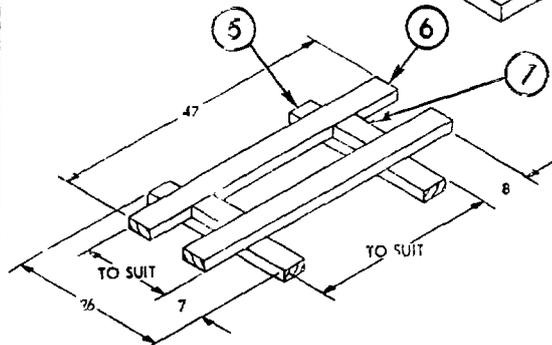
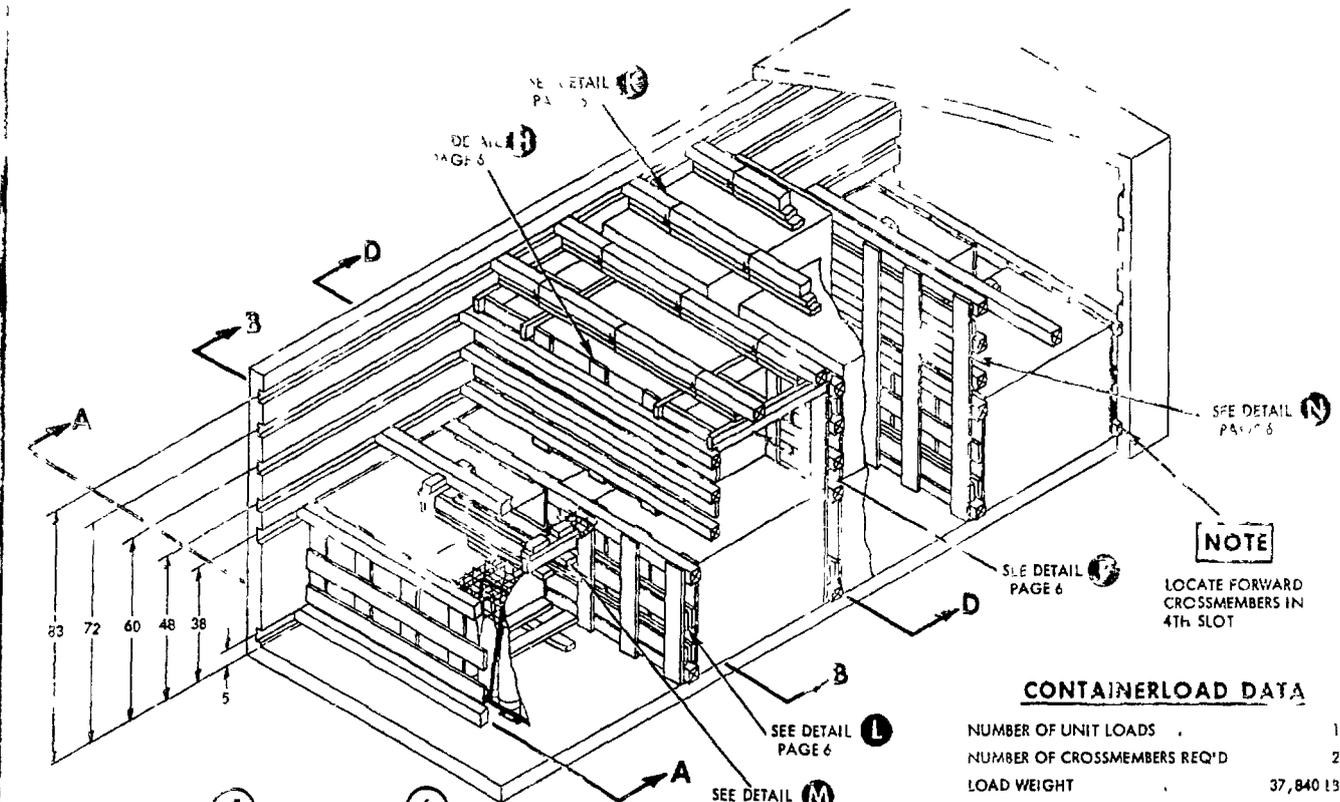
**WARNING**

BECAUSE THE WEIGHT LOADED INTO THIS CONTAINER EXCEEDS 34,000 LBS, THE MILVAN CHASSIS CANNOT BE USED TO TRANSPORT THE LOADED CONTAINER ON PUBLIC HIGHWAYS. THE LOADED CONTAINER MAY BE TRANSPORTED OVER DEPOT ROADS USING MILVAN CHASSIS EQUIPPED WITH DOUBLE BOGIES OR COMMERCIAL EQUIPMENT OF APPROPRIATE CAPACITY.

