

APPROVED BY  
BUREAU OF EXPLOSIVES

*D n Hardy*

DATE 8-29-95

# TOW

## LOADING AND BRACING<sup>●</sup> IN MILVAN CONTAINERS<sup>⊕</sup> OF GUIDED MISSILES PACKED ONE PER CNU-553/E CYLINDRICAL METAL CONTAINER

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● LOADING AND BRACING SPECIFICATIONS SET FORTH WITHIN THIS DRAWING ARE APPLICABLE TO LOADS THAT ARE TO BE SHIPPED BY TRAILER/CONTAINER-ON-FLATCAR (T/COFC) RAIL CARRIER SERVICE. THESE SPECIFICATIONS MAY ALSO BE USED FOR LOADS THAT ARE TO BE MOVED BY MOTOR OR WATER CARRIERS.

⊕ ONLY MILVAN CONTAINERS WHICH HAVE BEEN MODIFIED TO INCLUDE A MECHANICAL LOAD-BRACING SYSTEM THAT SATISFIES THE REQUIREMENTS OF THE BUREAU OF EXPLOSIVES PAMPHLET 6C WILL BE USED FOR THE MOVEMENT OF AMMUNITION BY T/COFC SERVICE.  
CAUTION: OTHER REQUIREMENTS OF PAMPHLET 6C ALSO APPLY.

