

APPROVED BY
BUREAU OF EXPLOSIVES

J. M. Sealy

DATE 6/25/98

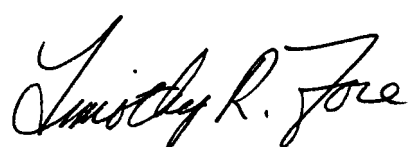
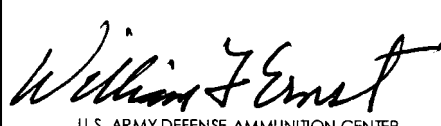
LOADING AND BRACING IN SIDE OPENING ISO CONTAINERS OF ROCKET MOTOR, MK39, MK53, OR MK78 (SHRIKE), PACKED ONE PER CNU-248/E CONTAINER

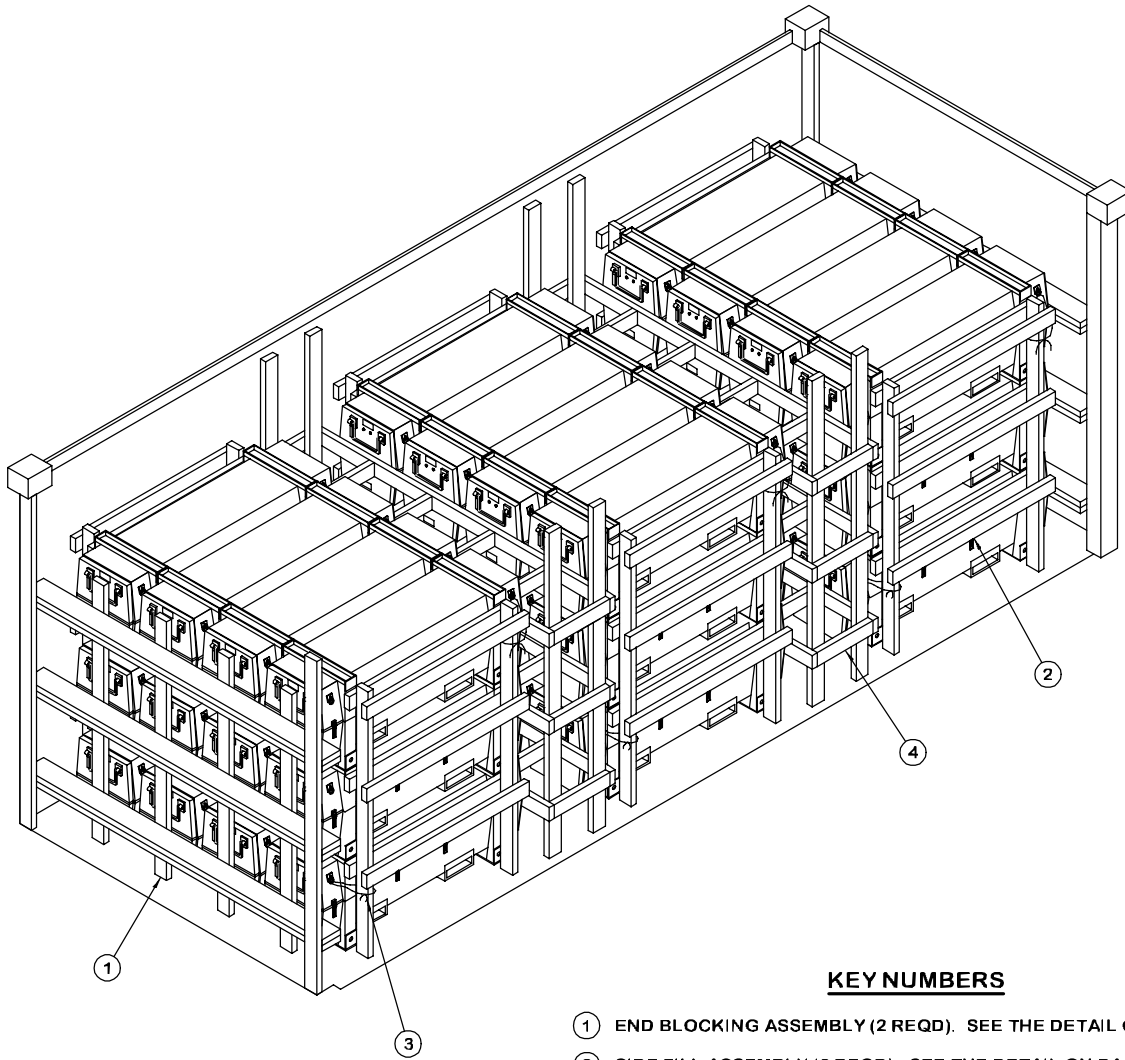
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- LOADING AND BRACING SPECIFICATIONS SET FORTH WITHIN THIS DRAWING ARE APPLICABLE TO LOADS THAT ARE TO BE SHIPPED BY TRAILER/CONTAINER-ON-FLATCAR (T/COFC) RAIL CARRIER SERVICE. THESE SPECIFICATIONS MAY ALSO BE USED FOR LOADS THAT ARE TO BE MOVED BY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

