APPROVED BY
HAZARDOUS MATERIALS SYSTEMS
(BOE) ASSOCIATION OF AMERICAN
RAILROADS

STATE Y | 2/3/2

LOADING AND BRACING WITH WOODEN DUNNAGE IN COMMERCIAL CONTAINERS OF BOMB, BLU-109/B, IN CNU-416/E CONTAINER

● LOADING AND BRACING SPECIFICATIONS SET FORTH WITHIN THIS DRAWING ARE APPLICABLE TO LOADS THAT ARE TO BE SHIPPED BY TRAILER/CONTAINER-ON-FLAT-CAR (T/COFC) RAIL CARRIER SERVICE. THESE SPECIFICATIONS MAY ALSO BE USED FOR LOADS THAT ARE TO BE MOVED BY MOTOR OR WATER CARRIERS. SEE GENERAL NOTE "K" ON PAGE 3.

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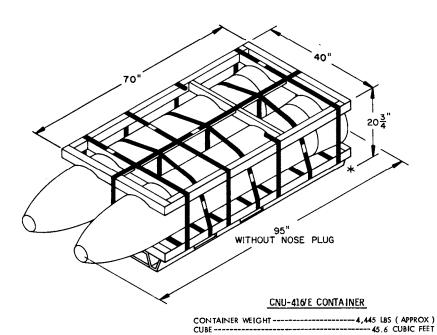
GENERAL NOTES

- A. THIS DOCUMENT HAS BEEN PREPARED AND ISSUED IN ACCORDANCE WITH AR 740-1, AND AUGMENTS TM 743-200-1 (CHAPTER 5).
- B. THE SPECIFIED OUTLOADING PROCEDURES ARE APPLICABLE TO LOADS OF CNU-416/E SHIPPING AND STORAGE CONTAINERS LOADED WITH TWO BLU-109/B BOMBS. SUBSEQUENT REFERENCE TO THE CONTAINER MEANS THE CONTAINER WITH AMMUNITION ITEMS. SEE PAGE 3 FOR THE DETAILS OF THE CONTAINER. CAUTION: REGARDLESS OF THE QUANTITY OF CONTAINERS TO BE SHIPPED, THE "MAXIMUM GROSS WEIGHT" OF 44,800 POUNDS MUST NOT BE EXCEEDED.
- C. THE LOADS AS SHOWN ARE BASED ON A 4,700 POUND 20' LONG BY 8' WIDE BY 8'-4" HIGH INTERMODAL COMMERCIAL CONTAINER WITH INSIDE DIMENSIONS OF 19'-4" LONG BY 92" WIDE BY 95" HIGH. THE LOAD IS DESIGNED FOR TRAILER/CONTAINER-ON-FLAT-CAR (T/COFC) SHIPMENT, HOWEVER, THE LOAD AS DESIGNED CAN ALSO BE MOVED BY OTHER SURFACE MODES OF TRANSPORT.