### U.S. ARMY MATERIEL COMMAND DRAWING

APPROVED, U.S. ARMY MISSILE COMMAND

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JUNE 1994

CLASS

DIVISION

DRAWING

FILE

19

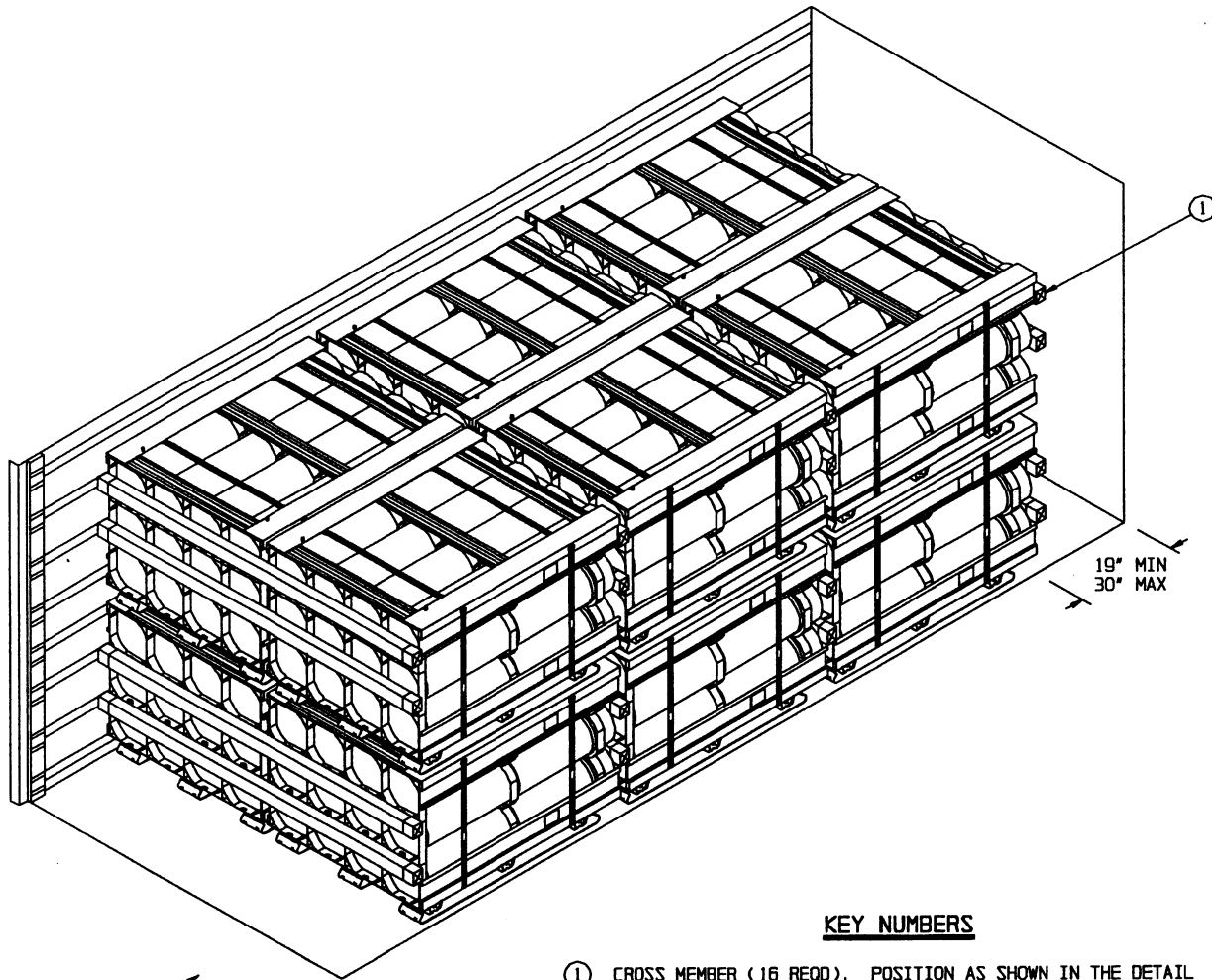
48

8213

GM15T07

DO NOT SCALE