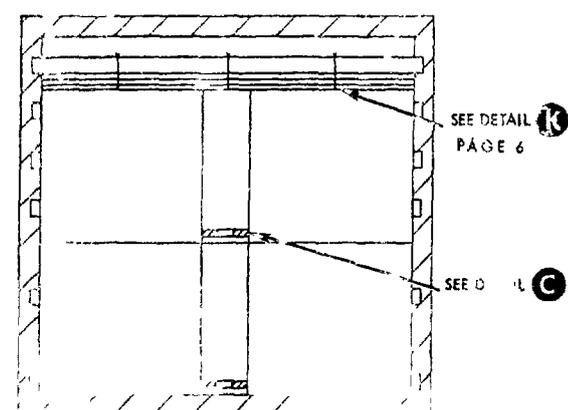
- SWAY BRACE, DETAIL C, IS ASSEMBLED IN PLACE. PIECE 5 IS POSITIONED INBOARD OF THE OUTER LEGS OF THIS PALLET SKIDS AND PIECE 6 IS POSITIONED AGAINST THE PALLET LEGS. NAIL PIECE 6 TO PIECE 5 WITH THREE 10d NAILS PER JOINT. CUT PIECE 7 TO FIT BETWEEN PIECES 6 AND NAIL TO PIECE 5 WITH THREE 10d NAILS.
- LENGTH OF CROSSMEMBERS PIECE 9 SHALL BE SUFFICIENT TO CAUSE DETAIL P TO FILL THE VOID BETWEEN THE UNIT LOAD AND THE CONTAINER SIDEWALL. POSITION ASSEMBLY WITH PIECE 10 AGAINST CONTAINER SIDEWALL.
- SHIM, PIECE 12, SHALL BE OF SUFFICIENT THICKNESS TO FILL THE VOID BETWEEN THE TOP OF THE UNIT LOAD AND THE BOTTOM OF THE CROSSMEMBER.
- SHIM, PIECE 14, MAY CONSIST OF MORE THAN ONE PIECE OF DIFFERENT THICKNESSES AND SHOULD CAUSE THE ASSEMBLY TO FILL THE VOID BETWEEN THE LADING AND THE CROSSMEMBER. PIECES MAY BE ADDED TO OR OMITTED AS REQUIRED.



MIL-STD-1386-1 (PART 7)



**DETAIL C**  
SWAY BRACE  
5 REQ'D  
TO BE ASSEMBLED IN PLACE  
SEE NOTE 2



**CONTAINERLOAD DATA**

NUMBER OF UNIT LOADS	1
NUMBER OF CROSSMEMBERS REQ'D	23
LOAD WEIGHT	37,840 LBS
DUNNAGE WEIGHT	857 LBS
CONTAINER WEIGHT	5,785 LBS
GROSS WEIGHT	44,482 LBS

