

LOADING AND BRACING[⊕] IN END OPENING ISO CONTAINERS OF THE MODULAR PACK MINE SYSTEM (MOPMS), M131, AND PRACTICE, M136, PALLETIZED

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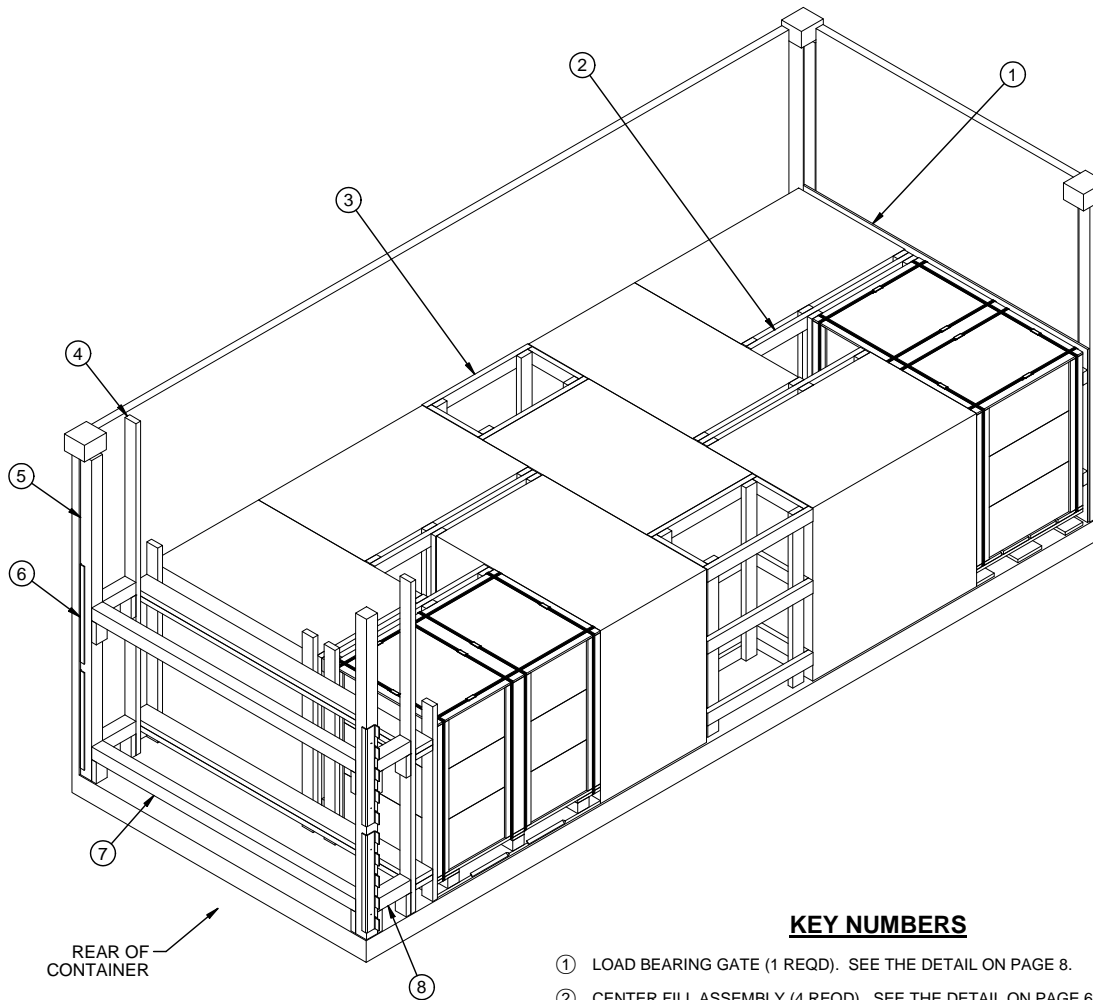
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⊕ THE PROCEDURES SHOWN HEREIN ARE APPLICABLE TO LOADS THAT ARE TO
BE SHIPPED BY TRAILER/CONTAINER-ON-FLATCAR (T/COFC) RAIL, MOTOR, OR
WATER CARRIERS.

U.S. ARMY MATERIEL COMMAND DRAWING

APPROVED, U.S. ARMY JOINT MUNITIONS COMMAND RUS.ALLEN.J .1230354282 <small>Digitally signed by RUS.ALLEN.J.1230354282 DN: c=US, ou=U.S. Government, ou=DoD, ou=PKI, ou=USA, cn=RUS.ALLEN.J.1230354282 Date: 2014.11.13 08:57:56 -06'00'</small>		CAUTION: VERIFY PRIOR TO USE AT HTTPS://MHP.REDSTONE.ARMY.MIL THAT THIS IS THE MOST CURRENT VERSION OF THIS DOCUMENT. THIS IS PAGE 1 OF 12.			
		DO NOT SCALE		MARCH 1998	
DESIGN ENGINEER		BASIC	LAURA FIEFFER		
		REV.	SPENCER HOVEY		
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U.S. ARMY DEFENSE AMMUNITION CENTER		TEST REPORT	NA		SEE THE REVISION LISTING ON PAGE 3
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ISOMETRIC VIEW

KEY NUMBERS

- ① LOAD BEARING GATE (1 REQD). SEE THE DETAIL ON PAGE 8.
- ② CENTER FILL ASSEMBLY (4 REQD). SEE THE DETAIL ON PAGE 6.
- ③ CRIB FILL ASSEMBLY (2 REQD). SEE THE DETAIL ON PAGE 7.
- ④ FORWARD/REAR BLOCKING ASSEMBLY (1 REQD). SEE THE DETAIL ON PAGE 7.
- ⑤ DOOR POST VERTICAL (2 REQD). SEE THE DETAIL ON PAGE 6 AND "DETAIL A" ON PAGE 9.
- ⑥ UNIVERSAL LOAD RETAINER (4 REQD, 2 PER SIDE). NAIL THROUGH THE HOLES INTO THE DOOR POST VERTICAL W/2-10d NAILS. SEE DEPARTMENT OF ARMY DRAWING DA-116 AND "DETAIL A" ON PAGE 9.
- ⑦ DOOR SPANNER, 4" X 4" MATERIAL CUT TO A LENGTH THAT WILL PROVIDE A DRIVE FIT (REF: 7'-1-1/4") (2 REQD). TOENAIL TO THE DOOR POST VERTICAL W/2-12d NAILS AT EACH END. SEE THE "BEVEL-CUT" DETAIL ON PAGE 9.
- ⑧ STRUT, 4" X 4" BY CUT-TO-FIT (REF: 10-3/4") (4 REQD). TOENAIL TO THE BUFFER PIECE OF THE REAR BLOCKING ASSEMBLY AND THE DOOR POST VERTICAL W/2-12d NAILS AT EACH END. SEE THE "BEVEL-CUT" DETAIL ON PAGE 9.

BILL OF MATERIAL		
LUMBER	LINEAR FEET	BOARD FEET
2" X 2"	5	2
2" X 4"	247	165
2" X 6"	31	31
4" X 4"	38	51
NAILS	NO. REQD	POUNDS
8d (2 1/2")	26	1/2
10d (3")	274	4-1/4
12d (3 1/4")	40	3/4
PLYWOOD, 1/2" - -	30.33 SQ FT REQD - -	41.71 LBS
UNIVERSAL LOAD RETAINER - -	4 REQD - -	26 LBS

CAUTION: THE LOADING PATTERN DEPICTED ABOVE IS ONLY APPLICABLE TO PALLET UNIT "A".