PROJECT GM 878-93



REAR OF CONTAINER. →

ISOMETRIC VIEW

KEY NUMBERS

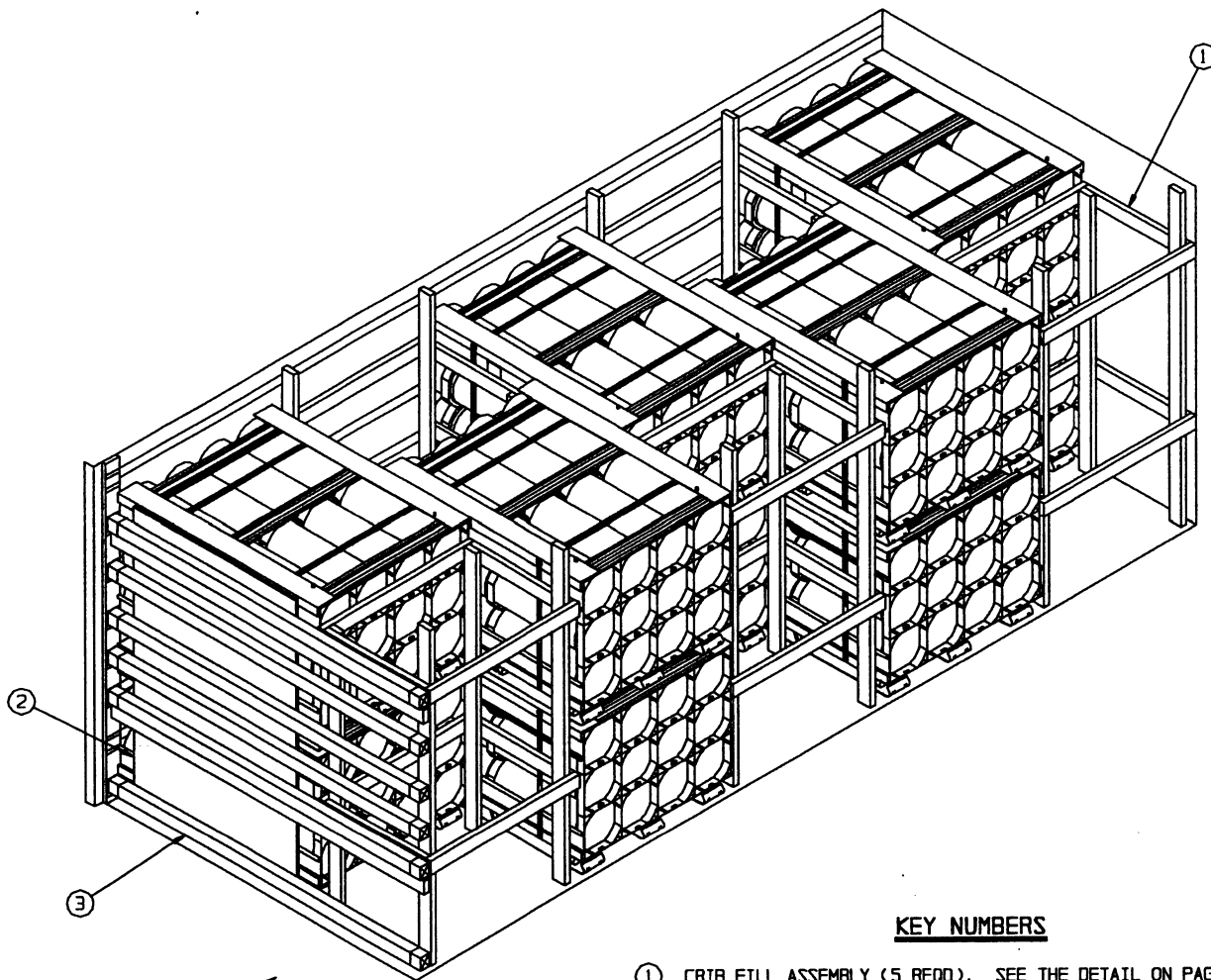
- ① CROSS MEMBER (16 REQD). POSITION AS SHOWN IN THE DETAIL ABOVE, AT THE 16", 28", 60" AND 72" HEIGHTS. SEE THE "FILL DETAIL" ON PAGE 5.

