

Jan - 12

DATE 4-20-99

LOADING AND BRACING IN END OPENING ISO CONTAINERS OF PROPELLING CHARGES PACKED IN CYLINDRICAL METAL CONTAINERS

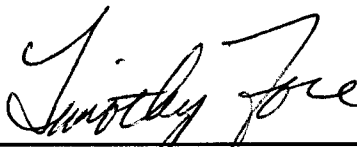
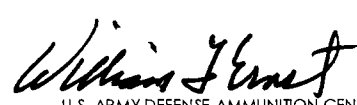
PA106 SERIES CONTAINERS

INDEX

<u>ITEM</u>	<u>PAGE(S)</u>
GENERAL NOTES AND MATERIAL SPECIFICATIONS - - - - -	2
PALLET UNIT DETAILS - - - - -	3
7-UNIT LOAD (6-LAYER PALLET) - - - - -	4-7
14-UNIT LOAD (5-LAYER PALLET) - - - - -	8-11
DETAILS - - - - -	12-14

- 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						
	REV.		SEPTEMBER 1996					
	DRAFTSMAN	BASIC		REVISION NO. 1		OCTOBER 1998		
		REV.		SEE THE REVISION LISTING ON PAGE 2				
APPROVED BY ORDER OF COMMANDING GENERAL, U.S. ARMY MATERIEL COMMAND  U.S. ARMY DEFENSE AMMUNITION CENTER	TRANSPORTATION ENGINEERING DIVISION		<i>W. R. Zwick</i>					
	VALIDATION ENGINEERING DIVISION		<i>James H. Koch</i>	TESTED	CLASS	DIVISION	DRAWING	FILE
	LOGISTICS ENGINEERING OFFICE		<i>William J. Ernst</i>		19	48	4154/ 23	15PM1002

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 PROPELLING CHARGES PACKED IN PA106 SERIES METAL CONTAINERS. SUBSEQUENT REFERENCE TO PALLET UNIT HEREIN MEANS THE PALLET UNIT WITH AMMUNITION ITEMS. SEE PAGE 3 AND AMC DRAWING 19-48-4042A/23-20PM1001 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. NAIL EACH ADDITIONAL PIECE W/1 APPROPRIATELY SIZED NAIL EVERY 12". ADDITIONALLY, THE THICKNESS AND/OR QUANTITY OF THE VERTICAL OR HORIZONTAL PIECES IN THE CENTER FILL ASSEMBLIES MAY BE ADJUSTED AS REQUIRED TO FACILITATE VARIANCE IN THE SIZE OF THE PALLET UNIT.
- E. 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.
- 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 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 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.

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 AVAILABLE, A BETTER INTERIOR OR AN EXTERIOR GRADE MAY BE SUBSTITUTED.
- WIRE, CARBON STEEL -: ASTM A853; ANNEALED AT FINISH, BLACK OXIDE FINISH, .0800" DIA, GRADE 1006 OR BETTER.
- STEEL, STRUCTURAL - - - - -: ASTM A501, STEEL STRUCTURAL TUBING; AND ASTM A570, STEEL, STRIP, HOT-ROLLED, GRADE 36 (MINIMUM).

(GENERAL NOTES CONTINUED)

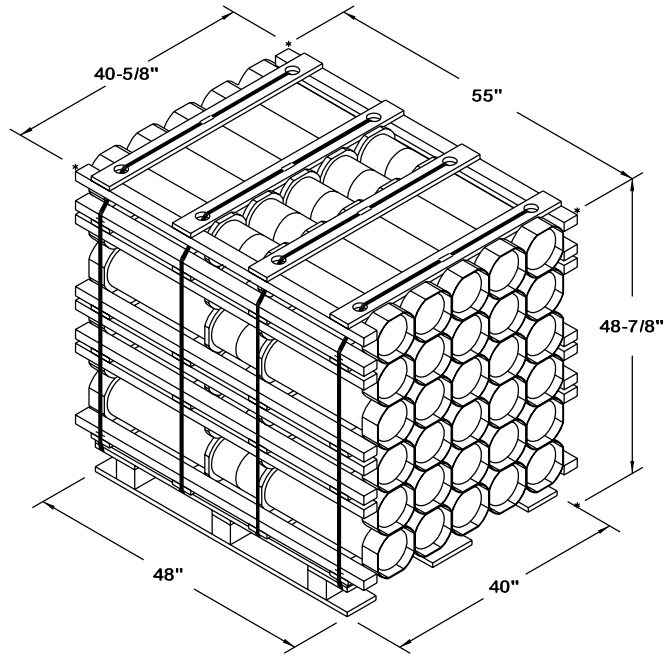
- H. WHETHER A CONTAINER IS FULL OR IS LOADED WITH A REDUCED QUANTITY OF LADING UNITS, THE LENGTHWISE CENTER OF GRAVITY OF THE LOAD MUST BE WITHIN 12", IN EITHER DIRECTION, OF THE MID-POINT OF THE CONTAINER.
- J. CAUTION: DO NOT NAIL DUNNAGE MATERIAL TO THE CONTAINER WALLS OR FLOOR. ALL NAILING WILL 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 ANY OF THE LOADS DEPICTED HEREIN MAY BE REDUCED FOR SHIPMENT, IF DESIRED. SEE THE OMITTED UNIT ASSEMBLY ON PAGE 7.
 - 1. IF A LOAD IS REDUCED BY ONLY A SMALL AMOUNT (ONE OR TWO LADING UNITS), LADING UNITS NORMALLY MAY BE ELIMINATED FROM THE CENTER OF THE LOAD.
 - 2. IF A LOAD IS REDUCED BY A LARGE AMOUNT (MORE THAN TWO LADING UNITS), LADING UNITS SHOULD BE ELIMINATED AS REQUIRED AND THE TOTAL LOAD SHIFTED FORE OR AFT, AS NECESSARY, TO ACHIEVE A SYMMETRICAL WEIGHT DISTRIBUTION. THE DEPICTED PROCEDURES WILL BE FOLLOWED AS CLOSELY AS POSSIBLE, MAKING ONLY THOSE ADJUSTMENTS TO THE DUNNAGE WHICH ARE REQUIRED TO ACCOMMODATE THE NUMBER OF UNITS TO BE SHIPPED.

REVISION

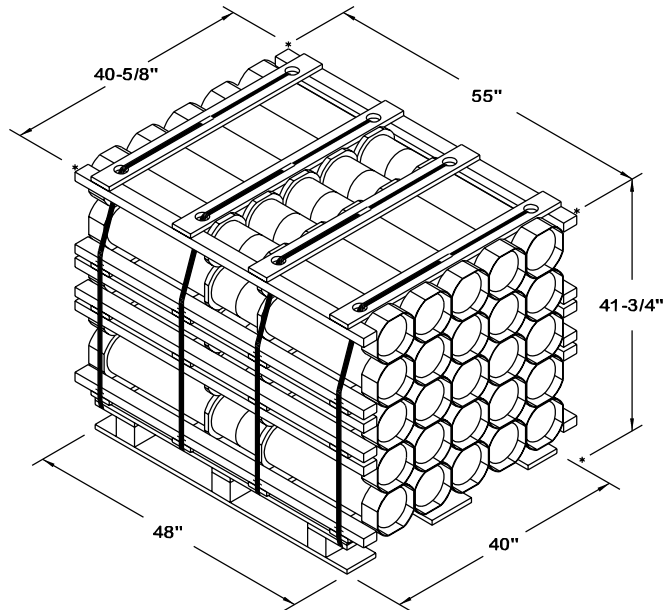
REVISION NO. 1, DATED OCTOBER 1998, CONSISTS OF:

- 1. ADJUSTING LOAD PATTERNS.
- 2. ADDING ALTERNATIVE FORWARD/REAR BLOCKING ASSEMBLY
- 3. UPDATING GENERAL NOTES, MATERIAL SPECIFICATIONS, AND DRAWING FORMAT.