LOAD AS SHOWN

ITEM	QUANTITY	WEIGHT (APPROX)
PALLET UNIT*	9	9,900 LBS
DUNNAGE		543 LBS
CONTAINER		4,700 LBS
TOTAL WEIGHT		15,143 LBS (APPROX)

GENERAL NOTES

(GENERAL NOTES CONTINUED)

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 MODULAR PACK MINE SYSTEM (MOPMS) PALLET UNITS. SUBSEQUENT REFERENCE TO PALLET UNIT HEREIN MEANS THE PALLET UNIT WITH AMMUNITION ITEMS. SEE PAGE 5 AND ARDEC DRAWING 9349988 FOR DETAILS OF THE PALLET UNIT. **CAUTION:** REGARDLESS OF THE QUANTITY OF CONTAINERS TO BE SHIPPED, THE "MAXIMUM GROSS WEIGHT" OF THE END OPENING ISO CONTAINER MUST NOT BE EXCEEDED.

C. THE LOAD AS SHOWN IS BASED ON A 4,700 POUND 20' LONG BY 8' WIDE BY 8'-6" HIGH END OPENING ISO CONTAINER WITH INSIDE DIMENSIONS OF 19'-4" LONG BY 92" WIDE BY 93" HIGH, WITH A MAXIMUM GROSS WEIGHT OF 52,910 POUNDS. OLDER/OTHER CONTAINERS MAY HAVE A TOTAL INSIDE HEIGHT OF 95", BUT A CLEAR HEIGHT UNDER THE ROOF BOWS OF 93". VERIFY INSIDE CONTAINER HEIGHT PRIOR TO FABRICATING DUNNAGE. THE LOAD IS DESIGNED FOR TRAILER/CONTAINER-ON-FLATCAR (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 USED.

D. WHEN LOADING PALLET 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 VERTICAL PIECES ON THE CENTER FILL ASSEMBLIES AND/OR TO THE LONGITUDINAL PIECES OF THE CRIB FILL ASSEMBLIES. NAIL EACH ADDITIONAL PIECE W/1 APPROPRIATELY SIZED NAIL EVERY 12". ADDITIONALLY, THE THICKNESS, LENGTH AND/OR QUANTITY OF THE VERTICAL OR HORIZONTAL PIECES IN THE CENTER FILL ASSEMBLIES OR THE CRIB FILL ASSEMBLIES MAY BE ADJUSTED AS REQUIRED TO FACILITATE VARIANCE IN THE PALLET UNIT.

E. 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.

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

G. IN SOME CONTAINERS THERE IS A SLOT AT THE CORNERS OF THE FORWARD WALL. PIECES OF DUNNAGE MATERIAL MUST BE LAMINATED TO THE BUFFER PIECES ON THE FORWARD BLOCKING ASSEMBLY OR FORWARD STRUT ASSEMBLY TO PROVIDE A FLAT SURFACE FOR THE 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". NOTE THAT SOME CONTAINERS ARE EQUIPPED WITH "TIE-BARS" IN THE CORNER SLOT, WHICH PRECLUDE THE USE OF A FULL HEIGHT FILL PIECE. WHEN "TIE-BARS" ARE PRESENT, THE FILL PIECE MUST BE INSTALLED IN SEGMENTS DESIGNED TO FIT BETWEEN THE "TIE-BARS" VERTICALLY. THE FILL PIECE(S) IS NOT REQUIRED WHEN THE CORNER PORTIONS OF THE CONTAINER FORWARD WALL ARE SMOOTH AND FLAT. DO NOT ALLOW ANY DUNNAGE ASSEMBLY TO CONTACT THE CONTAINER FORWARD WALL, ONLY THE CORNER POSTS OF THE CONTAINER SHOULD BE USED FOR FORWARD LONGITUDINAL BLOCKING.

H. 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.

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 SIDEWALL, HAVE NOT BEEN SHOWN IN THE LOAD VIEWS FOR CLARITY PURPOSES.

L. 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.

M. REQUIREMENTS CITED WITHIN THE ASSOCIATION OF AMERICAN RAILROADS (AAR) INTERMODAL LOADING GUIDE 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.

N. 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.

O. 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.

P. THE QUANTITY OF PALLET UNITS SHOWN IN THE LOAD ON PAGES 2 AND 4 MAY BE REDUCED FOR SHIPMENT, IF DESIRED. SEE THE LESS-THAN-FULL LOAD PROCEDURES ON PAGES 11 AND 12.

Q. FOUR UNIVERSAL LOAD RETAINERS, AS DEPICTED IN THE LOADS ON PAGES 2 AND 4, ARE REQUIRED WHEN LOADING A ONE HIGH LOAD. REFER TO DAC DRAWING ACV00682 FOR DETAILS OF THE UNIVERSAL LOAD RETAINER CONSTRUCTION, AND TO DEPARTMENT OF THE ARMY DRAWING DA-116 FOR DETAILS FOR INSTALLATION TO THE DOOR POST VERTICAL, PLACEMENT INTO THE CONTAINER, AND FOR OTHER METHODS OF REAR-OF-LOAD RESTRAINT.

R. RECOMMENDED SEQUENTIAL LOADING PROCEDURES (PAGE 2):

- 1. PREFABRICATE ONE LOAD BEARING GATE, FOUR CENTER FILL ASSEMBLIES, TWO CRIB FILL ASSEMBLIES, AND ONE FORWARD/REAR BLOCKING ASSEMBLY.
- 2. INSTALL THE LOAD BEARING GATE.
- 3. LOAD FOUR PALLET UNITS WITH CENTER FILL ASSEMBLIES.
- 4. LOAD ONE PALLET UNIT WITH CRIB FILL ASSEMBLIES.
- 5. LOAD FOUR PALLET UNITS WITH CENTER FILL ASSEMBLIES.
- 6. INSTALL FORWARD BLOCKING ASSEMBLY.
- 7. INSTALL APPROPRIATE DOOR POST VERTICAL, UNIVERSAL LOAD RETAINERS, DOOR SPANNER, AND STRUT PIECES.

S. RECOMMENDED SEQUENTIAL LOADING PROCEDURES (PAGE 4):

- 1. PREFABRICATE TWO FORWARD STRUT ASSEMBLIES, TWO FORWARD/REAR BLOCKING ASSEMBLIES, THREE ANTI-SWAY BRACES, AND THREE TOP-OF-LOAD ANTI-SWAY BRACES.
- 2. INSTALL TWO FORWARD STRUT ASSEMBLIES AND SPREADER PIECES.
- 3. INSTALL REAR BLOCKING ASSEMBLY.
- 4. LOAD SIX PALLET UNITS WITH THREE ANTI-SWAY BRACES.
- 5. INSTALL THREE TOP-OF-LOAD ANTI-SWAY BRACES.
- 6. INSTALL FORWARD BLOCKING ASSEMBLY.
- 7. INSTALL APPROPRIATE DOOR POST VERTICAL, UNIVERSAL LOAD RETAINERS, DOOR SPANNER, AND STRUT PIECES.

REVISION

REVISION NO. 1, DATED NOVEMBER 2014, CONSISTS OF:

- 1. ADDING PROCEDURES FOR PALLET UNIT "B".
- 2. UPDATING 10 UNIT LOAD TO 9 UNIT LOAD.