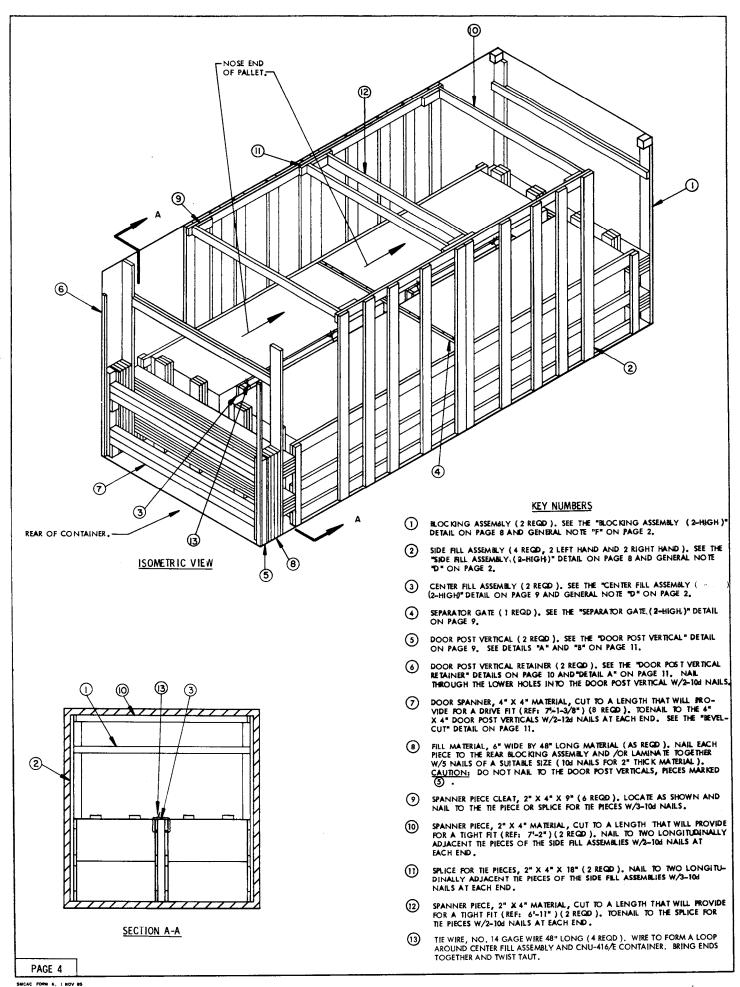
 NOTICE: OTHER CONTAINERS OF THE SAME DESIGN CONFIGURATION CAN BE
- D. WHEN LOADING CONTAINERS, THEY ARE TO BE POSITIONED SO AS TO ACHIEVE A TIGHT LOAD (TIGHT AGAINST THE FORWARD AND SIDE DUNNAGE ASSEMBLIES). ALTHOUGH A TOTAL OF ONE AND ONE-HALF INCHES (1-1/2") OF UNBLOCKED SPACE ACROSS THE WIDTH OF A LOAD BAY IS PERMITTED, LATERAL VOIDS WITHIN THE LOAD ARE TO BE HELD TO A MINIMUM. EXCESSIVE SLACK CAN BE ELIMINATED FROM A LOAD BY LAMINATING ADDITIONAL PIECES OF APPROPRIATE THICKNESS TO THE BEARING PIECES ON THE SIDE FILL ASSEMBLIES ON ONE OR BOTH SIDES OF THE CONTAINER. NAIL EACH ADDITIONAL PIECE TO THE BEARING PIECE W/I APPROPRIATELY SIZED NAIL EVERY 12". ADDITIONALLY, THE LENGTH OF THE VERTICAL AND FILL PIECES OF THE CENTER FILL ASSEMBLIES MAY BE ADJUSTED AS NECESSARY, TO FACILITATE VARIANCE IN CONTAINER SIZE.
- E. DUNNAGE LUMBER SPECIFIED IS OF A NOMINAL SIZE. FOR EXAMPLE, 2" X 4" MATERIAL IS ACTUALLY 1-1/2" THICK BY 3-1/2" WIDE AND 2" X 6" MATERIAL IS ACTUALLY 1-1/2" THICK BY 5-1/2" WIDE.
- F. A STAGGERED NAILING PATTERN WILL BE USED WHENEVER POSSIBLE WHEN NAILS ARE DRIVEN INTO JOINTS OF DUNNAGE ASSEMBLIES OR WHEN LAMINATING DUNNAGE. ADDITIONALLY, THE NAILING PATTERN FOR AN UPPER PIECE OF LAMINATED DUNNAGE WILL BE ADJUSTED AS REQUIRED SO THAT A NAIL FOR THAT PIECE WILL NOT BE DRIVEN THROUGH ONTO OR RIGHT BESIDE A NAIL IN A LOWER PIECE.
- G. IN SOME CONTAINERS, SUCH AS ALL STEEL CONTAINERS, THERE IS A SLOT AT THE CORNERS OF THE FORWARD WALL. A PIECE OF DUNNAGE MATERIAL MUST BE LAMINATED TO THE BUFFER PIECES ON THE FORWARD BLOCKING ASSEMBLY TO PROVIDE A FLAT SURFACE FOR THE 2" X 6" BUFFER PIECES. A PIECE OF 2" X 4", 2" X 3" OR A SPECIAL WIDTH PIECE CUT-TO-FIT CAN BE USED. THIS FILL PIECE WILL BE NAILED WITH ONE APPROPRIATELY SIZED NAIL EVERY 12". THIS PIECE IS NOT REQUIRED WHEN THE FRONT WALL OF THE CONTAINER IS SMOOTH AND FLAT.
- H. CAUTION: DO NOT NAIL DUNNAGE MATERIAL TO THE CONTAINER WALLS OR FLOOR. ALL NAILING WILL BE WITHIN THE DUNNAGE.
- J. PORTIONS OF THE CONTAINER DEPICTED WITHIN THIS DRAWING, SUCH AS ONE OF THE SIDE WALLS, HAVE NOT BEEN SHOWN IN THE LOAD VIEWS FOR CLARITY PURPOSES.
- K. REQUIREMENTS CITED WITHIN THE BUREAU OF EXPLOSIVES PAMPHLET & APPLY WHEN THE SHIPMENT MOVES BY TRAILER/CONTAINER-ON-FLAT-CAR (T/COFC). SPECIAL T/COFC NOTES FOLLOW.
 - A LOADED CONTAINER MUST BE ON A CHASSIS EQUIPPED WITH TWO BOGIE ASSEMBLIES WHEN BEING MOVED IN TOPC SERVICE
 - THE LOAD LIMIT OF A T/COFC RAIL CAR MUST NOT BE EXCEEDED, NOR WILL A CAR BE LOADED SO THAT THE TRUCK UNDER ONE END OF THE CAR CARRIES MORE THAN ONE-HALF OF THE LOAD LIMIT FOR THAT CAR.
- L. DURING INTRASTATE AND /OR INTERSTATE MOVES BY MOTOR CARRIER, A PROPER CHASSIS/MODIFIED FLAT BED TRAILER MUST BE USED TO PRECLUDE VIOLATION OF ONE OR MORE "WEIGHT LAWS" APPLICABLE TO THE STATE OR STATES INVOLVED.
- M. CONVERSION TO METRIC EQUIVALENTS: DIMENSIONS WITHIN THIS DOCUMENT ARE EXPRESSED IN INCHES, AND WEIGHTS ARE EXPRESSED IN POUNDS. WHEN NECESSARY, THE METRIC EQUIVALENTS MAY BE COMPUTED ON THE BASIS OF ONE INCH EQUALS 25,4MM AND ONE POUND EQUALS 0,454 KG.