LOAD AS SHOWN

<u>BILL OF MATERIAL</u>	
CROSS MEMBER - - - - -	16 REQD

<u>ITEM</u>	<u>QUANTITY</u>	<u>WEIGHT (APPROX)</u>
PALLET UNIT - - - - -	12 - - - - -	18,504 LBS
CONTAINER - - - - -	- - - - -	5,700 LBS
TOTAL WEIGHT - - - - -		24,204 LBS (APPROX)





REAR OF CONTAINER. →

ISOMETRIC VIEW

KEY NUMBERS

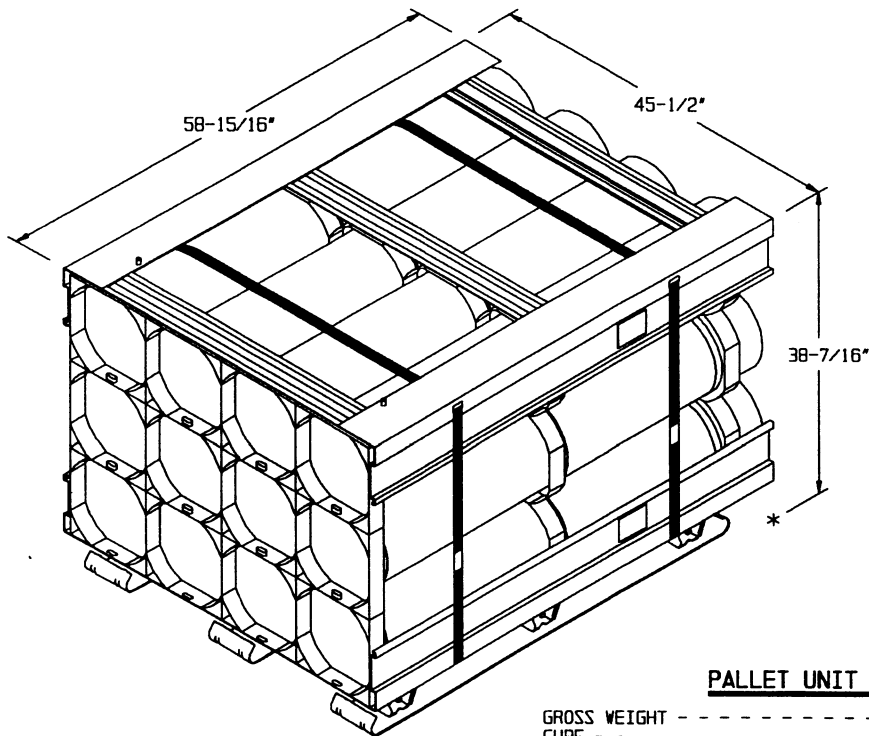
- ① CRIB FILL ASSEMBLY (5 REOD). SEE THE DETAIL ON PAGE 7.
- ② SEPARATOR GATE (1 REOD). SEE THE DETAIL ON PAGE 7.
- ③ CROSS MEMBER (6 REOD). POSITION AS SHOWN IN THE DETAIL ABOVE, AT THE 5", 28", 38", 48", 60" AND 72" HEIGHTS. SEE THE "FILL DETAIL" ON PAGE 5.