MATERIAL SPECIFICATIONS

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

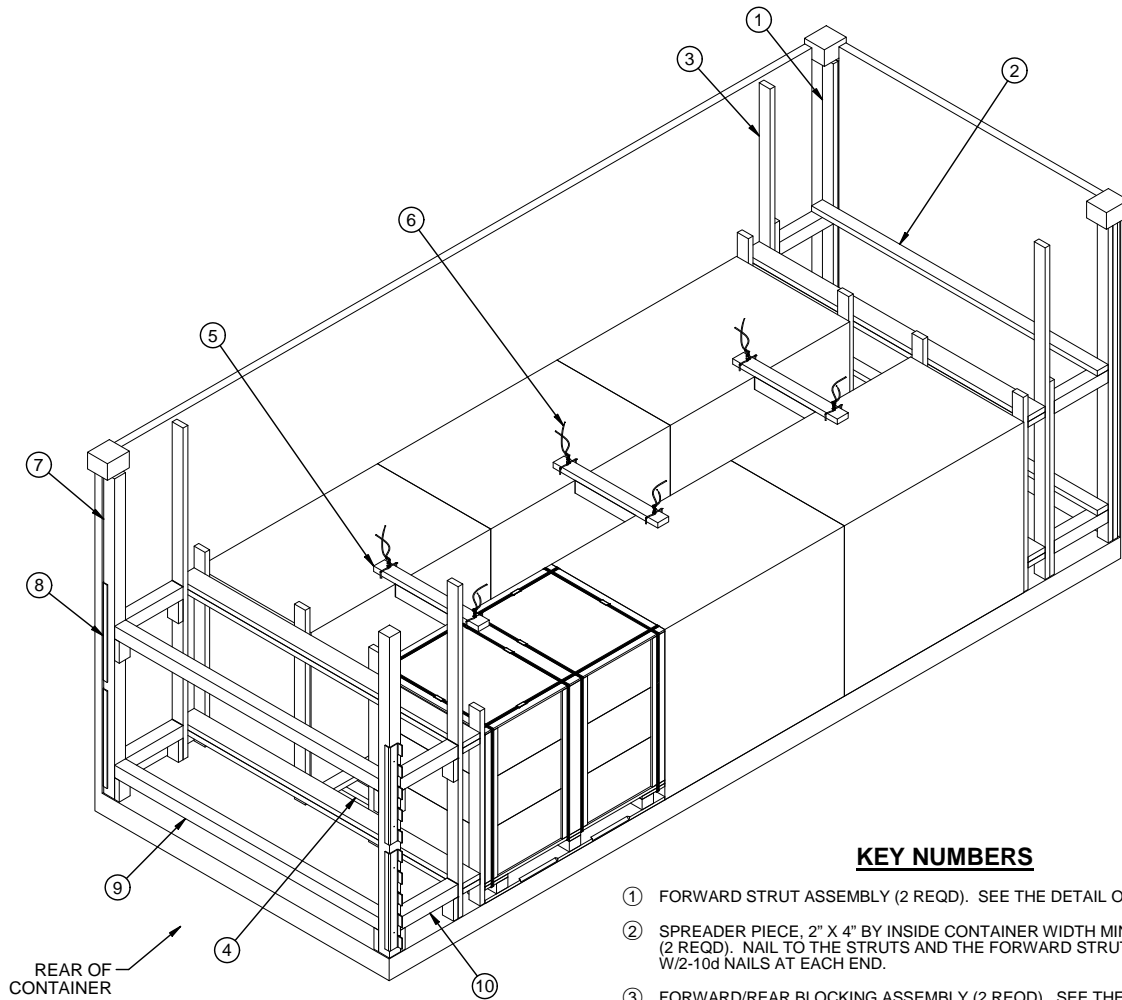
NAILS - - - - - -: ASTM F1667; COMMON STEEL NAIL (NLCMS OR NLCMMS).

PLYWOOD - - - - - -: COMMERCIAL ITEM DESCRIPTION A-A-55057, INDUSTRIAL PLYWOOD, INTERIOR WITH EXTERIOR GLUE, GRADE C-D. IF SPECIFIED GRADE IS NOT AVAILBLE, A BETTER INTERIOR OR AN EXTERIOR GRADE MAY BE SUBSTITUTED.

WIRE, CARBON STEEL -: ASTM A853; ANNEALED AT FINISH, BLACK OXIDE FINISH, 0.0800" DIA, GRADE 1006 OR BETTER.

STEEL, STRUCTURAL - - - - -: ASTM A36; 36,000 PSI MINIMUM YIELD OR BETTER.

(CONTINUED AT RIGHT)



ISOMETRIC VIEW

KEY NUMBERS

- ① FORWARD STRUT ASSEMBLY (2 REQD). SEE THE DETAIL ON PAGE 8.
- ② SPREADER PIECE, 2" X 4" BY INSIDE CONTAINER WIDTH MINUS 1" (REF: 7'-7") (2 REQD). NAIL TO THE STRUTS AND THE FORWARD STRUT ASSEMBLIES W/2-10d NAILS AT EACH END.
- ③ FORWARD/REAR BLOCKING ASSEMBLY (2 REQD). SEE THE DETAIL ON PAGE 7. NAIL THROUGH THE BUFFER PIECES INTO THE VERTICAL PIECES OF THE FORWARD STRUT ASSEMBLIES W/4-10d NAILS. **NOTE:** STRUT LEDGERS ARE ONLY REQUIRED ON THE REAR BLOCKING ASSEMBLY. DO NOT INSTALL STRUT LEDGERS ON THE FORWARD BLOCKING ASSEMBLY.
- ④ ANTI-SWAY BRACE (3 REQD). SEE THE DETAIL ON PAGE 6.
- ⑤ TOP-OF-LOAD ANTI-SWAY BRACE (3 REQD). SEE THE DETAIL ON PAGE 8.
- ⑥ TIE WIRE, .0800", 24" LONG (6 REQD). INSTALL TO FORM A COMPLETE LOOP AROUND THE TOP-OF-LOAD ANTI-SWAY BRACE AND THE PALLET UNITING STRAP. BRING ENDS TOGETHER AND TWIST TAUT. SECURE TO THE TOP-OF-LOAD ANTI-SWAY BRACE WITH A PARTIALLY DRIVEN 10d NAIL BENT OVER THE WIRE OR WITH A STRAP STAPLE.
- ⑦ DOOR POST VERTICAL (2 REQD). SEE THE DETAIL ON PAGE 6, AND "DETAIL A" ON PAGE 9.
- ⑧ UNIVERSAL LOAD RETAINER (4 REQD, 2 PER SIDE). NAIL THROUGH THE HOLES INTO THE DOOR POST VERTICAL W/2-10d NAILS. SEE DEPARTMENT OF ARMY DRAWING DA-116 AND "DETAIL A" ON PAGE 9.
- ⑨ DOOR SPANNER, 4" X 4" MATERIAL, CUT TO A LENGTH THAT WILL PROVIDE FOR A DRIVE FIT (REF: 7'-1-1/4") (2 REQD). TOENAIL TO THE DOOR POST VERTICAL W/2-12d NAILS AT EACH END. SEE THE "BEVEL-CUT" DETAIL ON PAGE 9.
- ⑩ STRUT, 4" X 4" BY CUT-TO-FIT (REF: 18-1/2") (4 REQD). TOENAIL TO THE BUFFER PIECE OF THE REAR BLOCKING ASSEMBLY AND THE DOOR POST VERTICAL W/2-12d NAILS AT EACH END. SEE THE "BEVEL-CUT" DETAIL ON PAGE 9.

