APPROVED BY
BUREAU OF EXPLOSIVES

O. A. Ibele

DATE 9/12/97

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

INDEX

• 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
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TECHNICIAN	BASIC		WEBSITE: HTTP://WWW.DAC.ARMY.MIL
	REV.		MARCH 1997
DRAFTSMAN	BASIC		
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APPROVED BY ORDER OF COMMANDING GENERAL,
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PROJECT SP 343-97

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 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 END OPENING ISO CONTAINER MUST NOT BE EXCEEDED.

C. FOR DETAILS OF THE CONTAINER, SEE AIR FORCE DRAWING NO. 776013 OR PAGE 3.
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 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.

E. WHEN LOADING CONTAINERS, 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 LONGITUDINAL PIECES ON THE CENTER OR SIDE FILL ASSEMBLIES. NAIL EACH ADDITIONAL PIECE W/1 APPROPRIATELY SIZED NAIL EVERY 12". ADDITIONALLY, THE THICKNESS AND/OR QUANTITY OF THE LONGITUDINAL OR LATERAL PIECES IN THE CENTER OR SIDE FILL ASSEMBLIES 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 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. 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 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.

J. 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.

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

L. PORTIONS OF THE CONTAINER DEPICTED WITHIN THIS DRAWING, SUCH AS THE SIDEWALL HAVE NOT BEEN SHOWN IN THE LOAD VIEWS FOR CLARITY PURPOSES.

(CONTINUED AT RIGHT)

(GENERAL NOTES CONTINUED)

M. WHEN STEEL STRAPPING IS SEALED AT AN END-OVER-END LAP JOINT, A MINIMUM OF ONE SEAL WITH TWO PAIR OF NOTCHES WILL BE USED TO SEAL THE JOINT WHEN A NOTCH-TYPE SEALER IS BEING USED. A MINIMUM OF TWO SEALS, BUTTED TOGETHER WITH TWO PAIR OF CRIMPS PER SEAL WILL BE USED TO SEAL THE JOINT WHEN A CRIMP TYPE SEALER IS BEING USED. REFER TO THE "STRAP JOINT A" AND "STRAP JOINT B" DETAILS ON PAGE 12 FOR GUIDANCE.

N. 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.

O. 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.

P. 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.

Q. 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

LUMBER - - - - - - - - - - -: SEE TM 743-200-1 (DUNNAGE LUMBER) AND FED SPEC MM-L-751.

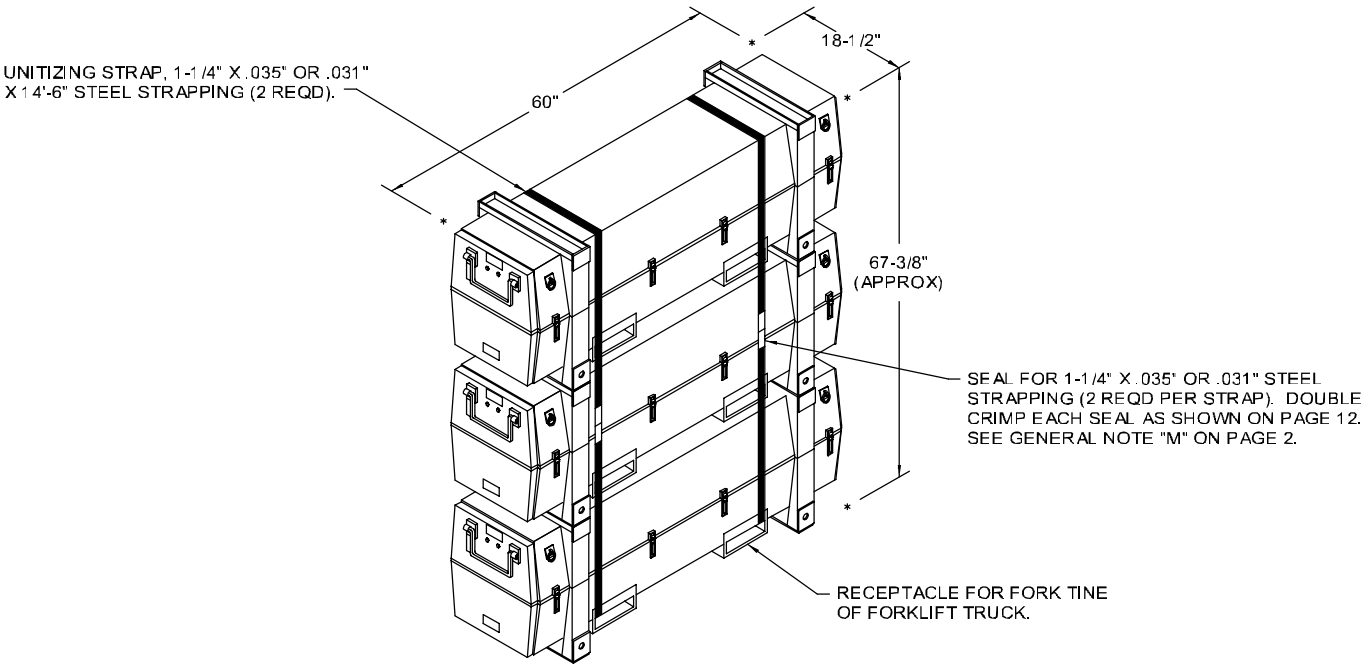
NAILS - - - - - - - - - - - - -: FED SPEC FF-N-105: COMMON.