BILL OF MATERIAL

LUMBER	LINEAR FEET	BOARD FEET
2' X 4"	271	181
NAILS	NO. REOD	POUNDS
6d (2")	12	1/4
10d (3")	160	2-1/2
PLYWOOD, 1/2"	25.33 SQ FT REOD	34.83 LBS
CROSS MEMBER		6 REOD

LOAD AS SHOWN

ITEM	QUANTITY	WEIGHT (APPROX)
PALLET UNIT	10	15,420 LBS
DUNNAGE		400 LBS
CONTAINER		5,700 LBS
TOTAL WEIGHT		21,520 LBS (APPROX)

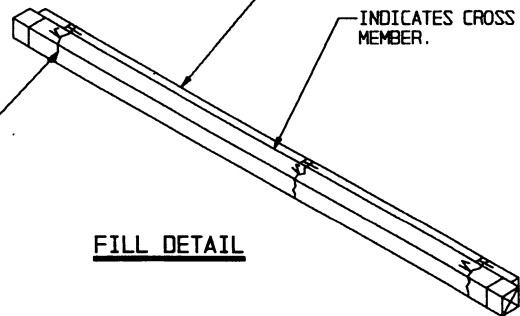


**PALLET UNIT DATA**

GROSS WEIGHT ----- 1,542 LBS (APPROX)  
 CUBE ----- 59.7 CUBIC FEET (APPROX)

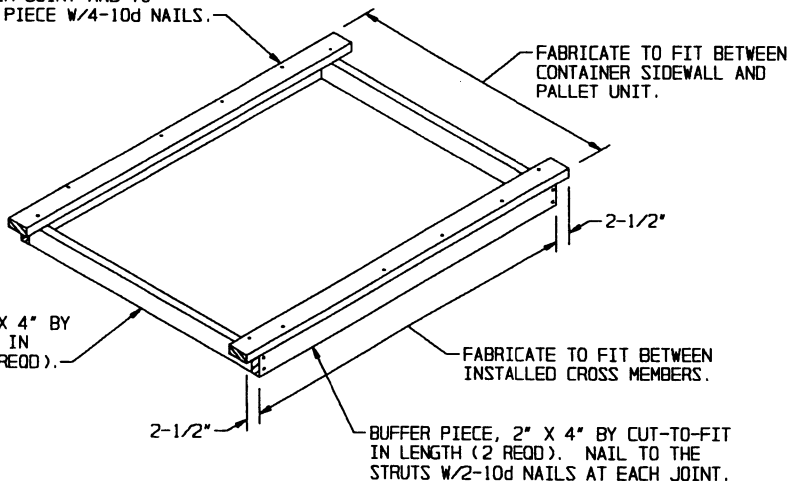
TIE WIRE, NO. 14 GAGE WIRE  
 18" LONG (3 REQD PER CROSS  
 MEMBER). INSTALL TO FORM A  
 COMPLETE LOOP AROUND FILL MAT-  
 ERIAL AND CROSS MEMBER, BRING ENDS  
 TOGETHER AND TWIST TAUT. SECURE  
 TO THE FILL MATERIAL WITH A PARTIALLY  
 DRIVEN 10d NAIL BENT OVER THE WIRE,  
 OR WITH A STRAP STAPLE.