PALLET UNIT - 6 LAYERS

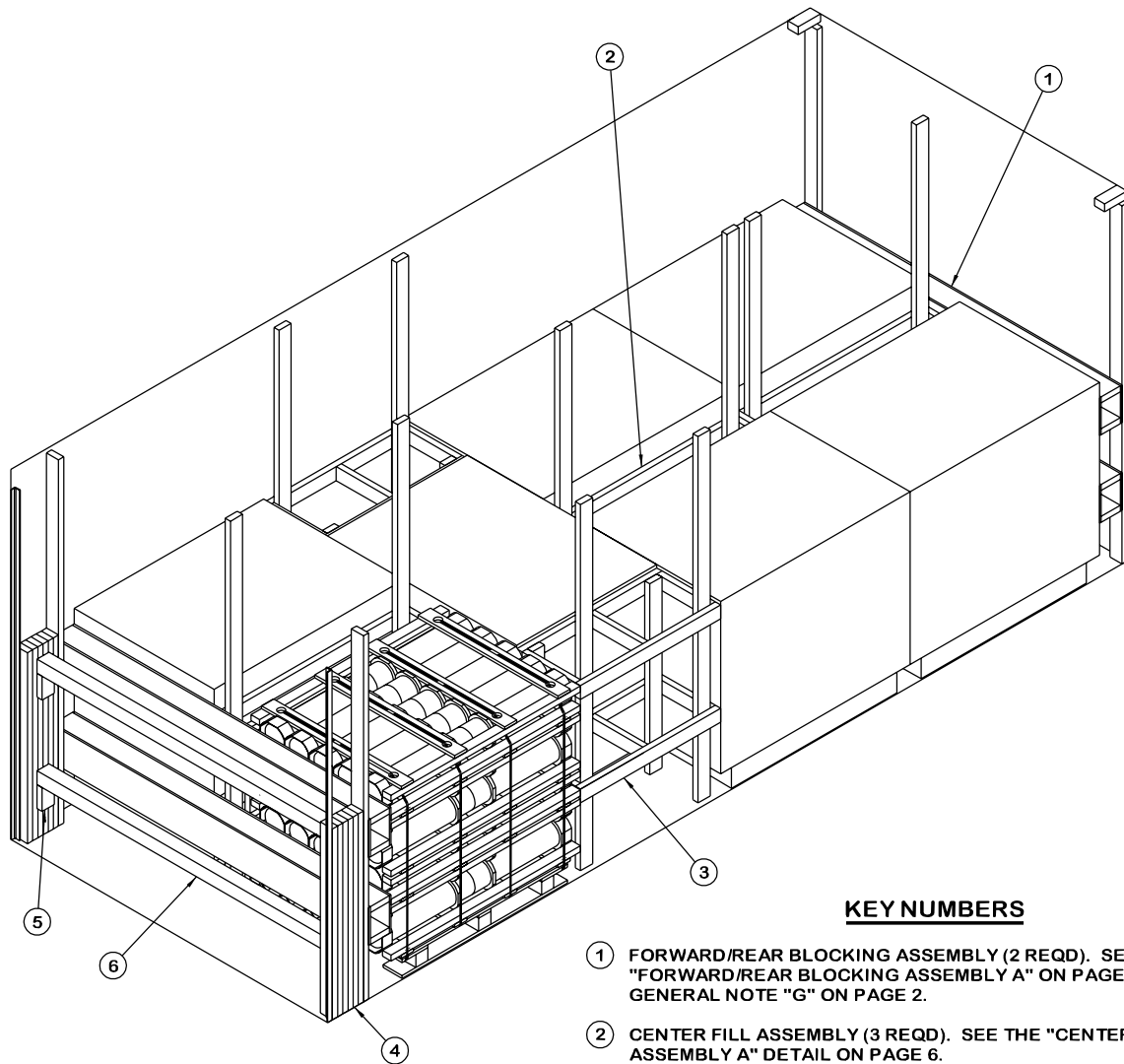
UNIT WEIGHT - - - - - 2,006 POUNDS (APPROX)
 CUBE - - - - - 63.2 CUBIC FEET (APPROX)



PALLET UNIT - 5 LAYERS

UNIT WEIGHT - - - - - 1,672 POUNDS (APPROX)
 CUBE - - - - - 54.0 CUBIC FEET (APPROX)

PALLET UNIT DETAILS



ISOMETRIC VIEW

KEY NUMBERS

- ① FORWARD/REAR BLOCKING ASSEMBLY (2 REQD). SEE THE "FORWARD/REAR BLOCKING ASSEMBLY A" ON PAGE 6 AND GENERAL NOTE "G" ON PAGE 2.
- ② CENTER FILL ASSEMBLY (3 REQD). SEE THE "CENTER FILL ASSEMBLY A" DETAIL ON PAGE 6.
- ③ FILLER ASSEMBLY (2 REQD). SEE THE "FILLER ASSEMBLY A" DETAIL ON PAGE 7.
- ④ FILL MATERIAL, 4' WIDE BY 48" LONG MATERIAL (AS REQD). NAIL THE FIRST PIECE TO THE REAR BLOCKING ASSEMBLY W/5 NAILS OF A SUITABLE SIZE (10d NAILS FOR 2" THICK MATERIAL). NAIL EACH ADDITIONAL PIECE IN A LIKE MANNER. NOTE: MULTIPLE PIECES MAY BE LAMINATED TOGETHER FIRST AND THEN TOENAILED TO THE REAR BLOCKING ASSEMBLY.
- ⑤ STRUT LEDGER, 2" X 4" X 6" (4 SHOWN - OPTIONAL). INSTALL IF DESIRED TO AID IN THE INSTALLATION OF SPANNER PIECES. NAIL TO THE FILL MATERIAL W/2-10d NAILS.
- ⑥ DOOR SPANNER, 4" X 4" MATERIAL, CUT TO A LENGTH THAT WILL PROVIDE A DRIVE FIT (REF: 7'-1-3/8") (2 REQD). TOENAIL TO THE FILL MATERIAL W/2-12d NAILS AT EACH END. SEE THE "BEVEL-CUT" DETAIL ON PAGE 12. NOTE THAT THE SPANNER PIECES ARE NOT REQUIRED IF THE SPACE BETWEEN THE REAR BLOCKING ASSEMBLY AND THE LOAD RETAINER IS NOT GREATER THAN 6". SEE SPECIAL NOTE ON PAGE 5.

RECOMMENDED SEQUENTIAL LOADING PROCEDURES

1. PRE-FABRICATE TWO FORWARD/REAR BLOCKING ASSEMBLIES A, THREE CENTER FILL ASSEMBLIES A, AND TWO FILLER ASSEMBLIES A.
2. INSTALL THE FORWARD BLOCKING ASSEMBLY A.
3. LOAD TWO PALLETS AND INSTALL ONE CENTER FILL ASSEMBLY A.
4. REPEAT STEP 3.
5. LOAD ONE PALLET AND TWO FILLER ASSEMBLIES A.
6. REPEAT STEP 3.
7. INSTALL THE REAR BLOCKING ASSEMBLY A.
8. INSTALL THE FILL MATERIAL BETWEEN THE REAR BLOCKING ASSEMBLY AND THE LOAD RETAINERS.
9. INSTALL THE FOUR STRUT LEDGERS AND TWO DOOR SPANNER PIECES.