U.S. ARMY MATERIEL COMMAND DRAWING

APPROVED, U.S. ARMY INDUSTRIAL OPERATIONS COMMAND 	ENGINEER	BASIC	MICHAEL SARDONE	DO NOT SCALE			
		REV.		WEBSITE: HTTP://WWW.DAC.ARMY.MIL			
	TECHNICIAN	BASIC		NOVEMBER 1997			
		REV.					
APPROVED BY ORDER OF COMMANDING GENERAL, U.S. ARMY MATERIEL COMMAND 	DRAFTSMAN	BASIC					
		REV.					
	TRANSPORTATION ENGINEERING DIVISION		<i>W. R. Frenicks</i>				
	VALIDATION ENGINEERING DIVISION		<i>M. Barber</i>	TESTED	CLASS	DIVISION	DRAWING
	LOGISTICS ENGINEERING OFFICE		<i>William F. Ernst</i>	19	48	8650	SP15J87



ISOMETRIC VIEW

KEY NUMBERS

- ① END BLOCKING ASSEMBLY (2 REQD). SEE THE DETAIL ON PAGE 5.
- ② SIDE FILL ASSEMBLY (6 REQD). SEE THE DETAIL ON PAGE 5.
- ③ TIE WIRE, 24" LONG (12 REQD). INSTALL TO FORM A COMPLETE LOOP AROUND A SIDE FILL ASSEMBLY, PIECE MARKED ②, AND A LIFTING RING. BRING THE ENDS TOGETHER AND TWIST TAUT.
- ④ CENTER FILL ASSEMBLY (2 REQD). SEE THE DETAIL ON PAGE 6.

BILL OF MATERIAL

LUMBER	LINEAR FEET	BOARD FEET
2" X 4"	479	320
2" X 6"	86	86
NAILS	NO. REQD	POUNDS
10d (3")	456	7
WIRE, CARBON STEEL	24' REQD	1/2 LB

LOAD AS SHOWN

ITEM	QUANTITY	WEIGHT (APPROX)
CNU-248/E	36	11,880 LBS
DUNNAGE		820 LBS
CONTAINER		6,050 LBS

TOTAL WEIGHT - - - - - 18,750 LBS (APPROX)

M. MAXIMUM LOAD WEIGHT CRITERIA:

THE MAXIMUM LOAD WEIGHTS ARE CONTROLLED BY EQUIPMENT CAPABILITY FACTORS. ALTHOUGH THE HEAVIEST MAXIMUM LOADS ARE DELINEATED IN THE LOAD VIEWS, PROVISIONS ARE INCLUDED WITHIN THIS DRAWING SO THAT THE BASIC LOADS CAN BE ADJUSTED TO SATISFY A LESSER QUANTITY OF LADING UNITS. DEPENDING ON TRANSPORTATION ROUTING, IT MAY BE NECESSARY TO REDUCE THE LOAD WEIGHT TO SATISFY "WEIGHT LAWS" OF CERTAIN STATES. ALSO, IT MAY BE NECESSARY TO REDUCE THE LOAD WEIGHT TO SATISFY OTHER WEIGHT RESTRICTIONS IMPOSED ON THE INTERMODAL CONTAINER SYSTEM.