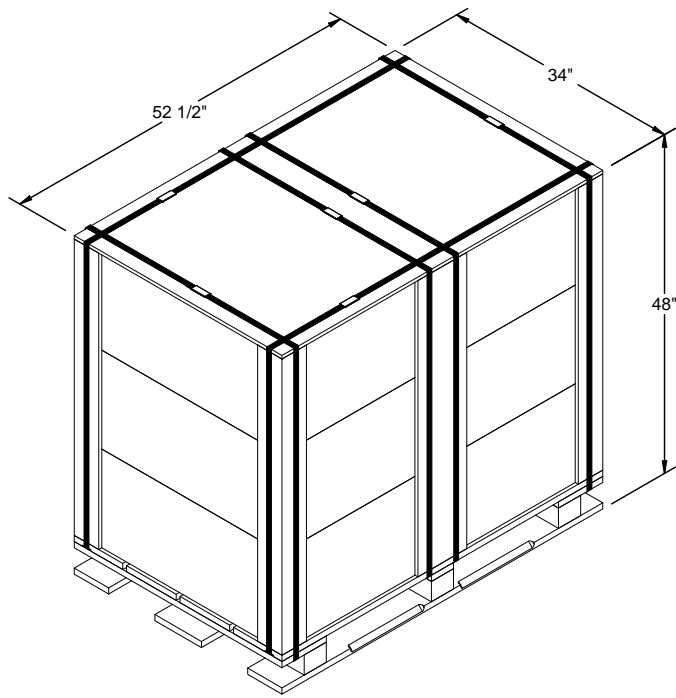
*THE LOADING PATTERN DEPICTED ABOVE IS APPLICABLE TO PALLET UNITS 'A' AND 'B'.

LOAD AS SHOWN

ITEM	QUANTITY	WEIGHT (APPROX)
PALLET UNIT*	6	6,600 LBS
DUNNAGE		467 LBS
CONTAINER		4,700 LBS
TOTAL WEIGHT		11,767 LBS (APPROX)

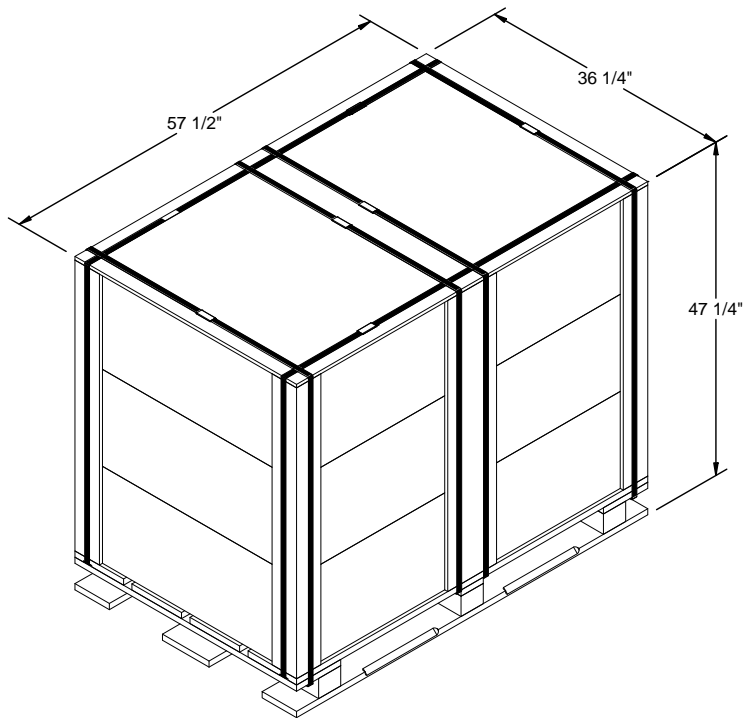
BILL OF MATERIAL

LUMBER	LINEAR FEET	BOARD FEET
2" X 4"	164	110
2" x 6"	61	61
4" X 4"	46	61
NAI LS	NO. REQD	POUNDS
10d (3")	204	3
12d (3")	40	1
WIRE, 0.080" DIA	12' FT REQD	NIL
UNIVERSAL LOAD RETAINER	4 REQD	26 LBS



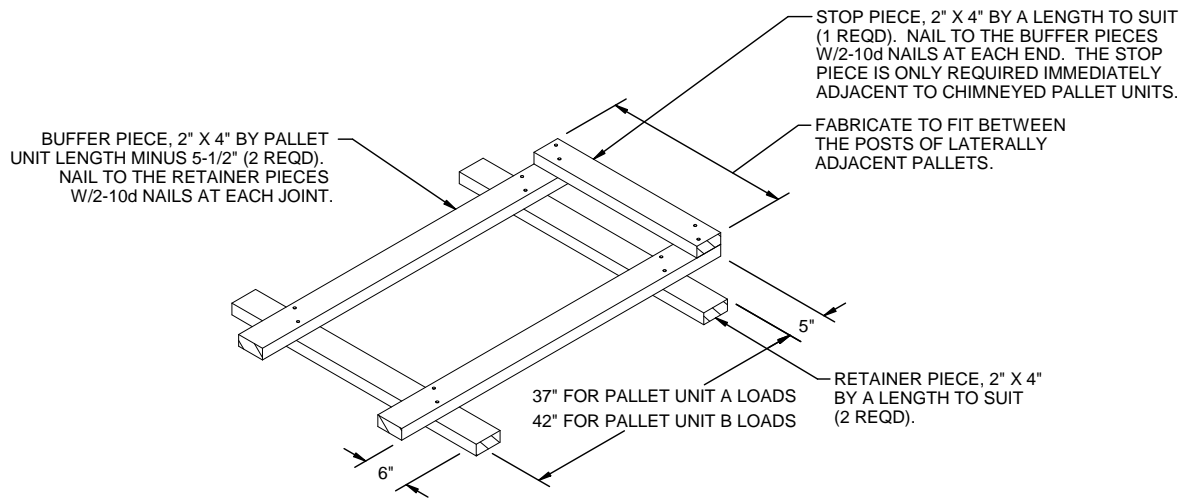
PALLET UNIT A

UNIT WEIGHT (M131) - - - - -	1,100 LBS (AF)
UNIT WEIGHT (M136) - - - - -	1,070 LBS (AF)
CUBE - - - - -	49.6 CU FEET



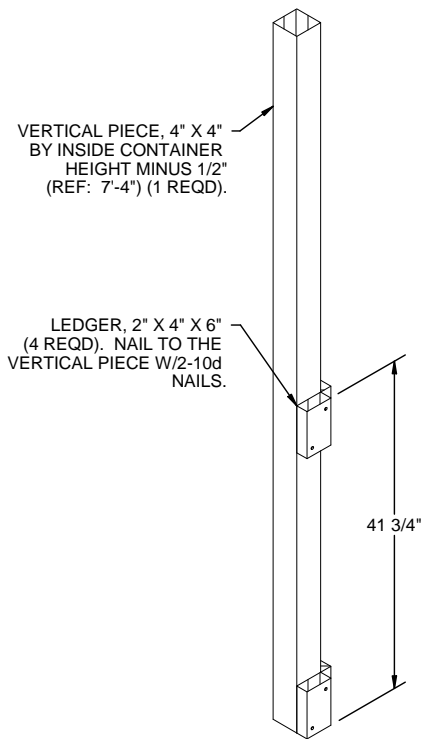
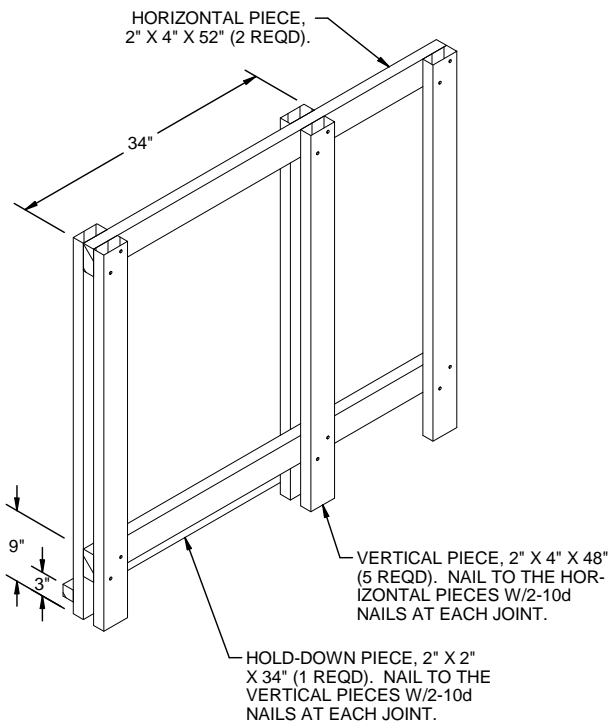
PALLET UNIT B