SPECIAL NOTE:

DOOR SPANNER PIECES MUST BE INSTALLED AS FOLLOWS. INSTALL THE UPPER SPANNER PIECE SUCH THAT THE TOP EDGE OF THE TOP SPANNER PIECE IS AT THE SAME HEIGHT AS THE TOP EDGE OF THE TOP BOX BEAM ASSEMBLY OR BEAM ASSEMBLY IN THE REAR BLOCKING ASSEMBLY. INSTALL THE LOWER SPANNER PIECE SUCH THAT THE BOTTOM OF THE LOWER SPANNER PIECE IS AT THE SAME HEIGHT AS THE BOTTOM EDGE OF THE LOWEST BOX BEAM ASSEMBLY OR BEAM ASSEMBLY.

BILL OF MATERIAL		
LUMBER	LINEAR FEET	BOARD FEET
2" X 4"	327	218
2" X 6"	64	61
4" X 4"	15	20
NAILS	NO. REQD	POUNDS
6d (2")	176	1-1/4
10d (3")	364	5-3/4
12d (3-1/4")	8	1/4
PLYWOOD, 1/2" - - - 48.03 SQ FT REQD - - - 66-1/4 LBS		

LOAD AS SHOWN

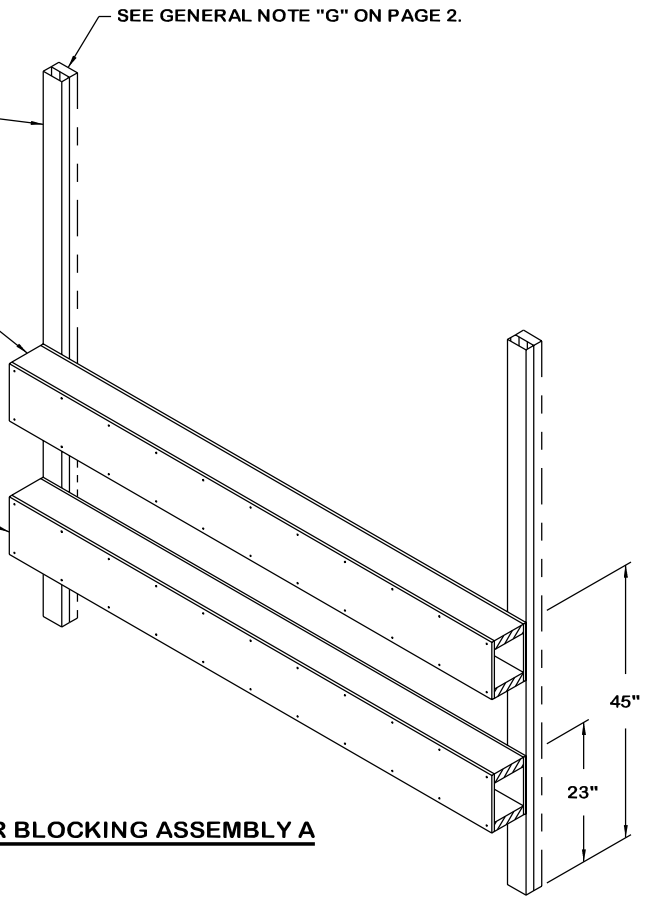
ITEM	QUANTITY	WEIGHT (APPROX)
PALLET UNIT - - - - -	7 - - - - -	14,042 LBS
DUNNAGE - - - - -	- - - - -	672 LBS
CONTAINER - - - - -	- - - - -	4,700 LBS
TOTAL WEIGHT - - - - -		19,414 LBS (APPROX)

BUFFER PIECE, 2" X 4" BY INSIDE CONTAINER HEIGHT MINUS 1" (REF: 7'-6" IN FORWARD END OF CONTAINER, 7'-8" IN REAR OF CONTAINER) (2 REQD). NAIL THROUGH THE PLYWOOD INTO THE BEAMS W/2-10d NAILS AT EACH JOINT.

SEE GENERAL NOTE "G" ON PAGE 2.

BEAM, 2" X 6" BY INSIDE CONTAINER WIDTH MINUS 1" (REF: 7'-7") (4 REQD).

PLYWOOD, 1/2" X 9-1/2" BY INSIDE CONTAINER WIDTH MINUS 1" (REF: 7'-7") (4 REQD). NAIL TO THE BEAMS W/1-6d NAIL EVERY 8".



FORWARD/REAR BLOCKING ASSEMBLY A

VERTICAL PIECE, 2" X 4" BY INSIDE CONTAINER HEIGHT MINUS 1" (REF: 7'-8") (2 REQD).

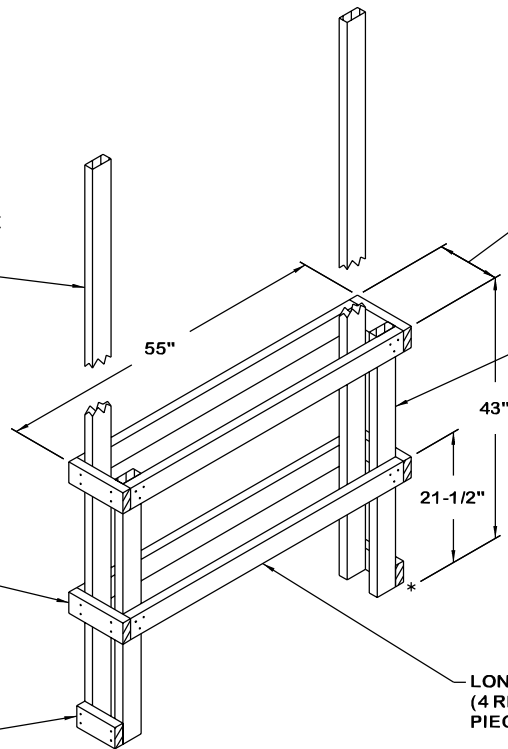
FABRICATE TO FIT BETWEEN LATERALLY ADJACENT PALLET UNITS.

VERTICAL PIECE, 2" X 4" X 43" (2 REQD).

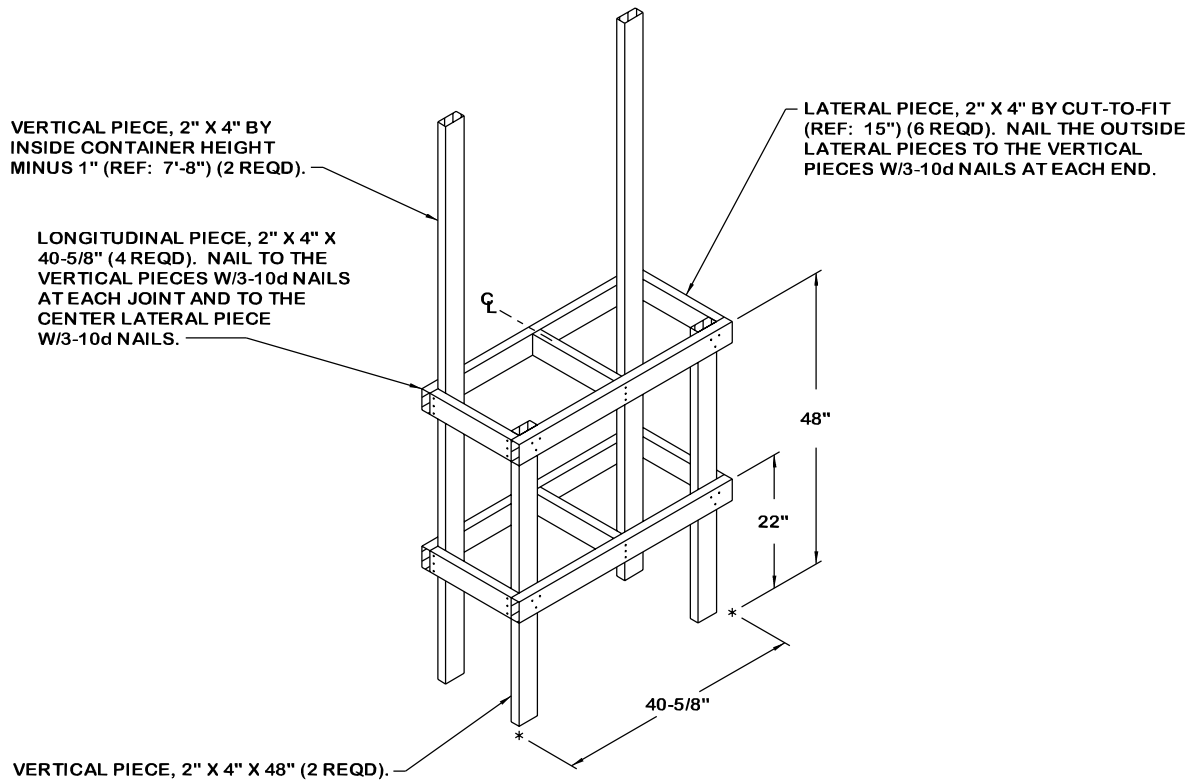
LATERAL PIECE, 2" X 4" BY A LENGTH TO SUIT (4 REQD). NAIL TO THE VERTICAL PIECES W/2-10d NAILS AT EACH END.