MATERIAL SPECIFICATIONS

	743-200-1 (DUNNAGE LUMBER) AND SPEC MM-L-751 .
NAILSFED	SPEC FF-N-105; COMMON.
	SPEC QQ-S-741; SQUARE STRUCTURAL



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RECOMMENDED SEQUENTIAL LOADING PROCEDURES:

- PREFABRICATE TWO BLOCKING ASSEMBLIES, FOUR SIDE FILL ASSEMBLIES, TWO CENTER FILL ASSEMBLIES, ONE SEPARATOR GATE AND NAIL A DOOR POST VERTICAL RETAINER TO EACH DOOR POST VERTICAL, ONE RIGHT HAND AND ONE LEFT HAND.
- INSTALL ONE BLOCKING ASSEMBLY.
- INSTALL ONE SIDE FILL ASSEMBLY, LOAD TWO CONTAINERS AND INSTALL ONE CENTER FILL ASSEMBLY. WIRE TIE CENTER FILL ASSEMBLY TO CONTAINER.
- INSTALL ONE SIDE FILL ASSEMBLY AND LOAD TWO CONTAINERS.
- INSTALL SEPARATOR GATE.
- REPEAT STEP 3.
- REPEAT STEP 4. 7.
- REPEAT STEP 2.
- INSTALL THE TWO DOOR POST VERTICAL ASSEMBLIES (ONE RIGHT HAND AND ONE LEFT HAND).
- INSTALL ONE DOOR SPANNER PIECE AT THE LOWEST POSITION. 10.
- 11. INSTALL THE SOLID FILL TYPE LOAD BLOCKING MATERIAL.
- INSTALL THE TWO SPLICE PIECES FOR THE TIE PIECES, THE SIX SPANNER PIECE CLEATS AND THE FOUR SPANNER PIECES. SEE " ** " NOTE BELOW. 12.
- INSTALL THE DOOR SPANNER SUPPORT PIECES AND THE REMAINING DOOR SPANNER PIECES. 13.
 - * IF DESIRED, PIECES MARKED (2) AND (9) THROUGH (2) MAY BE INSTALLED PRIOR TO LOADING A CONTAINER.

LUMBER	LINEAR FEET	BOARD FEET
1" X 6"	38	19
2" X 4"	151	101
2" X 6"	325	325
2" X 8"	1 52	203
4" X 4"	65	87
NAILS	NO . REQD	POUNDS
6d (2*)	58	1/2
10d (3")	698	10-3/4
12d (3-1/4")	16	1/4