FILL MATERIAL, 1" X 4" OR  
 2" X 4" MATERIAL BY CONTAINER  
 WIDTH MINUS 1" (AS REQD).

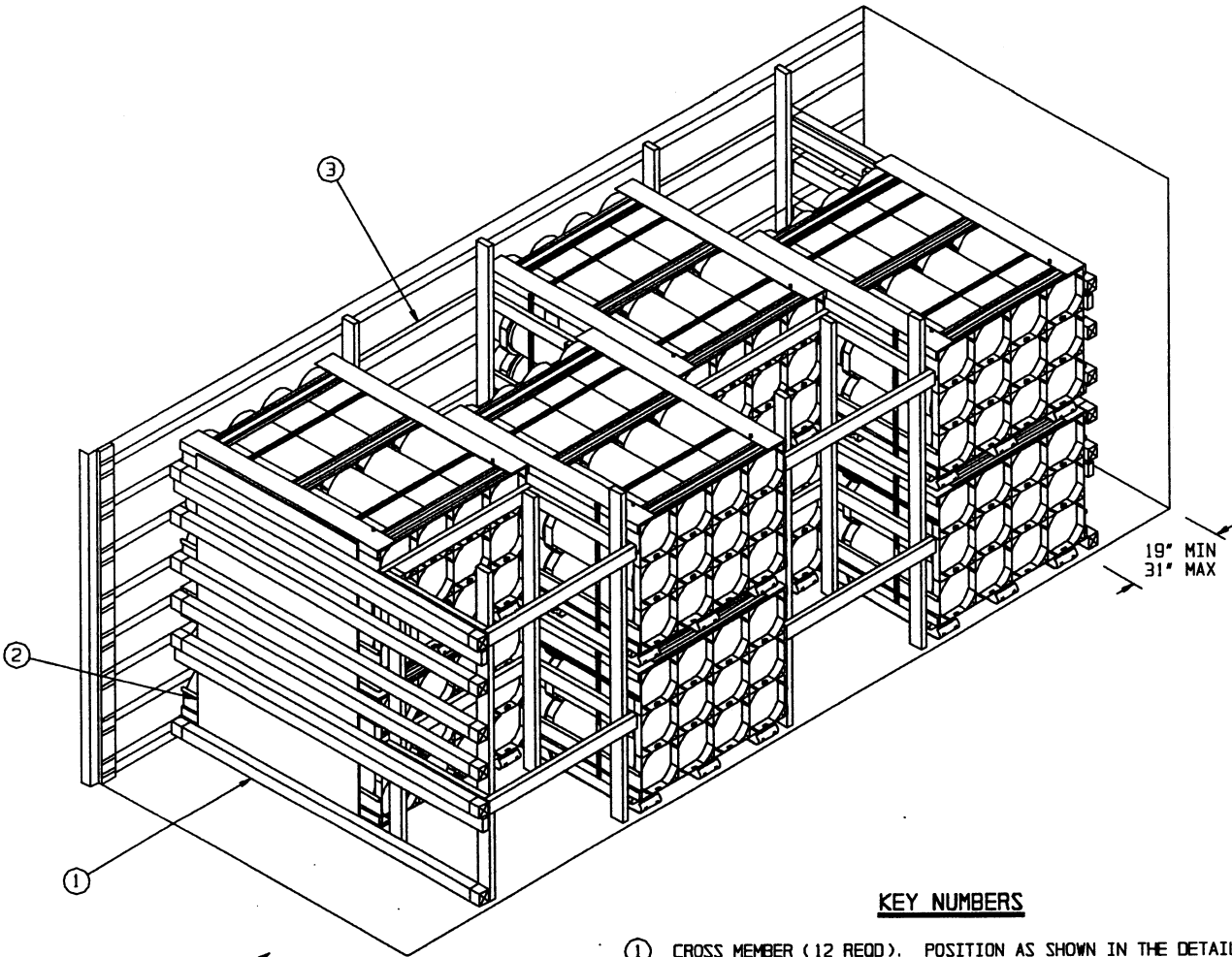


**FILL DETAIL**

RETAINER PIECE, 2" X 4" BY  
 CUT-TO-FIT IN LENGTH (2 REQD).  
 NAIL TO THE STRUTS W/1-10d  
 NAIL AT EACH JOINT AND TO  
 THE BUFFER PIECE W/4-10d NAILS.



**SPACER ASSEMBLY**



REAR OF CONTAINER. →

**ISOMETRIC VIEW**

**KEY NUMBERS**

- ① CROSS MEMBER (12 REQD). POSITION AS SHOWN IN THE DETAIL ABOVE, AT THE 5", 28", 38", 48", 60" AND 72" HEIGHTS. SEE THE "FILL DETAIL" ON PAGE 5.
- ② SEPARATOR GATE (2 REQD). SEE THE DETAIL ON PAGE 7.
- ③ CRIB FILL ASSEMBLY (4 REQD). SEE THE DETAIL ON PAGE 7.

BILL OF MATERIAL		
LUMBER	LINEAR FEET	BOARD FEET
2" X 4"	235	157
NAILS	NO. REQD	POUNDS
6d (2")	24	1/4
10d (3")	128	2
PLYWOOD, 1/2"	50.67 SQ FT REQD	69.67 LBS
CROSS MEMBER		12 REQD

**LOAD AS SHOWN**

ITEM	QUANTITY	WEIGHT (APPROX)
PALLET UNIT	8	12,336 LBS
DUNNAGE		386 LBS
CONTAINER		5,700 LBS
TOTAL WEIGHT		18,422 LBS (APPROX)

VERTICAL PIECE, 2" X 4" BY INSIDE  
CONTAINER HEIGHT MINUS 1" (REF:  
7'-2") (2 REOD).

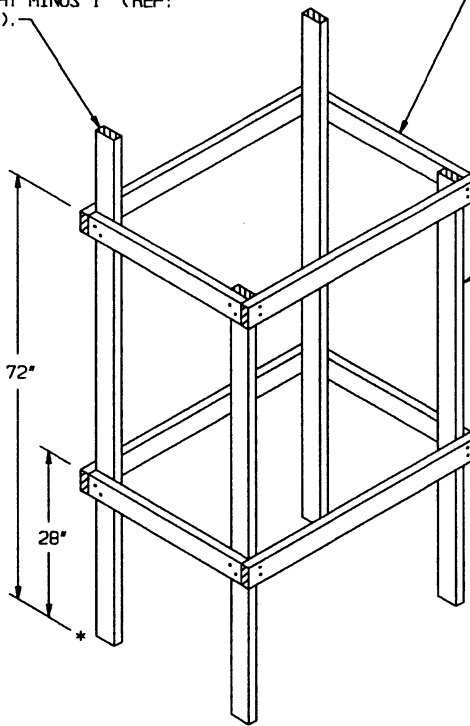
LATERAL PIECE, 2" X 4" X 29"  
(4 REOD). NAIL TO THE VERTICAL  
PIECES W/2-10d NAILS AT EACH END.

72"

VERTICAL PIECE, 2" X 4"  
X 72" (2 REOD).

LONGITUDINAL PIECE, 2" X 4" X 45-1/2"  
(4 REOD). NAIL TO THE VERTICAL  
PIECES W/2-10d NAILS AT EACH END.