TIE PIECE, 2" X 4" BY A LENGTH TO SUIT (2 REQD). NAIL TO THE VERTICAL PIECES W/2-10d NAILS AT EACH END.

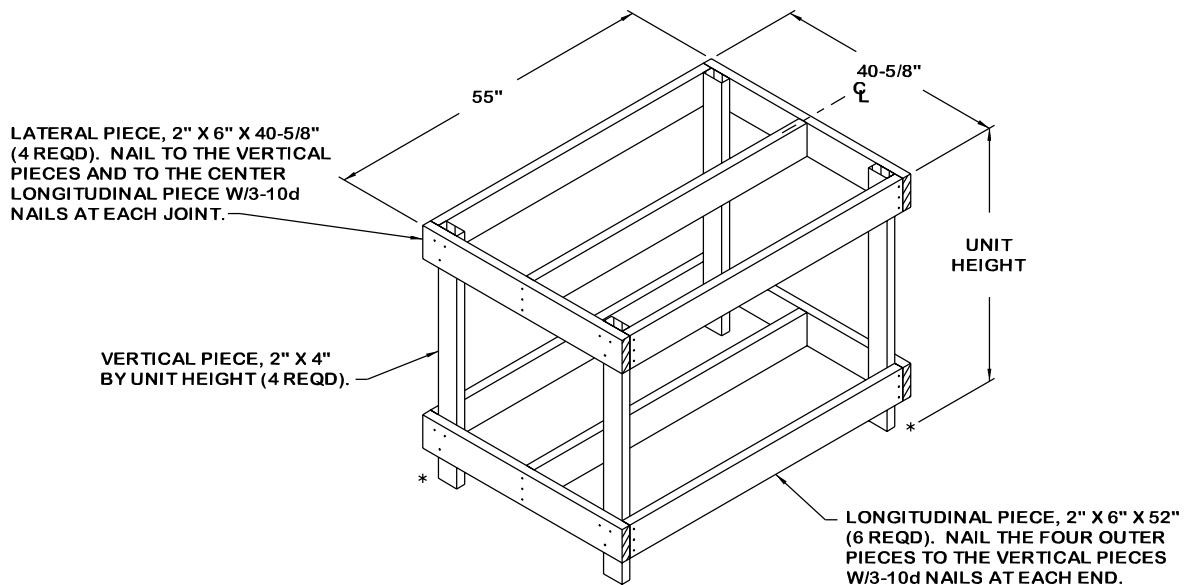
LONGITUDINAL PIECE, 2" X 4" X 52" (4 REQD). NAIL TO THE VERTICAL PIECES W/3-10d NAILS AT EACH END.



CENTER FILL ASSEMBLY A

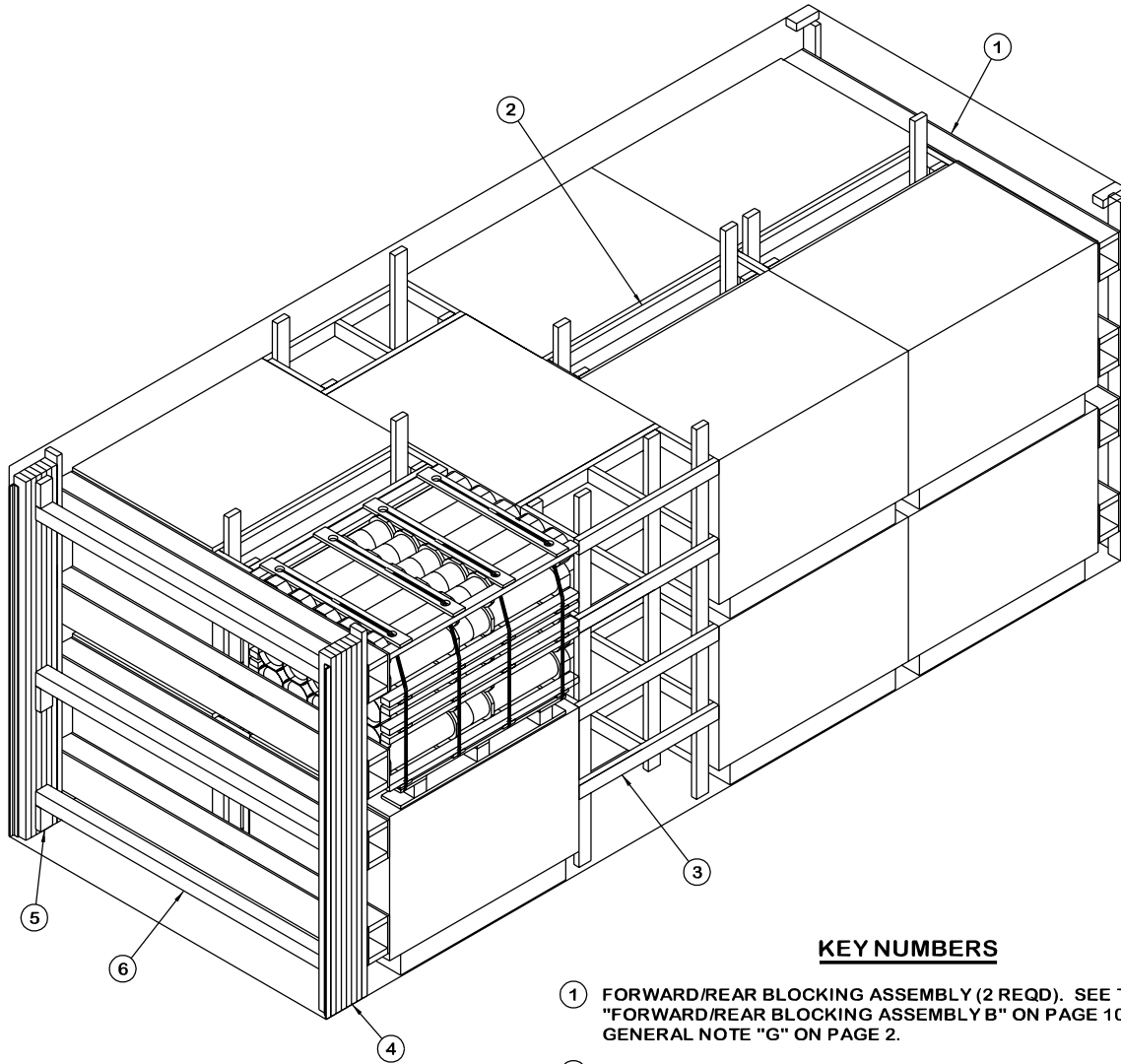


FILLER ASSEMBLY A



OMITTED UNIT ASSEMBLY

THIS ASSEMBLY IS FOR USE IN PLACE OF AN OMITTED PALLET UNIT. NO MORE THAN THREE OMITTED UNIT ASSEMBLIES MAY BE USED PER LOAD. DO NOT INSTALL AN OMITTED UNIT ASSEMBLY IMMEDIATELY ADJACENT TO ANOTHER OMITTED UNIT ASSEMBLY.