\* C W - CONTAINER WIDTH  
\*\* - CLINCH D

PIECE NO.	DESCRIPTION	SIZE	NO. OF PIECES REQ'D	MAIL TO	NUMBER	SIZE
19	VERTICAL	1 x 6 x 72	18	8	3/JOINT	6d**
18	HORIZONTAL	1 x 6 x C W * -1	6	SEE 9	-	-
17	SHIM	4 WIDE x 90 LONG x THICKNESS TO SUIT	4	LAMINATE	5/JOINT	10d
16	SPACER	2 x 4 x TO SUIT	8	11, 16	3	10d
15	RETAINER	2 x 4 x 6	8	14	2	10d
14	SHIM	2 x THICKNESS TO SUIT x 18	AS REQ'd	12	3	10d
13	SUPPORT	2 x 4 x TO SUIT	4	SEE 11 & 12	-	-
12	RISEP	2 x 4 x 18	4	13	2/JOINT	10d
11	LOWER BEARING PIECE	2 x 4 x 4"	4	15	3	10d
10	SPACER	1/2 PLYWOOD 2 WIDE x 47 LONG	2	8	2/JOINT	10d
9	CROSSMEMBER	2 x 6 x TO SUIT	6	SEE 8	SEE NOTE 3	-
8	LONGITUDINAL	2 x 6 x 47	4	9	3/JOINT	10d
7	SPACER	2 x 4 x TO SUIT	10	5	3	10d
6	STRINGER	2 x 4 x 47	10	5	3/JOINT	10d
5	SUPPORT	2 x 4 x 26	10	SEE 6 & 7	-	-
4	VERTICAL	1 x 6 x 38	3	3	3/JOINT	6d**
3	HORIZONTAL	1 x 6 x C W * -1	2	SEE 4	-	-
2	VERTICAL	1 x 6 x 38	30	1	3/JOINT	6d**
1	HORIZONTAL	1 x 6 x C W * -1	10	SEE 2	-	-

LIST OF MATERIALS & NAILING DATA

## STEEL TOPS, CONTAINERSHIP AND HIGHWAY

BE REPAIRED OR REWORKED TO BE LOWERED AND OUNGAED IN ACCORDANCE WITH THIS DOCUMENT. BECAUSE THE WEIGHT TO BE PLACED INTO THIS CONTAINER DOES NOT EXCEED 34,000 LBS THE MILVAN CHASSIS WITH DOUBLE BOGIES CAN BE USED TO TRANSPORT THE LOAD. CONTAINER STEEL TOPS AND HIGHWAY COMMERCIAL EQUIPMENT OF APPROPRIATE CAPACITY MAY ALSO BE USED FOR HIGHWAY EQUIPMENT.

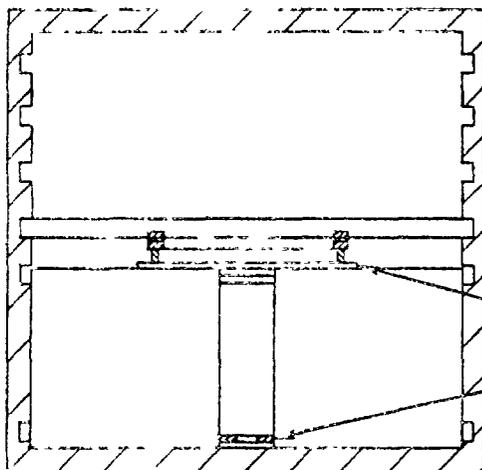
### [NOTE]

IN CERTAIN STATES THE GROSS VEHICLE WEIGHT (G.V.W.) CONSISTING OF CONTAINER, CHASSIS AND TRACTOR IS LIMITED BY THE DISTANCE BETWEEN THE FIRST AND THE LAST AXLES OF THE ASSEMBLED TRUCK. CARE SHOULD BE TAKEN TO SEE THAT THE PROPOSED G.V.W. DOES NOT EXCEED THESE LIMITATIONS. IF IT DOES, THE WEIGHT MAY BE REDUCED BY REDUCING THE NUMBER OF UNIT LOADS IN THE CONTAINER AS FOLLOWS:

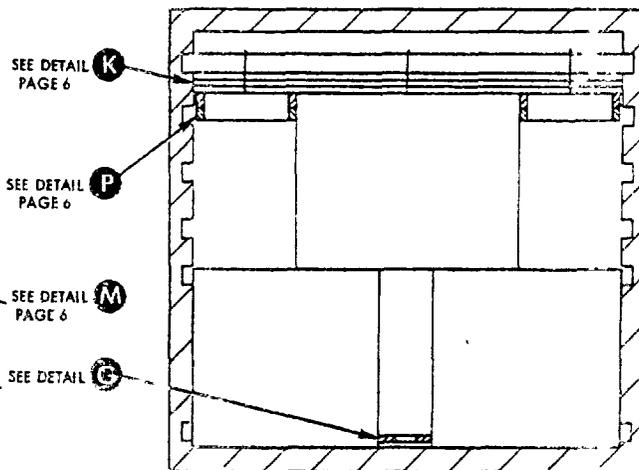
- (1) OMIT THE UNIT LOAD IN THE SECOND LAYER
- (2) OMIT ADDITIONAL UNIT LOADS STARTING AT THE REAR OF THE CONTAINER

WHEN REDUCING THE NUMBER OF UNIT LOADS IN A CONTAINER THE REMAINING UNIT LOADS SHALL BE BLOCKED AND BRACED USING THE PRINCIPLES OF THIS DOCUMENT.