UNIT WEIGHT (M131) - - - - -	1,100 LBS (APPROX)
UNIT WEIGHT (M136) - - - - -	1,070 LBS (APPROX)
CUBE - - - - -	57.0 CU FEET (APPROX)



ANTI-SWAY BRACE

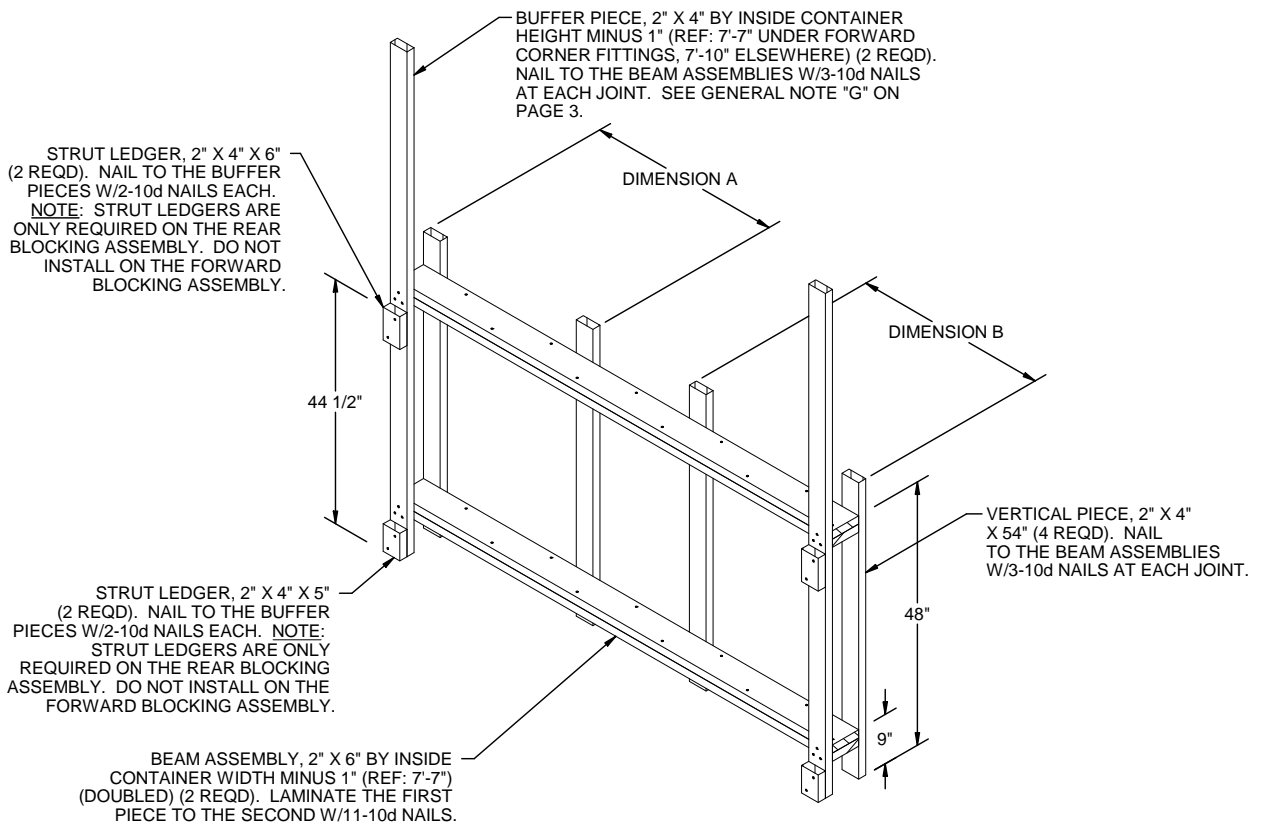
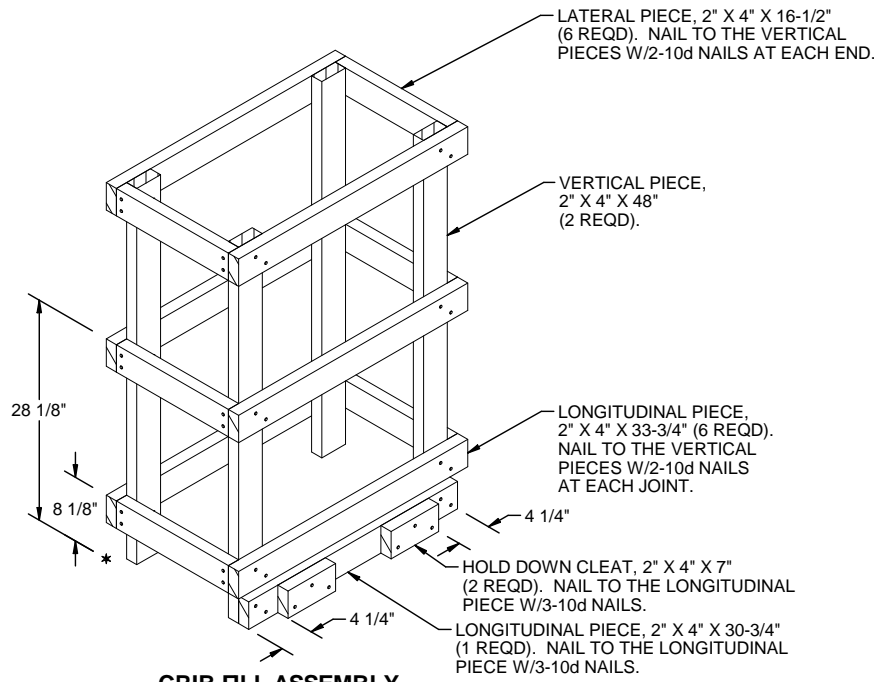
IF DESIRED, THE ANTI-SWAY BRACE CAN BE PARTIALLY PREASSEMBLED; ONE BUFFER PIECE CAN BE NAILED TO BOTH RETAINER PIECES. THE LONG ENDS OF THE ASSEMBLY CAN THEN BE INSTALLED INTO THE FORKLIFT OPENINGS OF A LOADED PALLET PRIOR TO POSITIONING THE Laterally ADJACENT PALLET UNIT.



DOOR POST VERTICAL

CENTER FILL ASSEMBLY

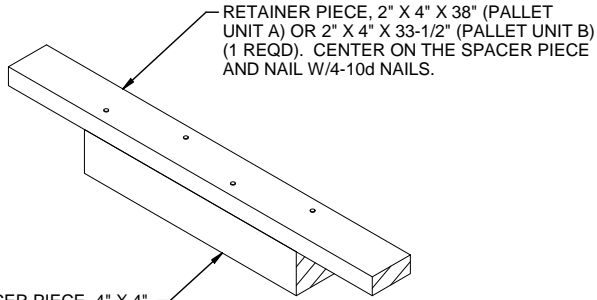
ORIENT THE CENTER FILL ASSEMBLY SUCH THAT THE VERTICAL PIECES LINE UP WITH THE EDGES OF THE PALLET UNITS, AS SHOWN IN THE LOADS ON PAGES 2 AND 11.