ISOMETRIC VIEW

KEY NUMBERS

- ① FORWARD/REAR BLOCKING ASSEMBLY (2 REQD). SEE THE "FORWARD/REAR BLOCKING ASSEMBLY B" ON PAGE 10 AND GENERAL NOTE "G" ON PAGE 2.
- ② CENTER FILL ASSEMBLY (3 REQD). SEE THE "CENTER FILL ASSEMBLY B" DETAIL ON PAGE 10.
- ③ FILLER ASSEMBLY (2 REQD). SEE THE "FILLER ASSEMBLY B" DETAIL ON PAGE 11.
- ④ FILL MATERIAL, 4" WIDE BY 7'-6" LONG MATERIAL (AS REQD). NAIL THE FIRST PIECE TO THE REAR BLOCKING ASSEMBLY W/8 NAILS OF A SUITABLE SIZE (10d NAILS FOR 2" THICK MATERIAL). NAIL EACH ADDITIONAL PIECE IN A LIKE MANNER. NOTE: MULTIPLE PIECES MAY BE LAMINATED TOGETHER FIRST AND THEN TOENAILED TO THE REAR BLOCKING ASSEMBLY.
- ⑤ STRUT LEDGER, 2" X 4" X 6" (6 SHOWN - OPTIONAL). INSTALL IF DESIRED TO AID IN THE INSTALLATION OF SPANNER PIECES. NAIL TO THE FILL MATERIAL W/2-10d NAILS.
- ⑥ DOOR SPANNER, 4" X 4" MATERIAL, CUT TO A LENGTH THAT WILL PROVIDE A DRIVE FIT (REF: 7'-1-3/8") (3 REQD). TOENAIL TO THE FILL MATERIAL W/2-12d NAILS AT EACH END. SEE THE "BEVEL-CUT" DETAIL ON PAGE 12. NOTE THAT THE SPANNER PIECES ARE NOT REQUIRED IF THE SPACE BETWEEN THE REAR BLOCKING ASSEMBLY AND THE LOAD RETAINER IS NOT GREATER THAN 6". SEE SPECIAL NOTE ON PAGE 9.

RECOMMENDED SEQUENTIAL LOADING PROCEDURES

1. PRE-FABRICATE TWO FORWARD/REAR BLOCKING ASSEMBLIES B, THREE CENTER FILL ASSEMBLIES B, AND TWO FILLER ASSEMBLIES B.
2. INSTALL THE FORWARD BLOCKING ASSEMBLY B.
3. LOAD FOUR PALLETS AND INSTALL ONE CENTER FILL ASSEMBLY B.
4. REPEAT STEP 3.
5. LOAD TWO PALLETS AND TWO FILLER ASSEMBLIES B.
6. REPEAT STEP 3.
7. INSTALL THE REAR BLOCKING ASSEMBLY B.
8. INSTALL THE FILL MATERIAL BETWEEN THE REAR BLOCKING ASSEMBLY AND THE LOAD RETAINERS.
9. INSTALL THE SIX STRUT LEDGERS AND THREE DOOR SPANNER PIECES.

SPECIAL NOTE:

DOOR SPANNER PIECES MUST BE INSTALLED AS FOLLOWS. INSTALL THE UPPER SPANNER PIECE SUCH THAT THE TOP EDGE OF THE TOP SPANNER PIECE IS AT THE SAME HEIGHT AS THE TOP EDGE OF THE TOP BOX BEAM ASSEMBLY OR BEAM ASSEMBLY IN THE REAR BLOCKING ASSEMBLY. INSTALL THE LOWER SPANNER PIECE SUCH THAT THE BOTTOM EDGE OF THE LOWER SPANNER PIECE IS AT THE SAME HEIGHT AS THE BOTTOM EDGE OF THE LOWEST BOX BEAM ASSEMBLY OR BEAM ASSEMBLY. INSTALL THE MIDDLE SPANNER PIECE SUCH THAT THE TOP EDGE OF THE SPANNER PIECE IS AT THE SAME HEIGHT AS THE TOP EDGE OF THE SECOND BOX BEAM OR BEAM ASSEMBLY FROM THE FLOOR.

BILL OF MATERIAL		
LUMBER	LINEAR FEET	BOARD FEET
2" X 4"	483	322
2" X 6"	122	122
4" X 4"	22	30
NAILS	NO. REQD	POUNDS
6d (2")	352	2-1/4
10d (3")	652	10-1/4
12d (3-1/4")	12	1/4
PLYWOOD, 1/2" - - - 96.06 SQ FT REQD - - 132-1/4 LBS		

LOAD AS SHOWN

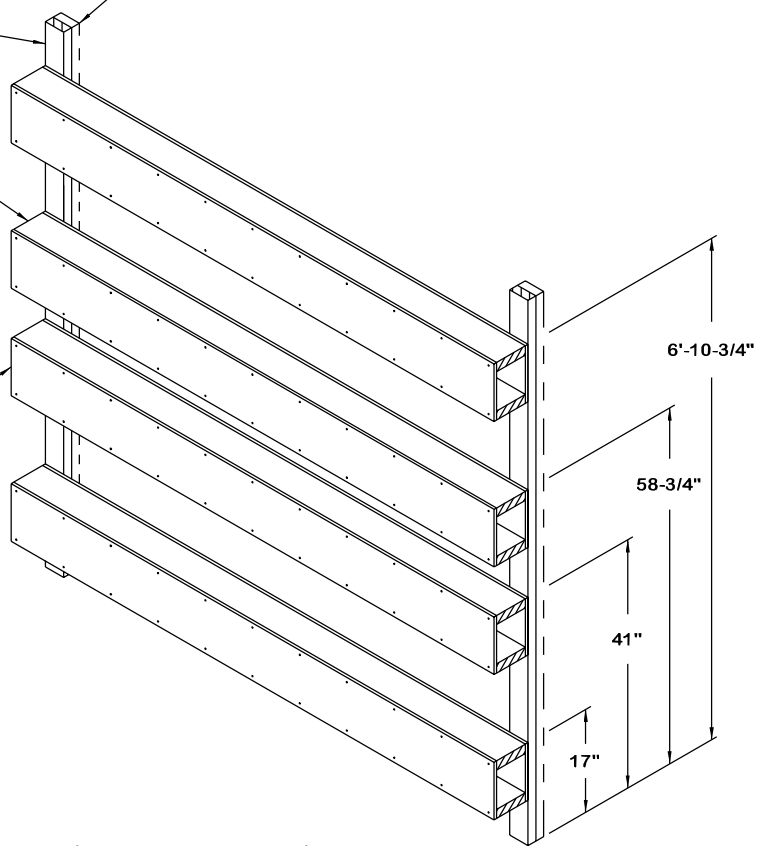
ITEM	QUANTITY	WEIGHT (APPROX)
PALLET UNIT	14	23,408 LBS
DUNNAGE		1,093 LBS
CONTAINER		4,700 LBS
TOTAL WEIGHT		29,201 LBS (APPROX)

BUFFER PIECE, 2" X 4" BY INSIDE CONTAINER HEIGHT MINUS 1" (REF: 7'-6" IN FORWARD END OF CONTAINER, 7'-8" IN REAR OF CONTAINER) (2 REQD). NAIL THROUGH PLYWOOD INTO THE BEAMS W/2-10d NAILS AT EACH JOINT.

SEE GENERAL NOTE "G" ON PAGE 2.