2. SWAY BRACE, DETAIL G, IS ASSEMBLED IN PLACE. PIECE 5 IS POSITIONED INBOARD OF THE OUTER LEGS OF THE PALLET SKIDS AND PIECE 6 IS POSITIONED OUT AGAINST THE PALLET LEGS. NAIL PIECE 6 TO PIECE 5 WITH THREE 10d NAILS PER JOINT. CUT PIECE 7 TO FIT BETWEEN PIECES 6 AND NAIL TO PIECE 5 WITH THREE 10d NAILS.
3. LENGTH OF CROSSMEMBERS PIECE 9 SHALL BE SUFFICIENT TO CAUSE DETAIL P TO FILL THE VOID BETWEEN THE UNIT LOAD AND THE CONTAINER SIDEWALL. POSITION ASSEMBLY WITH PIECE 10 AGAINST CONTAINER SIDEWALL.
4. SHIM, PIECE 12, SHALL BE OF SUFFICIENT THICKNESS TO FILL THE VOID BETWEEN THE TOP OF THE UNIT LOAD AND THE BOTTOM OF THE CROSSMEMBER.
5. SHIM, PIECE 14, MAY CONSIST OF MORE THAN ONE PIECE OF DIFFERENT THICKNESSES AND SHOULD CAUSE THE ASSEMBLY FILL THE VOID BETWEEN THE LADING AND THE CROSSMEMBER. PIECES MAY BE ADDED TO OR OMITTED AS REQUIRED.