N. REQUIREMENTS CITED WITHIN THE BUREAU OF EXPLOSIVES PAMPHLET 6C APPLY WHEN THE SHIPMENT MOVES BY TRAILER/ CONTAINER-ON-FLATCAR (T/COFC). SPECIAL T/COFC NOTES FOLLOW:

- 1. A LOADED CONTAINER MUST BE ON A CHASSIS EQUIPPED WITH TWO BOGIE ASSEMBLIES WHEN BEING MOVED IN TOFC SERVICE.
- 2. THE LOAD LIMIT OF A T/COFC RAILCAR 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.

O. DURING INTRASTATE AND/OR INTERSTATE MOVES BY MOTOR CARRIER, A PROPER CHASSIS OR MODIFIED FLATBED TRAILER MUST BE USED TO PRECLUDE VIOLATION OF ONE OR MORE "WEIGHT LAWS" APPLICABLE TO THE STATE OR STATES INVOLVED.

P. WHETHER A CONTAINER IS FULL OR IS LOADED WITH A REDUCED QUANTITY OF LADING UNITS, THE LENGTHWISE CENTER OF GRAVITY OF THE LOAD MUST BE WITHIN 12", IN EITHER DIRECTION, OF THE MID-POINT OF THE CONTAINER.

Q. RECOMMENDED SEQUENTIAL LOADING PROCEDURES:

- 1. PREFABRICATE TWO END BLOCKING ASSEMBLIES, SIX SIDE FILL ASSEMBLIES, AND TWO CENTER FILL ASSEMBLIES.
- 2. INSTALL ONE END BLOCKING ASSEMBLY.
- 3. INSTALL ONE SIDE FILL ASSEMBLY.
- 4. LOAD 12 CONTAINERS.
- 5. INSTALL ONE SIDE FILL ASSEMBLY AND WIRE TIE BOTH ASSEMBLIES.
- 6. REPEAT STEPS 2 THRU 5.
- 7. INSTALL ONE CENTER FILL ASSEMBLY.
- 8. REPEAT STEPS 3 THRU 5.
- 9. INSTALL THE SECOND CENTER FILL ASSEMBLY.

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 MK39, MK53 OR MK78 ROCKET MOTORS PACKED IN CNU-248/E CONTAINERS. SUBSEQUENT REFERENCE TO THE CONTAINER HEREIN MEANS THE CONTAINER WITH AMMUNITION ITEMS. CAUTION: REGARDLESS OF THE QUANTITY OF CONTAINERS TO BE SHIPPED, THE "MAXIMUM GROSS WEIGHT" OF THE SIDE OPENING ISO CONTAINER MUST NOT BE EXCEEDED.

C. FOR DETAILS OF THE CONTAINER, SEE AIR FORCE DRAWING NO. 776013 OR PAGE 4.

CONTAINER DIMENSIONS --- 60" LONG X 18-1/2" WIDE X 23-1/8" HIGH (22-1/8" STACKING)
GROSS WEIGHT ----- 330 POUNDS (APPROX)

D. THE LOADS AS SHOWN ARE BASED ON 6,050 POUND 20' LONG BY 8' WIDE BY 8'-6" HIGH SIDE OPENING ISO CONTAINER WITH INSIDE DIMENSIONS OF 19'-4" LONG BY 89" WIDE BY 88" HIGH AND A MAXIMUM GROSS WEIGHT OF 52,910 POUNDS. THE LOAD IS DESIGNED FOR TRAILER/CONTAINER-ON-FLATCAR (T/COFC) SHIPMENT, HOWEVER, THE LOAD AS DESIGNED CAN ALSO BE MOVED BY MOTOR OR WATER CARRIERS. NOTICE: OTHER CONTAINERS OF THE SAME DESIGN CONFIGURATION CAN ALSO BE USED.