BEAM, 2" X 6" BY INSIDE CONTAINER WIDTH MINUS 1" (REF: 7'-7") (8 REQD).

PLYWOOD, 1/2" X 9-1/2" BY INSIDE CONTAINER WIDTH MINUS 1" (REF: 7'-7") (8 REQD). NAIL TO THE BEAMS W/1-6d NAIL EVERY 8".



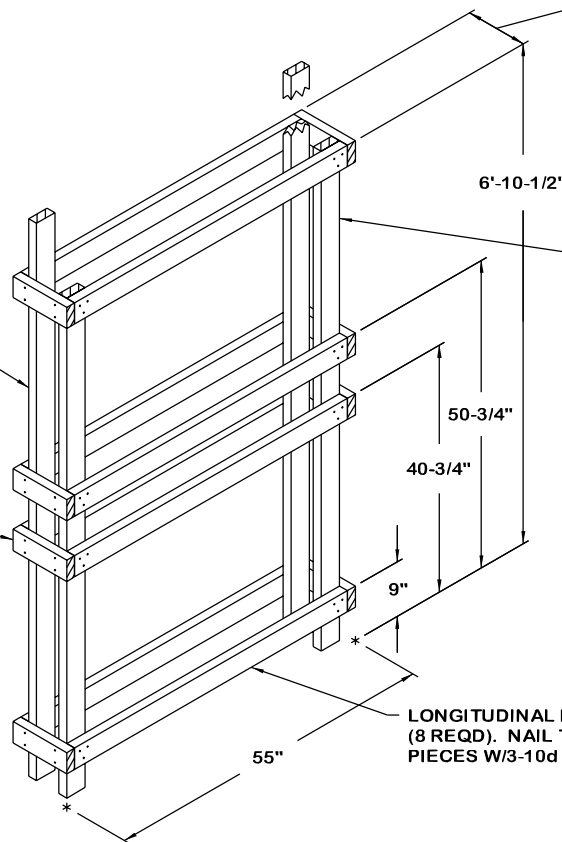
FORWARD/REAR BLOCKING ASSEMBLY B

VERTICAL PIECE, 2" X 4" BY INSIDE CONTAINER HEIGHT MINUS 1" (REF: 7'-8") (2 REQD).

FABRICATE TO FIT BETWEEN LATERALLY ADJACENT PALLET UNITS.

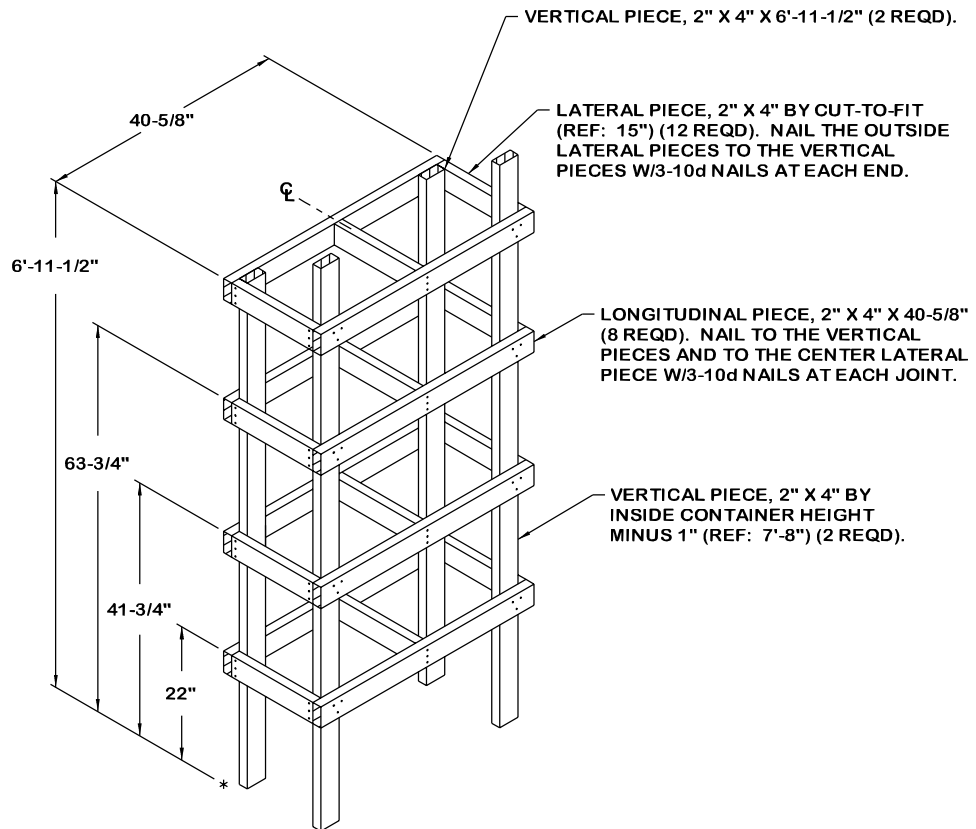
VERTICAL PIECE, 2" X 4" X 6'-10-1/2" (2 REQD).

LATERAL PIECE, 2" X 4" BY A LENGTH TO SUIT (8 REQD). NAIL TO THE VERTICAL PIECES W/2-10d NAILS AT EACH END.



LONGITUDINAL PIECE, 2" X 4" X 52" (8 REQD). NAIL TO THE VERTICAL PIECES W/3-10d NAILS AT EACH END.

CENTER FILL ASSEMBLY B



FILLER ASSEMBLY B

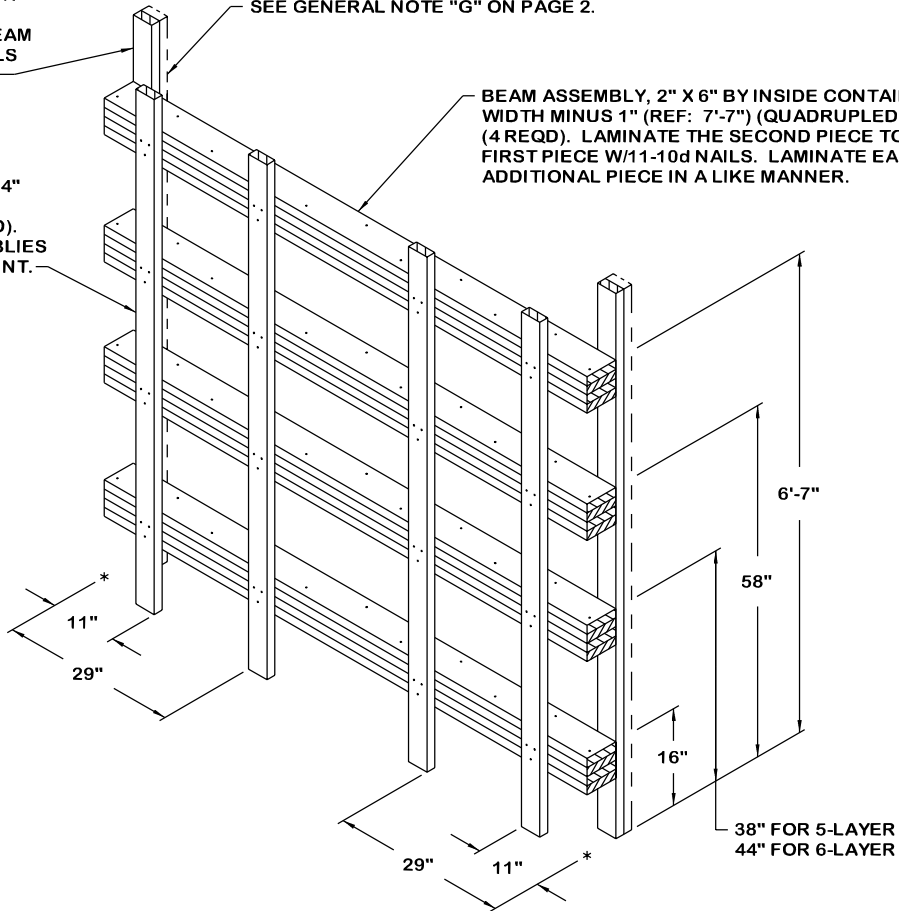
FOR A 1-HIGH LOAD, ELIMINATE THE TOP FOUR LONGITUDINAL PIECES AND THE TOP SIX LATERAL PIECES, AND SHORTEN THE SHORTER VERTICAL PIECES TO 41-3/4".