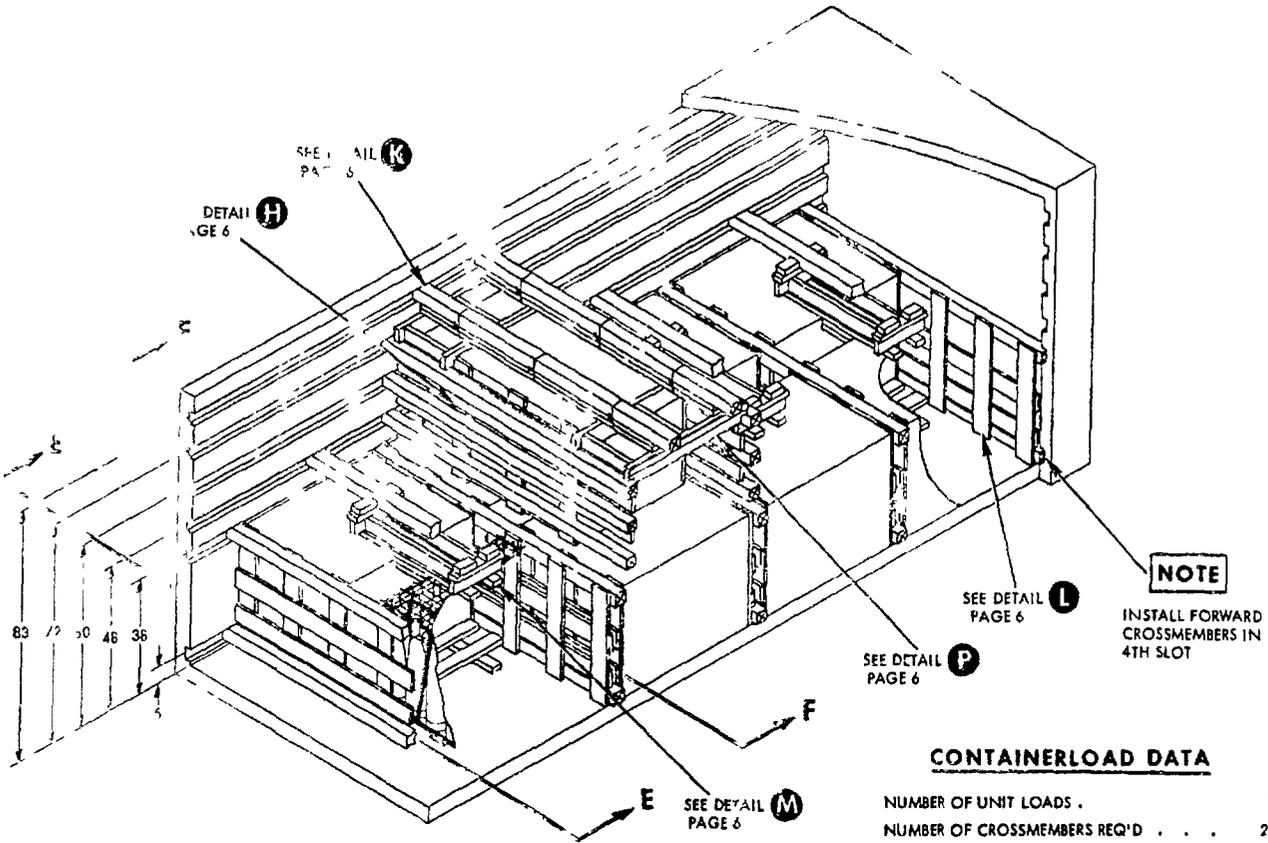


SECTION E-E



SECTION F-F

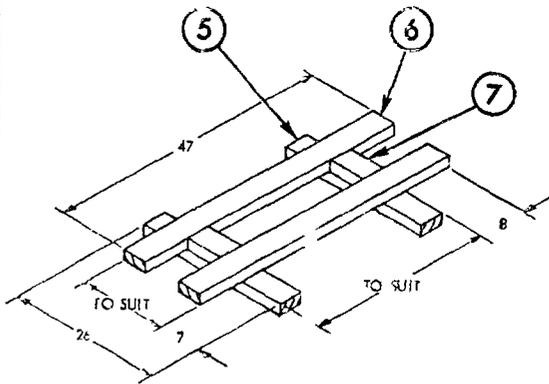
MIL-STD-1385-13 (NAVY)



**CONTAINERLOAD DATA**

NUMBER OF UNIT LOADS . . . . .	9
NUMBER OF CROSSMEMBERS REQ'D . . . . .	21
LOAD WEIGHT . . . . .	30,960 LBS
DUNNAGE WEIGHT . . . . .	762 LBS
CONTAINER WEIGHT . . . . .	5,785 LBS
GROSS WEIGHT . . . . .	37,507 LBS