PLACEMENT OF VERTICAL PIECES ON FORWARD/REAR BLOCKING ASSEMBLY		
	DI MENS I O N A	DI MENS I O N B
CHIMNEYED PALLET UNIT A	53-1/2"	34-7/8"
STRAIGHT PALLET UNIT A	34"	34"
STRAIGHT PALLET UNIT B	35-5/8"	35-5/8"

FORWARD/REAR BLOCKING ASSEMBLY

ORIENT SUCH THAT THE VERTICAL PIECES ARE IN LINE WITH THE EDGES OF THE PALLET UNITS.

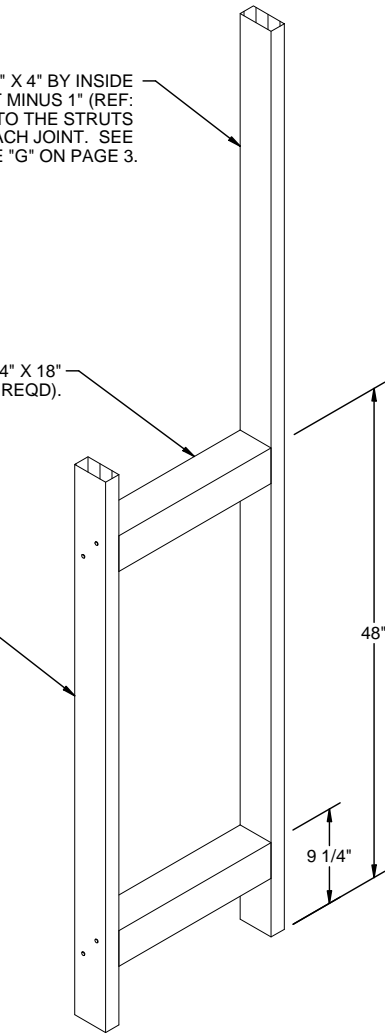


TOP-OF-LOAD ANTI-SWAY BRACE

BUFFER PIECE, 2" X 4" BY INSIDE CONTAINER HEIGHT MINUS 1" (REF: 7'-7") (1 REQD). NAIL TO THE STRUTS W/2-12d NAILS AT EACH JOINT. SEE GENERAL NOTE "G" ON PAGE 3.

STRUT, 4" X 4" X 18" (2 REQD).

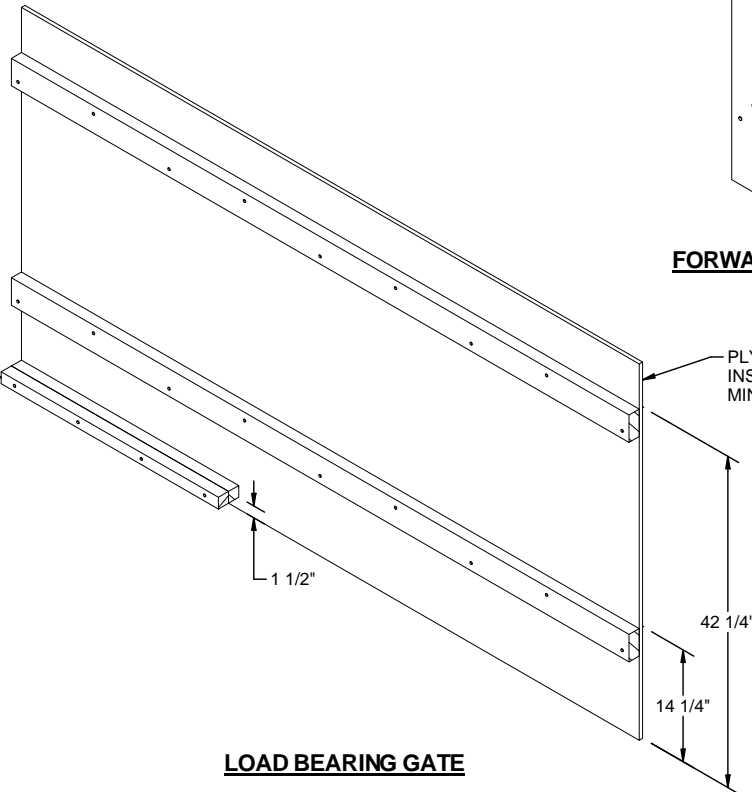
VERTICAL PIECE, 2" X 4" X 54" (1 REQD). NAIL TO THE STRUTS W/2-12d NAILS AT EACH JOINT.



FORWARD STRUT ASSEMBLY

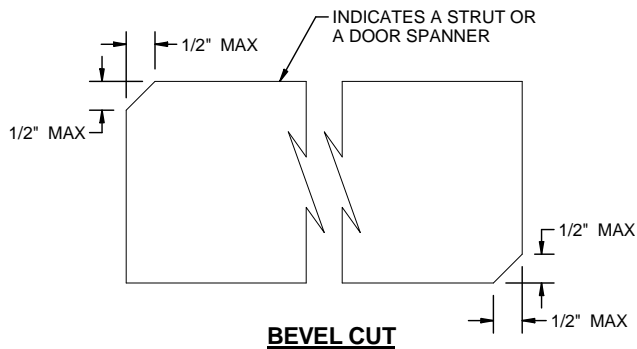
HOLD-DOWN PIECE, 2" X 2" X 32" (1 REQD). NAIL THROUGH THE PLYWOOD W/4-8d NAILS AND CLINCH.

PLYWOOD, 1/2" X 48" BY INSIDE CONTAINER WIDTH MINUS 1" (REF: 7'-7") (1 REQD).

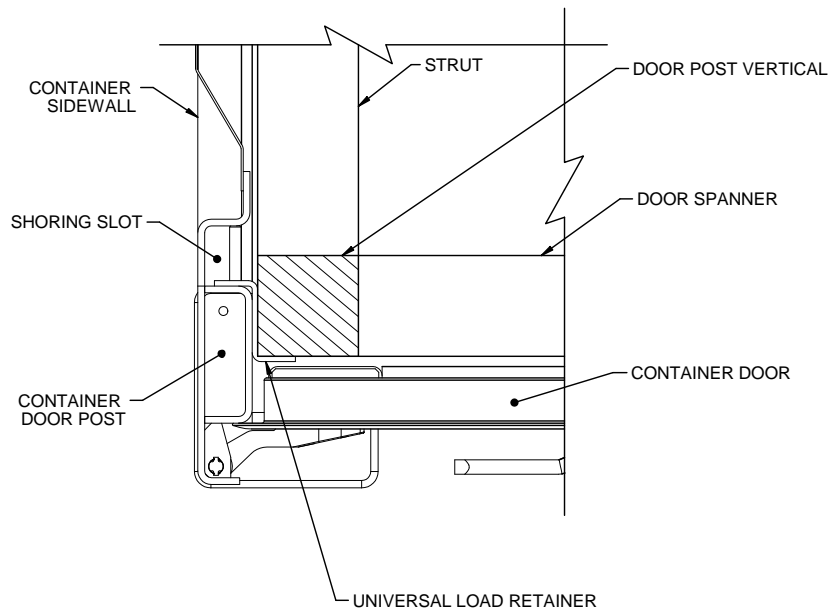


LOAD BEARING GATE

ORIENT WITH THE HOLD-DOWN PIECE UNDER THE 34" SIDE OF A CHIMNEYED PALLET UNIT.