BUFFER PIECE, 2" X 4" BY INSIDE CONTAINER HEIGHT MINUS 1" (REF: 7'-6" IN FORWARD END, 7'-8" IN REAR) (2 REQD). NAIL TO THE BEAM ASSEMBLIES W/3-10d NAILS AT EACH JOINT.

SEE GENERAL NOTE "G" ON PAGE 2.

BEAM ASSEMBLY, 2" X 6" BY INSIDE CONTAINER WIDTH MINUS 1" (REF: 7'-7") (QUADRUPLED) (4 REQD). LAMINATE THE SECOND PIECE TO THE FIRST PIECE W/11-10d NAILS. LAMINATE EACH ADDITIONAL PIECE IN A LIKE MANNER.

LOAD BEARING PIECE, 2" X 4" BY HEIGHT OF TOP BEAM ASSEMBLY PLUS 6" (4 REQD). NAIL TO THE BEAM ASSEMBLIES W/3-10d NAILS AT EACH JOINT.

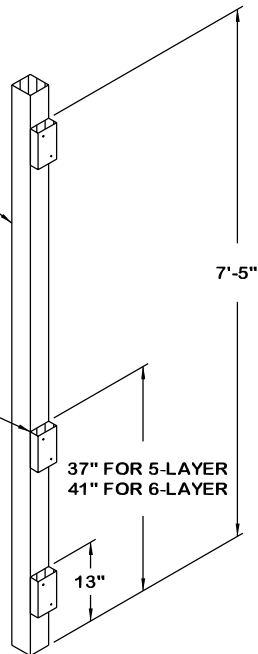


ALTERNATIVE FORWARD/REAR BLOCKING ASSEMBLY

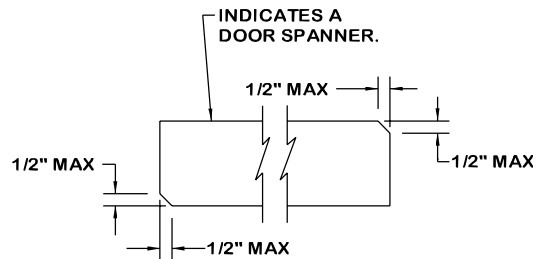
NOTE: THE ALTERNATIVE FORWARD/REAR BLOCKING ASSEMBLY MAY BE USED IN LIEU OF THE FORWARD/REAR BLOCKING ASSEMBLY FOR ANY OF THE LOADS DEPICTED HEREIN.

VERTICAL PIECE, 4" X 4" BY INSIDE CONTAINER HEIGHT MINUS 1/2" (REF: 7'-8-1/2") (1 REQD).

STRUT LEDGER, 2" X 4" X 6" (3 REQD FOR A 5-LAYER LOAD, 2 REQD FOR A 6-LAYER LOAD). NAIL TO THE VERTICAL PIECE W/2-10d NAILS.

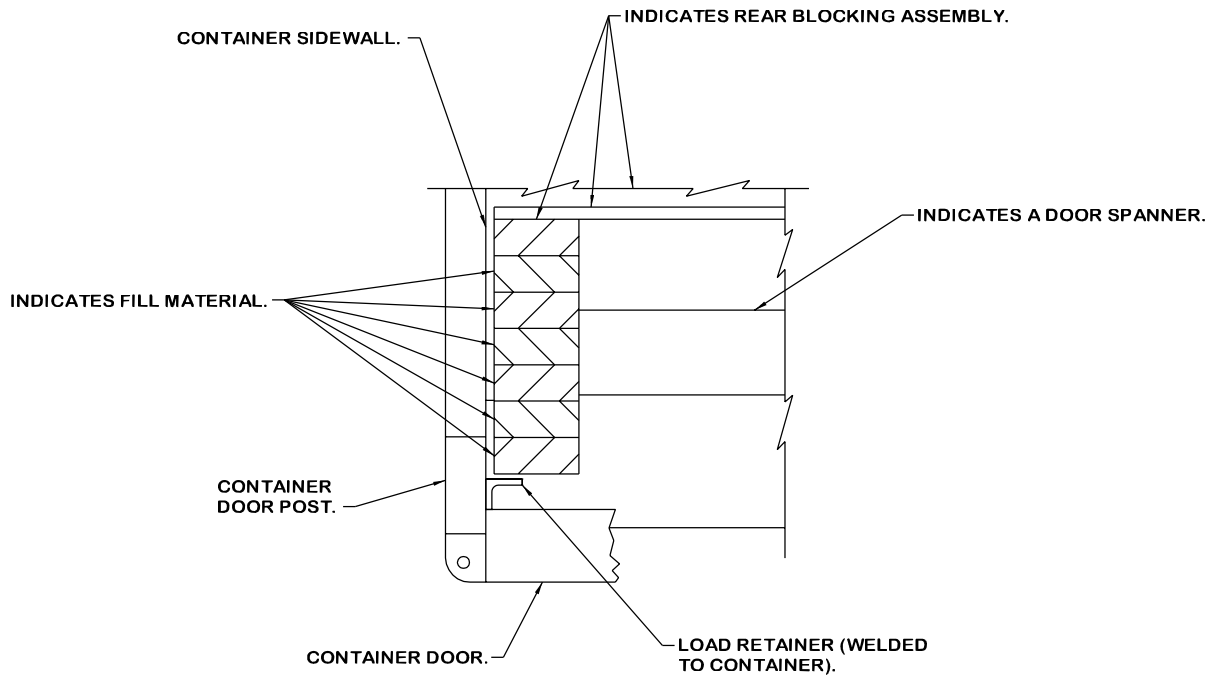


DOOR POST VERTICAL



BEVEL-CUT

IF DESIRED, EACH END OF A DOOR SPANNER PIECE MAY BE BEVEL-CUT AS SHOWN ABOVE TO FACILITATE THE ACHIEVEMENT OF A TIGHT DOOR-POST-TO-DOOR-POST FIT.