\*C W - CONTAINER WIDTH  
\*\* - CLINCHED



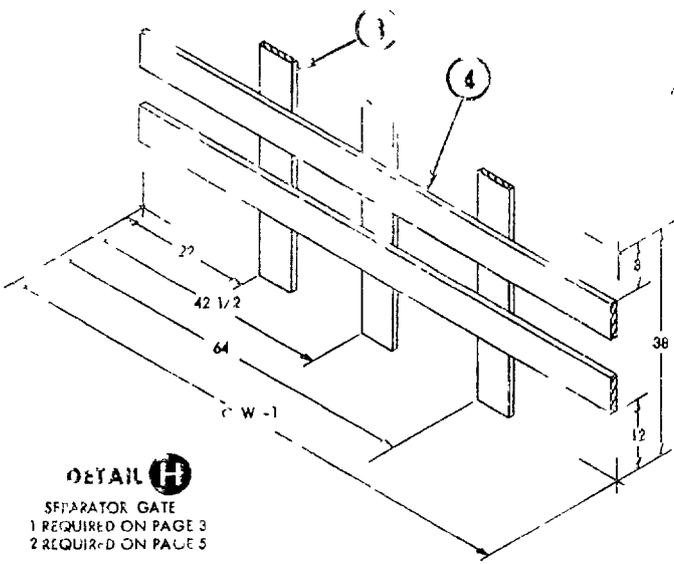
**DETAIL G**

SWAY BRACE  
4 REQUIRED  
TO BE ASSEMBLED IN PLACE  
SEE NOTE 2

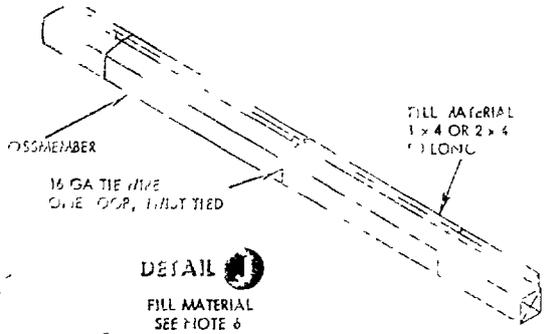
PIECE NO	DESCRIPTION	SIZE	NO OF PIECES REQ'D	NAIL TO	NUMBER	SIZE
17	SHIM	4 WIDE x 90 LONG x THICKNESS TO SUIT	2	LAMINATE	5/JOINT	10d
16	SPACER	2 x 4 x TO SUIT	12	11, 16	3	10d
15	RETAINER	2 x 4 x 6	12	14	2	10d
14	SHIM	2 x THICKNESS TO SUIT x 18	AS REQ'D	12	3	10d
13	SUPPORT	2 x 4 x TO SUIT	6	SEE 11 & 12	-	-
12	RISEPI	2 x 4 x 18	6	13	2/JOINT	10d
11	LOWER BEARING PIECE	2 x 4 x 47	6	12	3	10d
10	SPACER	1/2 PLYWOOD 2 WIDE x 47 LONG	2	8	4	6d
9	CROSSMEMBER	2 x 6 x TO SUIT	6	SEE 8	SEE NOTE	3
8	LONGITUDINAL	2 x 6 x 47	4	9	3/JOINT	10d
7	SPACER	2 x 4 x TO SUIT	8	5	3	10d
6	STRINGER	2 x 4 x 47	8	5	3/JOINT	10d
5	SUPPORT	2 x 4 x 26	8	SEE 6 & 7	-	-
4	VERTICAL	1 x 6 x 38	6	3	3/JOINT	6d**
3	HORIZONTAL	1 x 6 x C.W * -1	4	SEE 4	-	-
2	VERTICAL	1 x 6 x 33	48	1	3/JOINT	6d**
1	HORIZONTAL	1 x 6 x C.W * -1	16	SEE 2	-	-

LIST OF MATERIALS & NAILING DATA

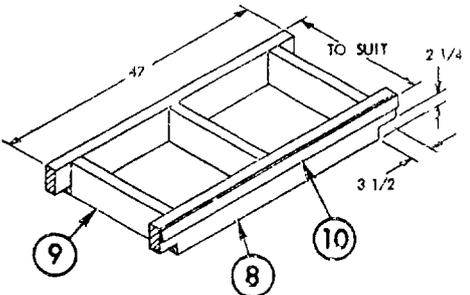
MODEL 1935-33 (PART)