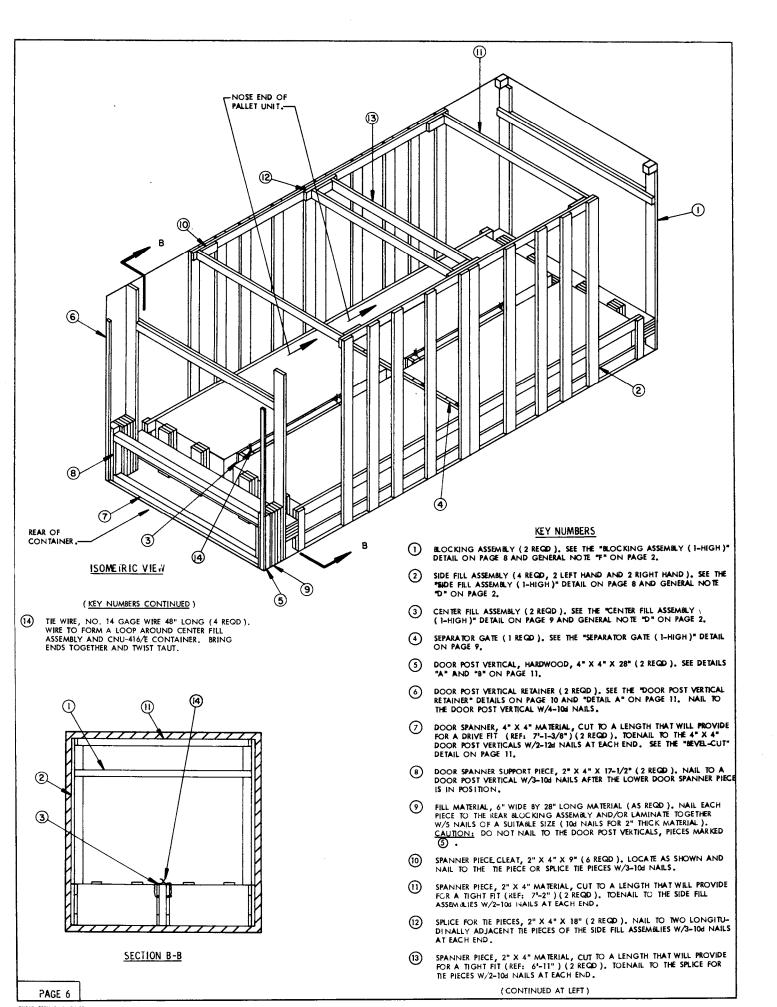
WEIGHT (APPROX) QUANTITY 35,560 LBS 1,546 LBS 4,700 LBS DUNNAGE ----

CONTAINER -TO TAL WEIGHT ---- 41,,806 LBS

LOAD AS SHOWN

ITEM

CNU-416/E -



RECOMMENDED SEQUENTIAL LOADING PROCEDURES:

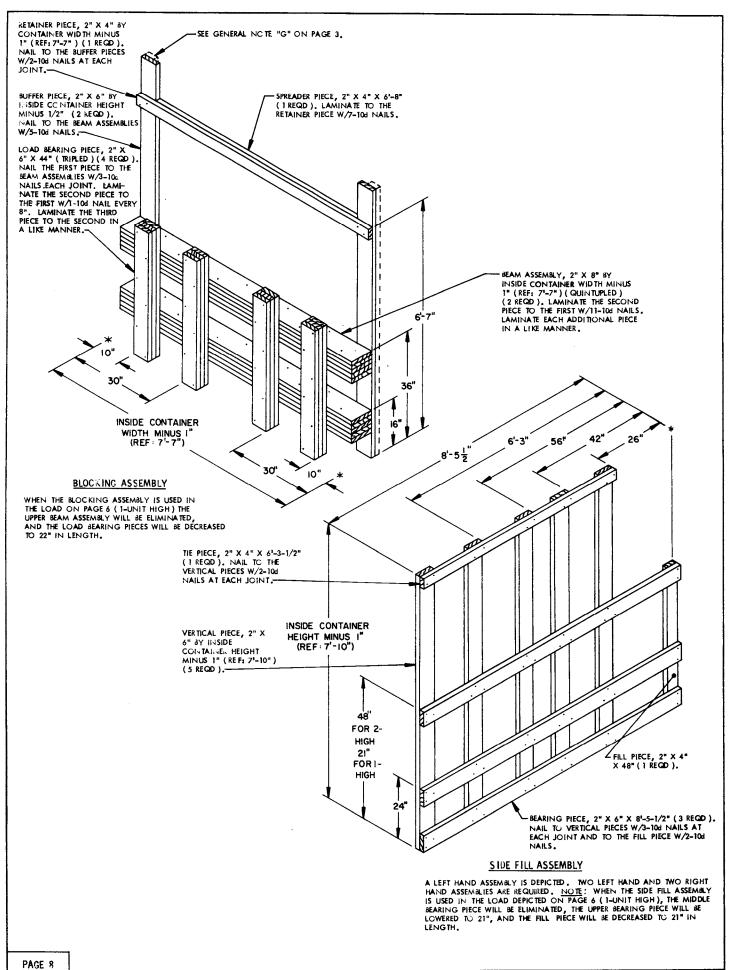
- PREFABRICATE TWO BLOCKING ASSEMBLIES, FOUR SIDE FILL ASSEMBLIES, TWO CENTER FILL ASSEMBLIES, ONE SEPARATOR GATE, TWO DOOR POST VERTICALS, AND NAIL A DOOR POST VERTICAL RETAINER TO EACH DOOR POST VERTICAL, ONE RIGHT HAND AND ONE LEFT HAND.
- 2. INSTALL ONE BLOCKING ASSEMBLY.
- 3. INSTALL ONE SIDE FILL ASSEMBLY, LOAD ONE CONTAINER AND INSTALL ONE CENTER FILL ASSEMBLY.
- 4. INSTALL ONE SIDE FILL ASSEMBLY AND LOAD ONE CONTAINER.
- 5. INSTALL SEPARATOR GATE.
- 6. REPEAT STEP 3.
- 7. REPEAT STEP 4.
- 8. REPEAT STEP 2.
- INSTALL THE TWO DOOR POST VERTICAL ASSEMBLIES (ONE RIGHT HAND AND ONE LEFT HAND).
- 10. INSTALL ONE DOOR SPANNER PIECE AT THE LOWEST POSITION.
- 11. INSTALL THE SOLID FILL TYPE LOAD BLOCKING MATERIAL.
- 12. INSTALL THE TWO SPLICE PIECES FOR THE TIE PIECES, THE SIX SPANNER PIECE CLEATS AND THE FOUR SPANNER PIECES. SEE " * " NOTE BELOW.
- 13. INSTALL THE REMAINING DOOR SPANNER PIECE.
 - * IF DESIRED, PIECES MARKED (2) AND (1) THROUGH (3) MAY BE INSTALLED PRIOR TO LOADING A CONTAINER.