28"

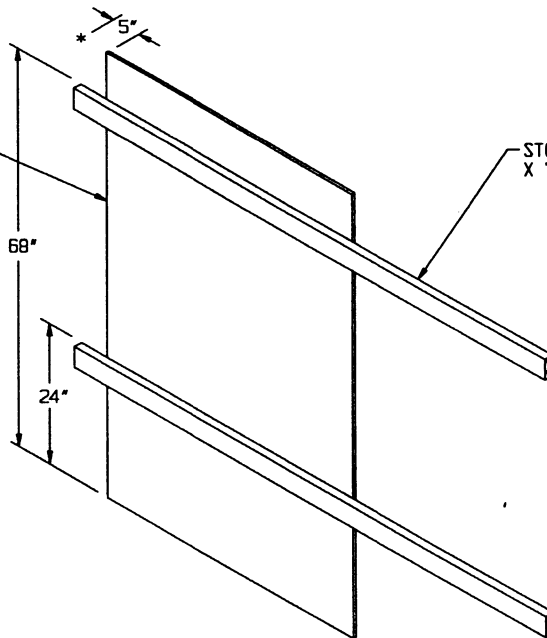


#### CRIB FILL ASSEMBLY

NOTE: FOR A ONE HIGH LOAD, REPOSITION THE TOP TWO LONGITUDINAL PIECES AND THE TOP TWO LATERAL PIECES AT 38", AND REPOSITION THE LOWER TWO LONGITUDINAL PIECES AND THE LOWER TWO LATERAL PIECES AT 18". SHORTEN THE 72" VERTICAL PIECES APPROPRIATELY. THE LENGTH OF THE LATERAL PIECES IS DEPENDENT ON THE VOID BETWEEN THE PALLET UNIT AND THE CONTAINER SIDEWALL.

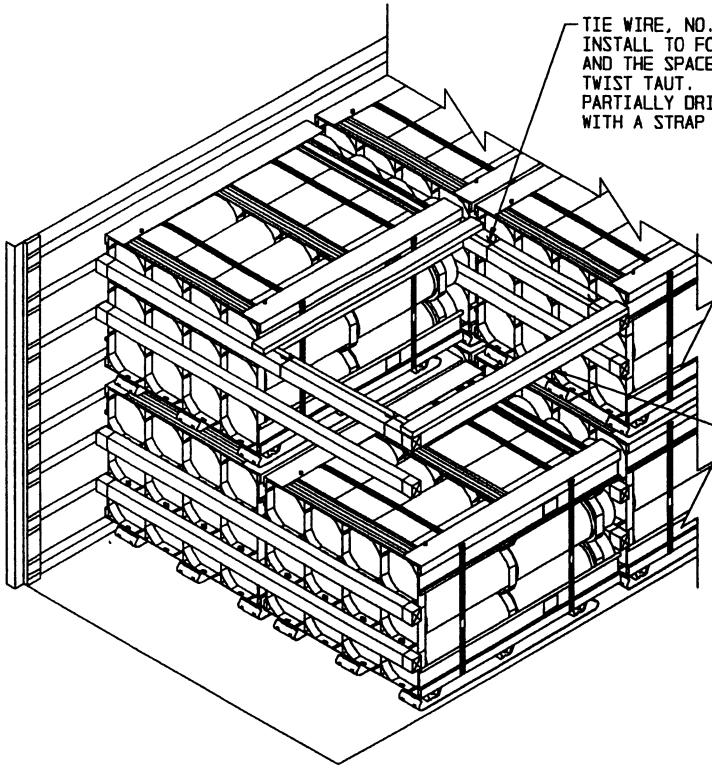
PLYWOOD, 1/2" X 48" X 6'-4" (1 REOD).  
NAIL THRU THE PLYWOOD INTO THE STOP  
PIECES W/6-6d NAILS EACH.

STOP PIECE, 2" X 4"  
X 7'-6" (2 REOD).