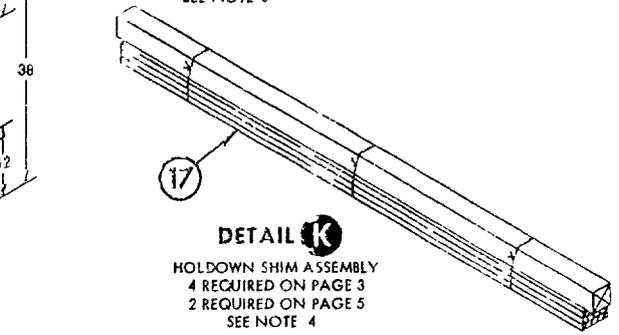
**DETAIL H**  
SEPARATOR GATE  
1 REQUIRED ON PAGE 3  
2 REQUIRED ON PAGE 5



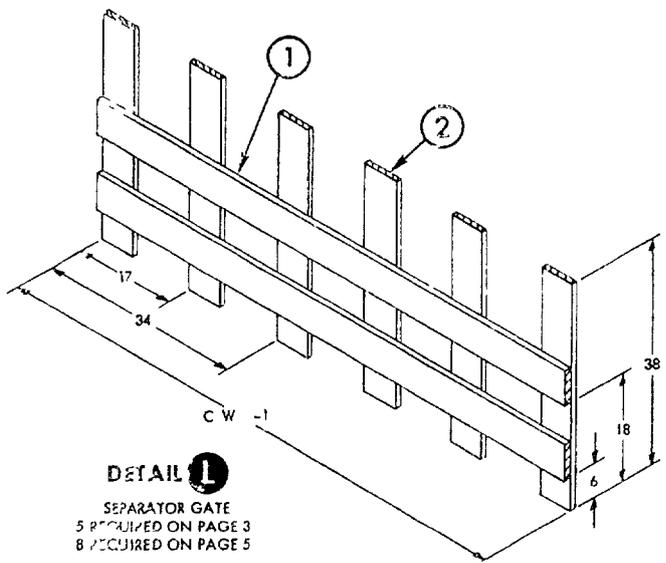
**DETAIL J**  
HOLDDOWN SHIM ASSEMBLY  
4 REQUIRED ON PAGE 3  
2 REQUIRED ON PAGE 5  
SEE NOTE 4



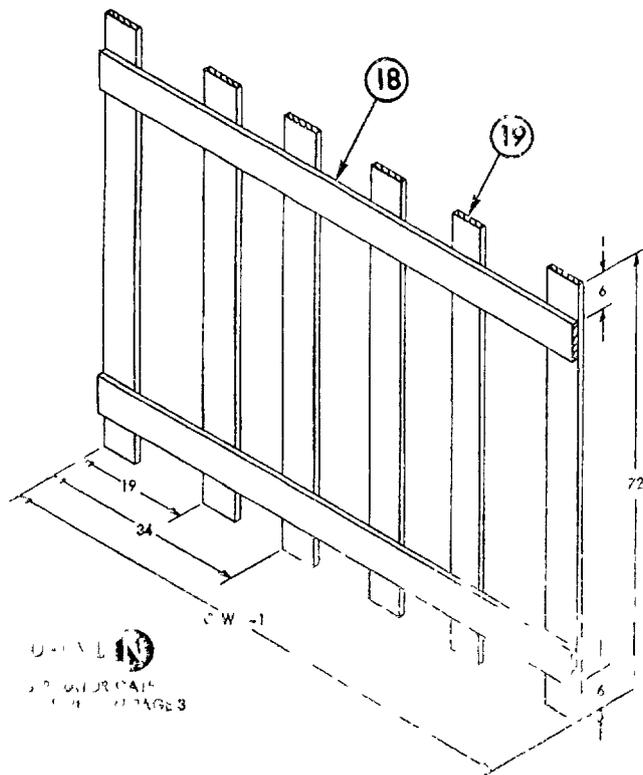
**DETAIL P**  
SWAY BRACE  
2 REQUIRED FOR PAGES 3 OR 5  
SEE NOTE 3



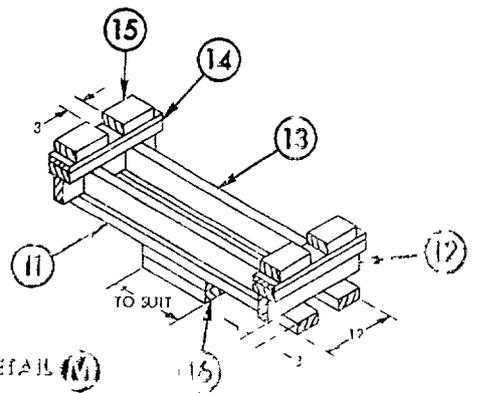
**DETAIL K**  
HOLDDOWN SHIM ASSEMBLY  
4 REQUIRED ON PAGE 3  
2 REQUIRED ON PAGE 5  
SEE NOTE 4



**DETAIL L**  
SEPARATOR GATE  
5 REQUIRED ON PAGE 3  
8 REQUIRED ON PAGE 5



**DETAIL N**  
SEPARATOR GATE  
1 REQUIRED ON PAGE 3



**DETAIL M**  
HOLDDOWN SHIM ASSEMBLY  
2 REQUIRED ON PAGE 3  
3 REQUIRED ON PAGE 5  
SEE NOTE 3