E. WHEN LOADING THE UNITS, THEY ARE TO BE POSITIONED SO AS TO ACHIEVE A TIGHT LOAD (TIGHT AGAINST THE DUNNAGE ASSEMBLIES). THE UNBLOCKED SPACE ACROSS THE WIDTH OF A LOAD BAY IS NOT TO EXCEED 1-1/2". EXCESSIVE SLACK CAN BE ELIMINATED FROM A LOAD BY LAMINATING ADDITIONAL PIECES OF APPROPRIATE THICKNESS TO THE SIDE FILL ASSEMBLIES. NAIL EACH ADDITIONAL PIECE TO THE HORIZONTAL PIECE W/1 APPROPRIATELY SIZED NAIL EVERY 12". ADDITIONALLY, THE THICKNESS AND QUANTITY OF THE DUNNAGE LUMBER USED MAY BE ADJUSTED AS REQUIRED TO FACILITATE VARIANCE IN THE SIZE OF THE CONTAINER.

F. DUNNAGE LUMBER SPECIFIED IS OF NOMINAL SIZE. FOR EXAMPLE, 1" X 6" MATERIAL IS ACTUALLY 3/4" THICK BY 5-1/2" WIDE AND 2" X 6" MATERIAL IS ACTUALLY 1-1/2" THICK BY 5-1/2" WIDE.

G. 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.

H. IN SOME CONTAINERS THERE IS A SLOT AT THE CORNERS OF THE ENDWALLS. A PIECE OF DUNNAGE MATERIAL MUST BE LAMINATED TO THE VERTICAL PIECES OF THE END BLOCKING ASSEMBLY TO PROVIDE A FLAT SURFACE FOR THE VERTICAL 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". THE FILL PIECE(S) IS NOT REQUIRED WHEN THE CORNER PORTIONS OF THE CONTAINER ENDWALLS ARE SMOOTH AND FLAT.

J. CAUTION: DO NOT NAIL DUNNAGE MATERIAL TO THE CONTAINER WALLS OR FLOOR. ALL NAILING WILL BE WITHIN THE DUNNAGE.

K. PORTIONS OF THE CONTAINER DEPICTED WITHIN THIS DRAWING, SUCH AS THE SIDE DOORS, HAVE NOT BEEN SHOWN IN THE LOAD VIEW FOR CLARITY PURPOSES.

L. 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.

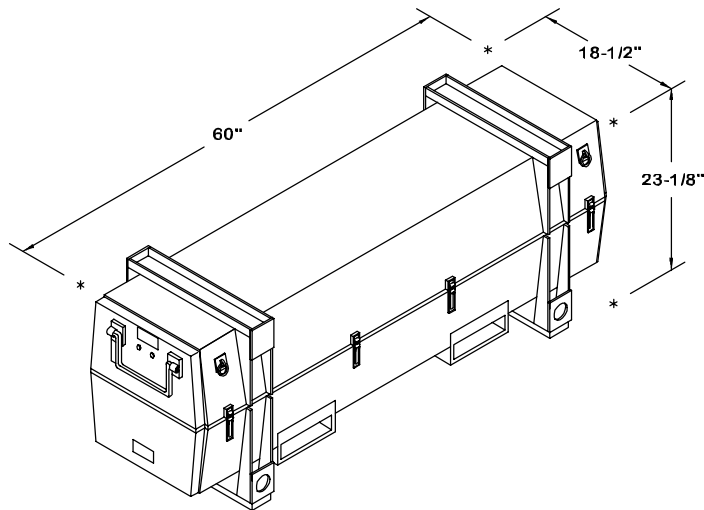
MATERIAL SPECIFICATIONS

(CONTINUED AT LEFT)

LUMBER - - - - - : SEE TM 743-200-1 (DUNNAGE LUMBER) AND VOLUNTARY PRODUCT STANDARD PS 20.