STRAPPING, STEEL - -: ASTM D3953; FLAT STRAPPING, TYPE 1, HEAVY DUTY, FINISH A, B (GRADE 2), OR C.

SEAL, STRAP - - - - - - -: ASTM D3953; CLASS H, FINISH A, B (GRADE 2), OR C, DOUBLE NOTCH TYPE, STYLE I, II, OR IV.

PLYWOOD - - - - - - - - - -: COMMERCIAL ITEM DESCRIPTION A-A-55057, TYPE A, CONSTRUCTION AND INDUSTRIAL PLYWOOD, INTERIOR WITH EXTERIOR CLUE, GRADE C-D. IF SPECIFIED GRADE IS NOT AVAILABLE, A BETTER INTERIOR OR AN EXTERIOR GRADE MAY BE SUBSTITUTED

STEEL, STRUCTURAL -: ASTM A501, STEEL STRUCTURAL TUBING; AND ASTM A570, STEEL, STRIP, HOT-ROLLED, GRADE 36 (MINIMUM).



UNITIZATION AND HANDLING PROCEDURAL GUIDANCE

1. STACKING CONTAINERS FOR UNITIZING.

   A. WHEN STACKING CONTAINERS FOR UNITIZING, PLACE THE UPPER CONTAINER DIRECTLY ON TOP OF THE LOWER CONTAINER.

   B. POSITION THE AFT END OF AN UPPER CONTAINER ABOVE THE AFT END OF THE NEXT LOWER CONTAINER.

2. INSTALLATION OF 1-1/4" X .035" OR .031" UNITIZING STRAPS. SEE GENERAL NOTE "M" ON PAGE 2.

   A. POSITION STRAPS TO ENCIRCLE THE CONTAINERS THRU THE FORK TINE OPENING OF A LOWER CONTAINER AND OVER THE TOP OF THE CONTAINERS AS SHOWN, AND SO THAT THE STRAPPING LAYS FLAT AND STRAIGHT WITH THE BODY SURFACES OF THE CONTAINERS; I.E., VERTICAL ALONG THE SIDES AND FLAT ACROSS THE TOP AND BOTTOM OF THE STACK.

   B. THE STRAPPING WILL BE FIRMLY TENSIONED BUT NOT SO MUCH AS TO DAMAGE THE CONTAINERS. EACH END-OVER-END LAP JOINT WILL BE SEALED WITH TWO SEALS BUTTED TOGETHER WITH TWO PAIR OF CRIMPS EACH SEAL, AS SHOWN IN THE "STRAP JOINT B" DETAIL ON PAGE 12. THE LAP JOINT MAY BE MADE EITHER ALONG THE SIDE OF THE STACK OR ON TOP, AS DESIRED. EXCESS STRAPPING (STRAP ENDS) SHOULD BE CUT OFF OR BROKEN OFF NEAR THE JOINT SEAL.

(CONTINUED AT RIGHT)

(UNITIZATION AND HANDLING GUIDANCE CONT.)

3. CONTAINER OR CONTAINER STACK HANDLING.

   NOTES: (1) APPROVED MATERIALS HANDLING EQUIPMENT (MHE) IS SPECIFIED IN OTHER DOCUMENTS. MHE IS INTENDED TO MEAN EQUIPMENT SUCH AS FORKLIFT TRUCKS, CRANES, HAND TRUCKS, DOLLIES, ROLLER ASSEMBLIES, SLINGS AND SPREADER BARS.