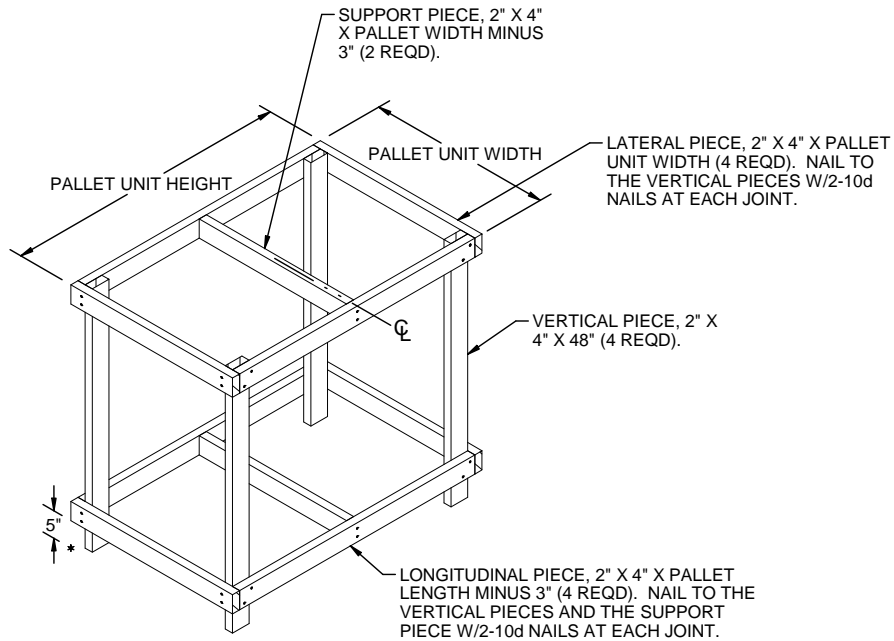


IF DESIRED, EACH END OF A STRUT OR DOOR SPANNER MAY BE BEVEL-CUT AS SHOWN ABOVE TO FACILITATE INSTALLING THE STRUTS WITH A "DRIVE" FIT.



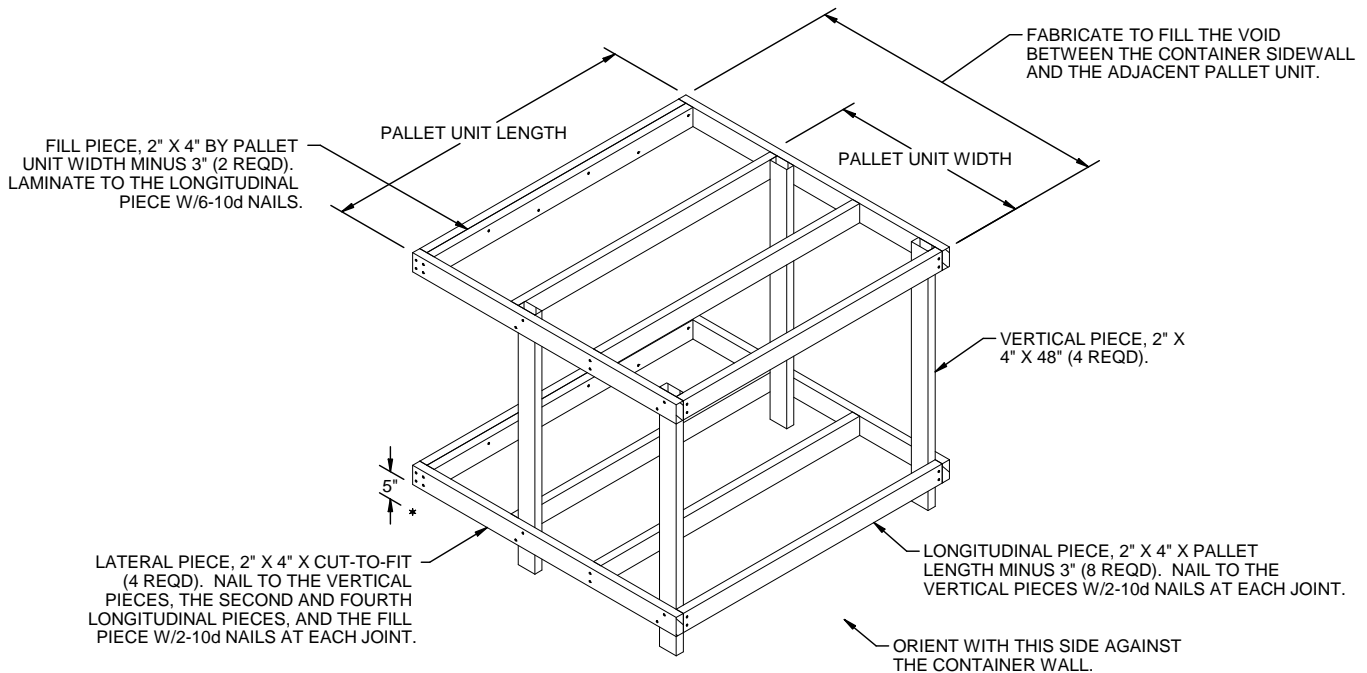
DETAIL A

A PARTIAL PLAN VIEW OF THE LEFT REAR PORTION OF THE CONTAINER IS SHOWN DEPICTING THE PROPER POSITION OF THE DOOR POST VERTICAL RETAINER AND ADJACENT DUNNAGE PIECES.