#### SEPARATOR GATE

NOTE: FOR A ONE HIGH LOAD, REDUCE THE HEIGHT OF THE PLYWOOD TO 44", ELIMINATE THE TOP STOP PIECE, AND LOCATE THE LOWER STOP PIECE AT 34". A LEFT HAND GATE IS SHOWN. A RIGHT HAND GATE CAN BE CONSTRUCTED BY SHIFTING THE PLYWOOD 32" TO THE RIGHT, ALONG THE STOP PIECES.

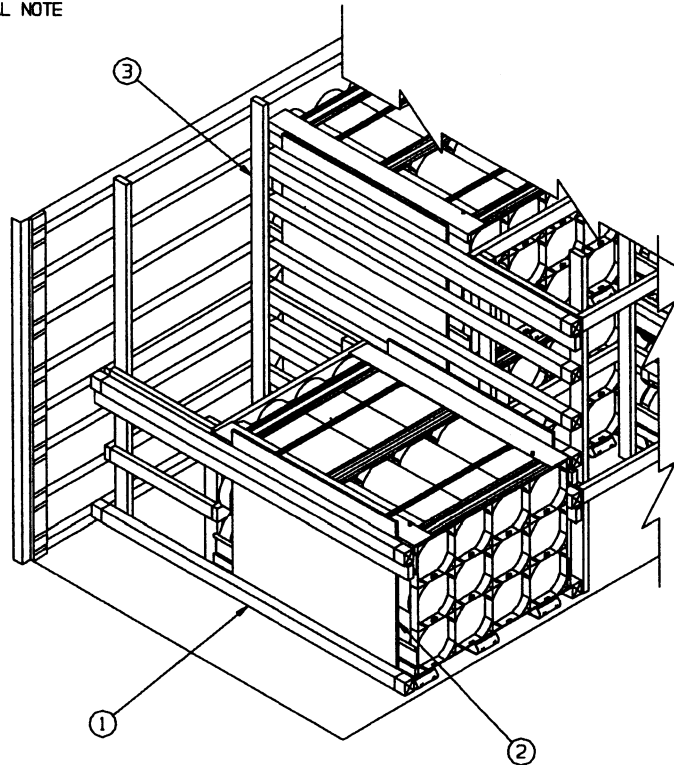


TIE WIRE, NO. 14 GAGE WIRE 18" LONG (4 REQD). INSTALL TO FORM A LOOP AROUND THE CROSS MEMBER AND THE SPACER ASSEMBLY, BRING ENDS TOGETHER AND TWIST TAUT. SECURE TO THE SPACER ASSEMBLY WITH A PARTIALLY DRIVEN 10d NAIL BENT OVER THE WIRE OR WITH A STRAP STAPLE.

SPACER ASSEMBLY (1 REQD). SEE THE DETAIL ON PAGE 5.

**LESS-THAN-FULL-LOAD PROCEDURE**

THE DETAIL ABOVE DEPICTS A BLOCKING METHOD TO BE USED IN A LESS-THAN-FULL CONTAINER LOAD WHEN LOADED IN THE PATTERN DEPICTED ON PAGE 2 (LESS THAN 12 UNITS). SEE GENERAL NOTE "O" ON PAGE 3.



**LESS-THAN-FULL-LOAD PROCEDURE**

THE DETAIL ABOVE DEPICTS A BLOCKING METHOD TO BE USED IN A LESS-THAN-FULL CONTAINER LOAD WHEN LOADED IN THE PATTERN DEPICTED ON PAGES 4 OR 6 (LESS THAN 10 UNITS). KEY NUMBERS REFER TO KEY NUMBERS ON PAGE 6. NOTE THAT THE DUNNAGE ASSEMBLIES USED WITH THE SINGLE PALLET UNIT HAVE BEEN MODIFIED AS DESCRIBED ON PAGE 7. SEE GENERAL NOTE "O" ON PAGE 3.