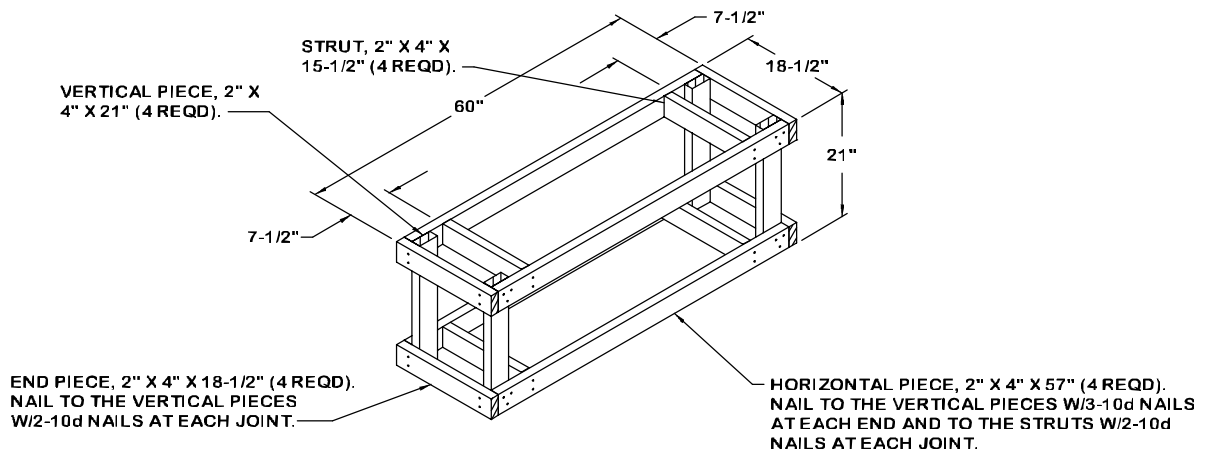
NAILS - - - - - : ASTM F1667; COMMON STEEL NAIL (NLCMS OR NLCMMS).

WIRE, CARBON STEEL -- : ASTM A853; ANNEALED AT FINISH, BLACK OXIDE FINISH, .0800" DIA, GRADE 1006 OR BETTER.