LUMBER	LINEAR FEET	80 ARD FEET	
1" X 6"	25	13	
2" X 4"	137	92	
2" X 6"	233	233	
2" X 8"	76	102	
4" X 4"	19	26	
MAILS	NO . REQD	POUNDS	
6d (2")	46	1/2	
10d (3")	470	7-1/4	
124 (3-1/4")	8	1/4	

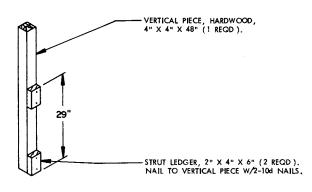
<u>I TEM</u>	QUANTITY	WEIGHT (APPROX
CNU-416/E -	4	17,780 L8S
DUNNAGE -		1,005 LBS
CONTAINER		4,700 L3S
	TOTAL WEIGHT	23,485 LBS

LOAD AS SHOWN

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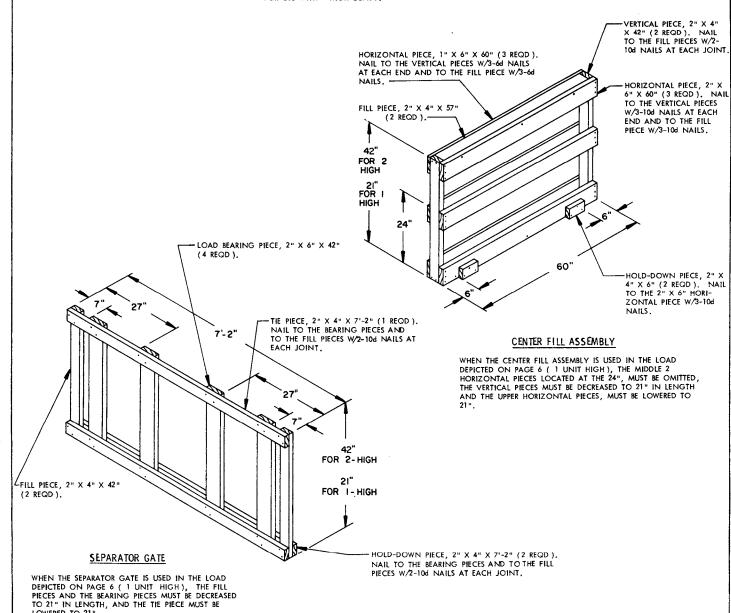


LOWERED TO 21".



DOOR POST VERTICAL

FOR USE WITH 2-HIGH LOADS.



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