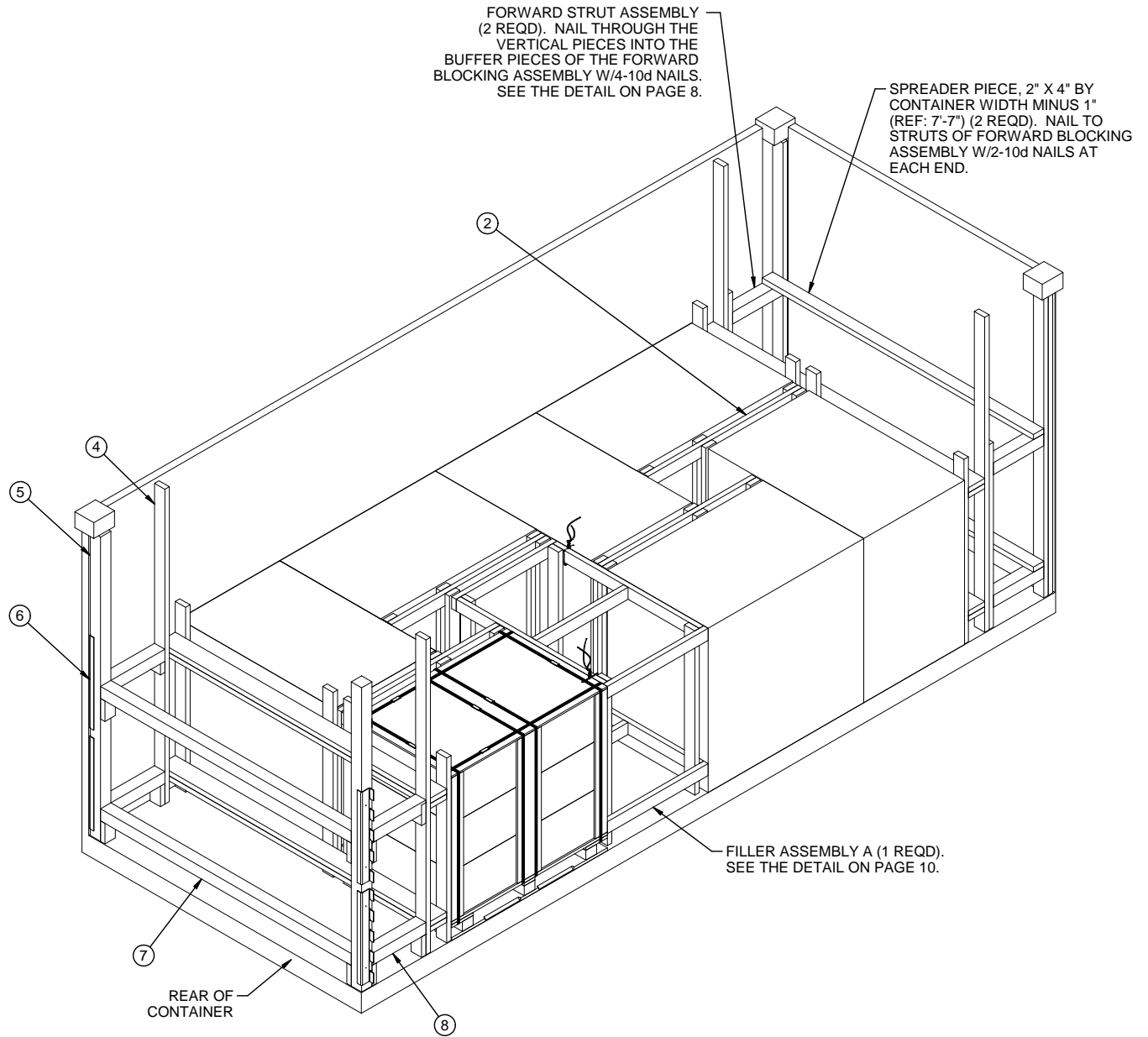
FILLER ASSEMBLY A

THE ASSEMBLY DEPICTED ABOVE IS FOR USE IN PLACE OF AN OMITTED PALLET UNIT. THIS ASSEMBLY IS DESIGNED TO REPLACE A PALLET UNIT THAT IS **NOT** RESTRAINED BY ANTI-SWAY BRACES. FILLER ASSEMBLIES MUST BE WIRE TIED TO AN ADJACENT PALLET UNIT STRAP OR CENTER FILL ASSEMBLY TO PREVENT UNDUE MOVEMENT. NO MORE THAN ONE FILLER ASSEMBLY WILL BE USED IN ANY LOAD.



FILLER ASSEMBLY B

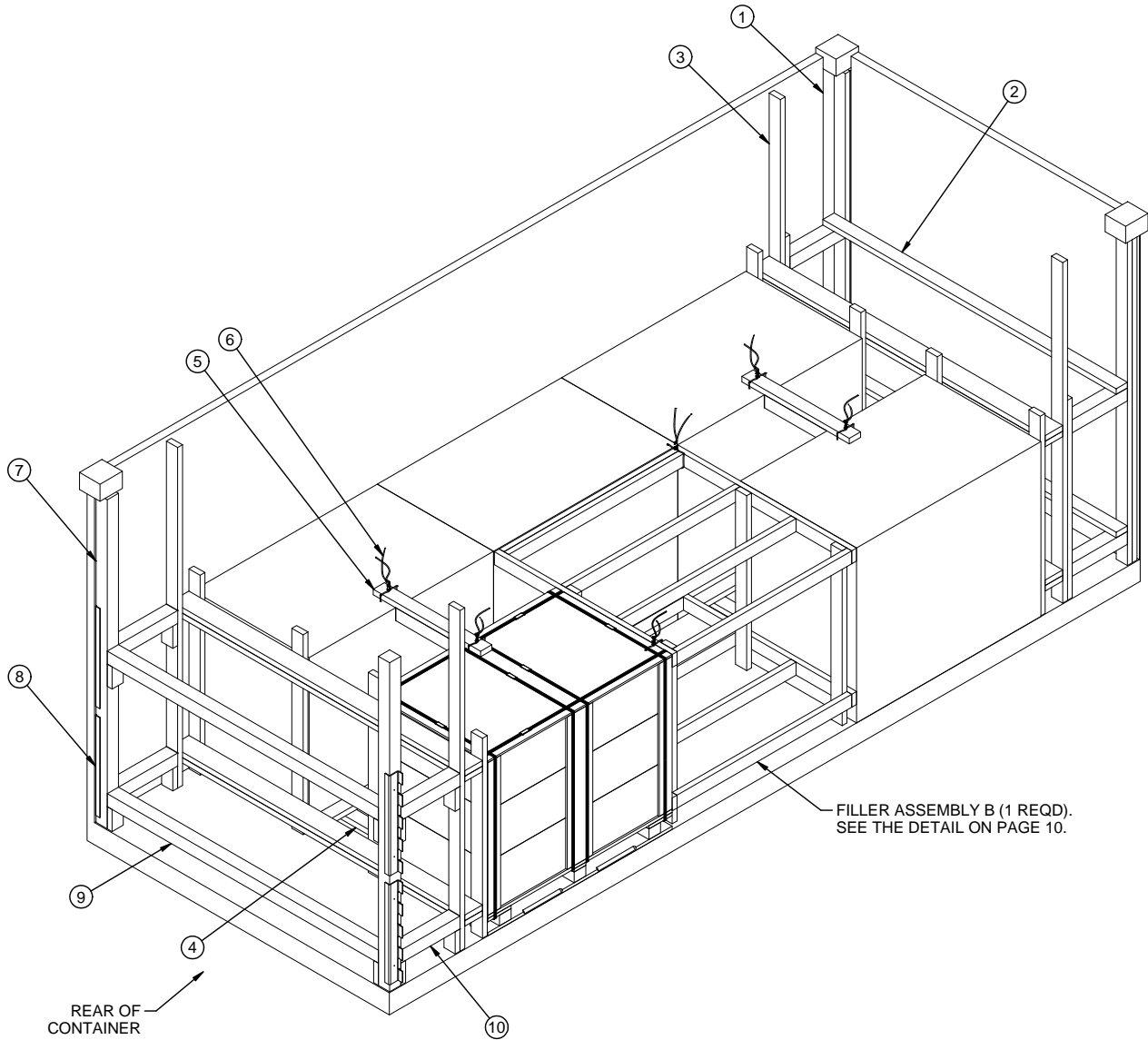
THE ASSEMBLY DEPICTED ABOVE IS FOR USE IN PLACE OF AN OMITTED PALLET UNIT, ANTI-SWAY BRACE, AND TOP-OF-LOAD ANTI-SWAY BRACE. FILLER ASSEMBLIES MUST BE WIRE TIED TO AN ADJACENT PALLET UNIT STRAP OR CENTER FILL ASSEMBLY TO PREVENT UNDUE MOVEMENT. NO MORE THAN ONE FILLER ASSEMBLY WILL BE USED IN ANY LOAD.



ISOMETRIC VIEW

LESS-THAN-FULL LOAD PROCEDURE A

THE DETAIL ABOVE DEPICTS A BLOCKING METHOD TO BE USED IN A LESS-THAN-FULL CONTAINER LOAD (LESS THAN 10 UNITS WHEN LOADING PALLET UNIT "A" ONLY). KEY NUMBERS REFER TO KEY NUMBERS ON PAGE 2. SEE GENERAL NOTES "H" AND "P" ON PAGE 3.



ISOMETRIC VIEW

LESS-THAN-FULL LOAD PROCEDURE B

THE DETAIL ABOVE DEPICTS A BLOCKING METHOD TO BE USED IN A LESS-THAN-FULL CONTAINER LOAD (LESS THAN 6 UNITS). KEY NUMBERS REFER TO KEY NUMBERS ON PAGE 4. SEE GENERAL NOTES "H" AND "P" ON PAGE 3.