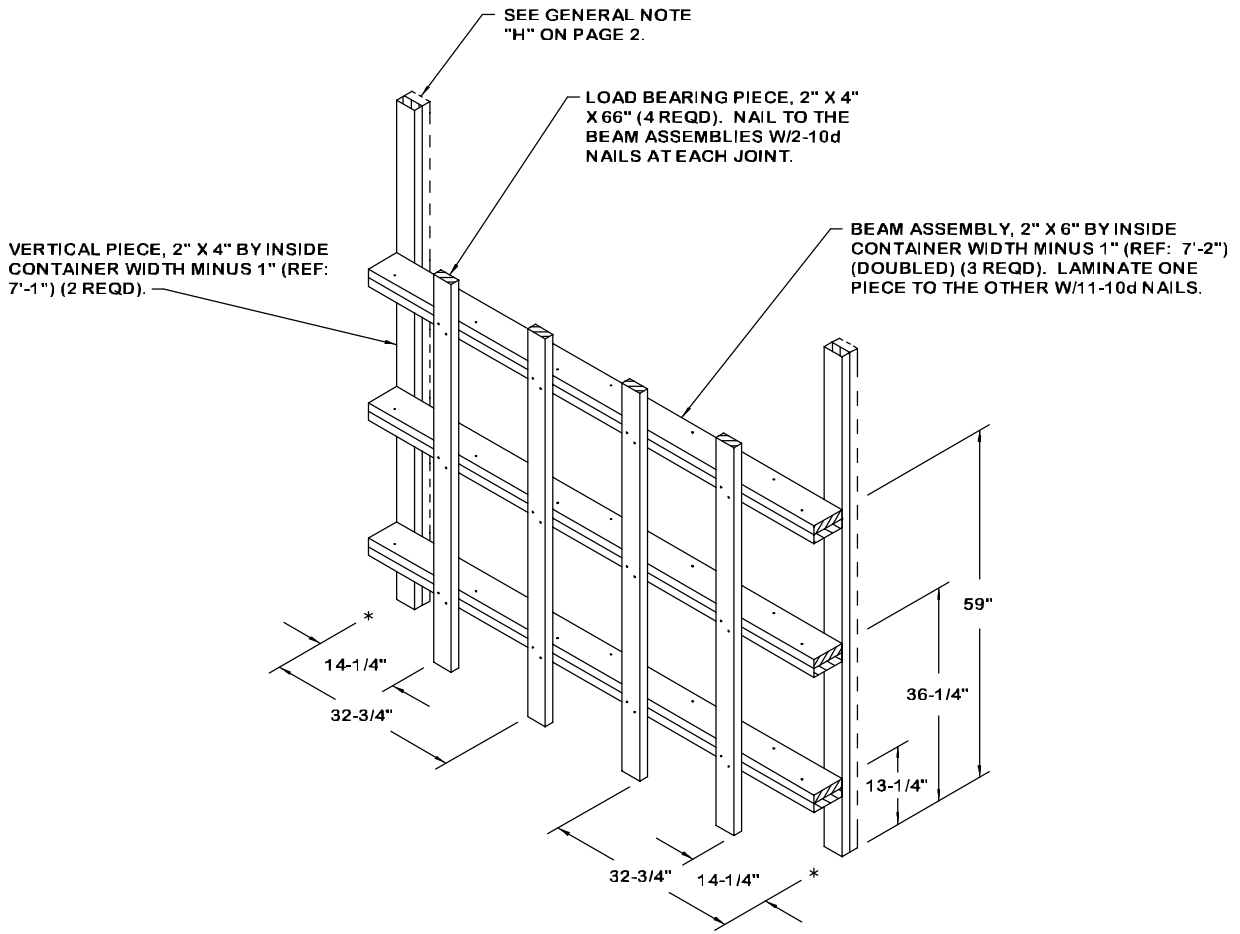


CNU-248/E CONTAINER

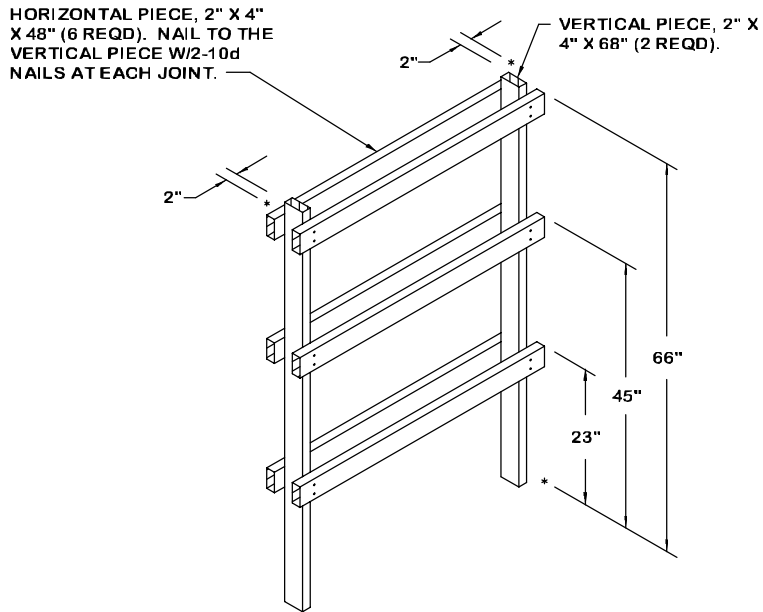
GROSS WEIGHT - - - - - 330 LBS (APPROX)
 CUBE - - - - - 11.6 CUBIC FEET (APPROX)