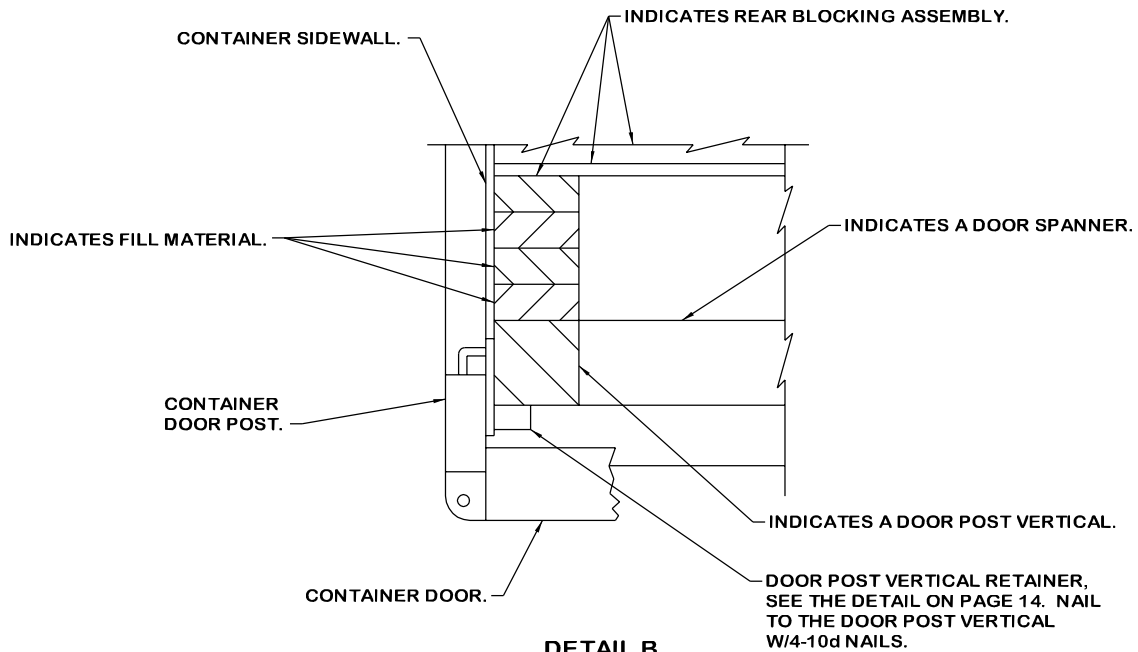


DETAIL A

A PARTIAL PLAN VIEW OF THE LEFT REAR PORTION OF THE CONTAINER IS SHOWN DEPICTING THE PROPER POSITION OF THE FILL MATERIAL AND ADJACENT DUNNAGE PIECES.

SPECIAL NOTE:

WHEN ISO CONTAINERS ARE NOT EQUIPPED WITH PRE-WELDED LOAD RETAINERS, AS DEPICTED IN "DETAIL A" ABOVE, DOOR POST VERTICALS, DOOR POST VERTICAL RETAINERS AND DOOR SPANNERS WILL BE REQUIRED FOR THE LOADS DEPICTED HEREIN. SEE VARIOUS LOADS WITHIN AMC DRAWING 19-48-4153-15PA1002 FOR EXAMPLES. SEE PAGE 20 FOR DETAILS OF THE METAL DOOR POST VERTICAL RETAINER.

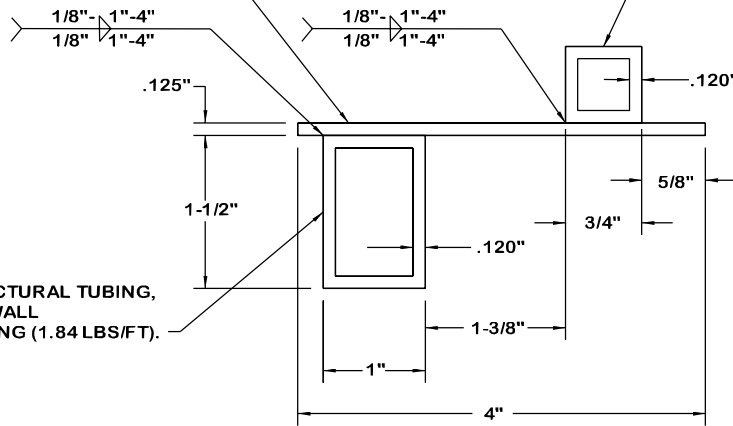


DETAIL B

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.

STEEL STRIP, 1/8" THICK BY 4" WIDE
BY 83" LONG (1.70 LBS/FT).

SQUARE STRUCTURAL TUBING, 3/4" SQUARE
BY .120" WALL THICKNESS BY 83" LONG
(1.03 LBS/FT). SEE SPECIAL NOTE BELOW.



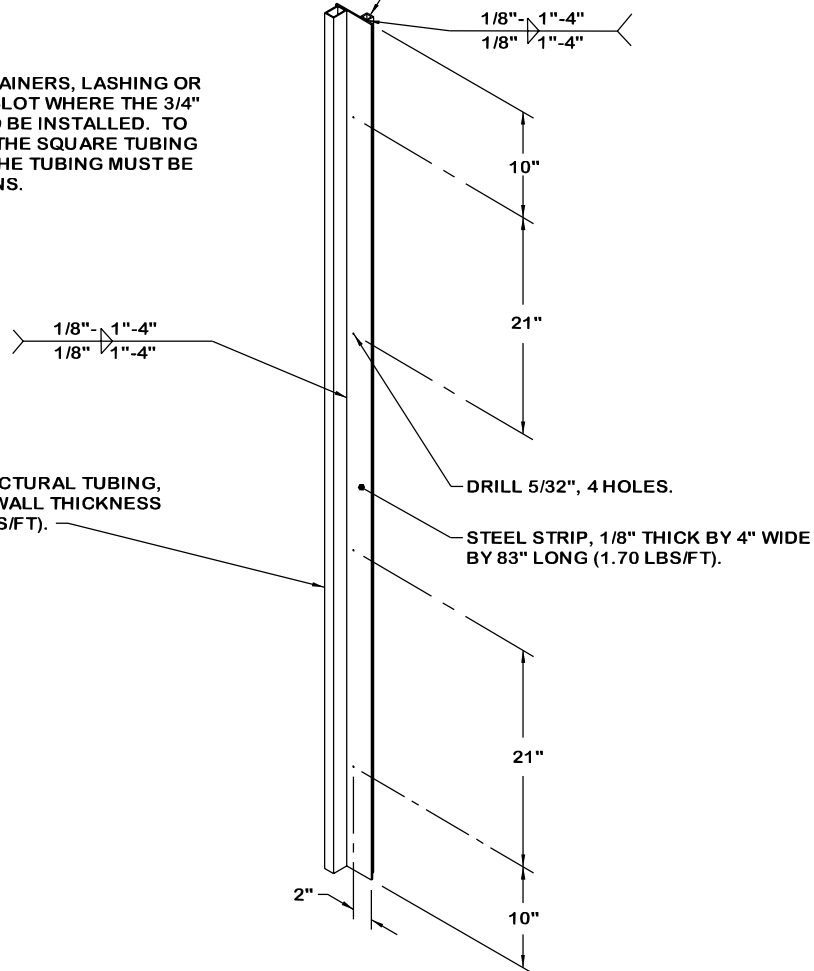
RECTANGULAR STRUCTURAL TUBING,
1-1/2" BY 1" BY .120" WALL
THICKNESS BY 83" LONG (1.84 LBS/FT).

VIEW A

VIEW A
SQUARE STRUCTURAL TUBING,
3/4" SQUARE BY .120" WALL
THICKNESS BY 83" LONG
(1.03 LBS/FT).

SPECIAL NOTE:

IN MOST CORRUGATED STEEL CONTAINERS, LASHING OR TIE BARS WILL BE PRESENT IN THE SLOT WHERE THE 3/4" SQUARE STRUCTURAL TUBING IS TO BE INSTALLED. TO ENSURE PROPER ENGAGEMENT OF THE SQUARE TUBING AND THE CONTAINER DOOR POST, THE TUBING MUST BE NOTCHED AT THE TIE BAR LOCATIONS.



RECTANGULAR STRUCTURAL TUBING,
1-1/2" BY 1" BY .120" WALL
THICKNESS
BY 83" LONG (1.84 LBS/FT).

DRILL 5/32", 4 HOLES.

STEEL STRIP, 1/8" THICK BY 4" WIDE
BY 83" LONG (1.70 LBS/FT).

DOOR POST VERTICAL RETAINER

NOTE: THE ABOVE ASSEMBLY HAS BEEN SHOWN ROTATED 90° FROM THE ORIENTATION IN WHICH IT IS INSTALLED IN THE LEFT REAR CORNER OF THE CONTAINER. THE ASSEMBLY HAS BEEN ROTATED FOR HOLE LOCATION CLARITY.