OMITTED CONTAINER ASSEMBLY

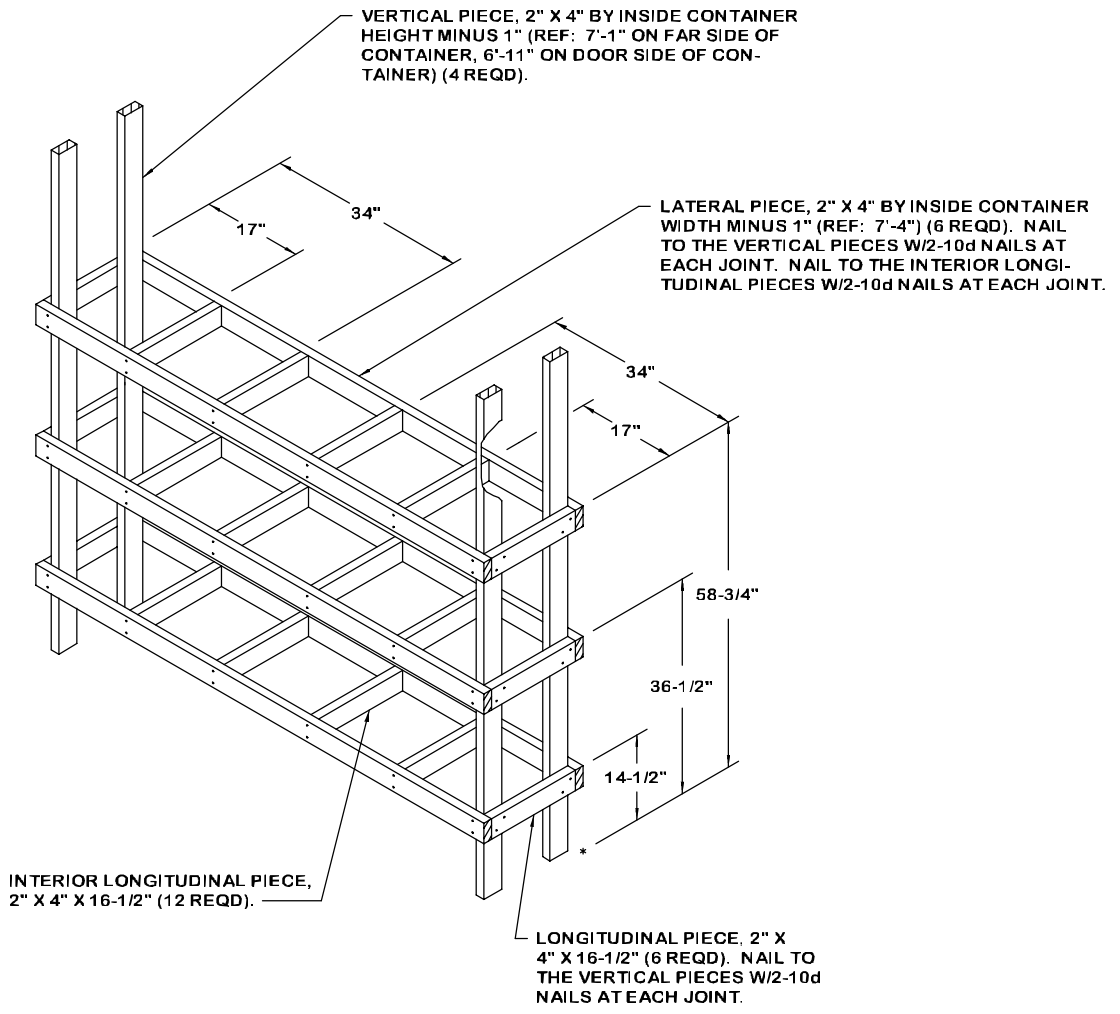


END BLOCKING ASSEMBLY



SIDE FILL ASSEMBLY

DETAILS



CENTER FILL ASSEMBLY