   (2) PRECAUTIONARY HANDLING TECHNIQUES NORMALLY EMPLOYED OR AS SPECIFIED FOR THE TYPE OF COMMODITY INVOLVED WILL BE OBSERVED.

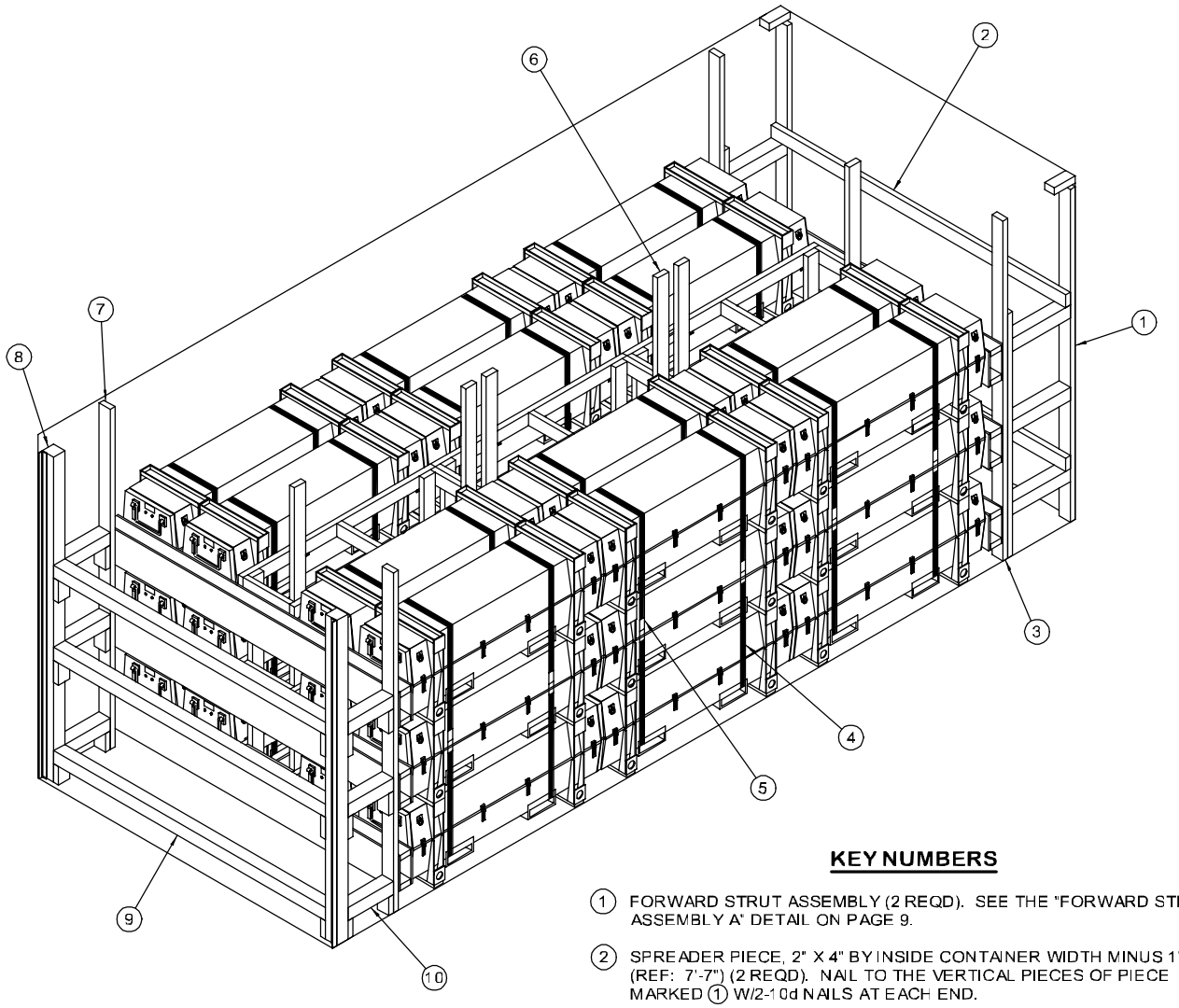
   A. ONLY APPROVED AND APPROPRIATELY SIZED MATERIAL HANDLING EQUIPMENT WILL BE USED FOR HANDLING THE DEPICTED CONTAINERS.

   B. IF HANDLING IS ACCOMPLISHED WITH A FORKLIFT TRUCK, THE CONTAINERS MUST BE HANDLED FROM A SIDE POSITION AS MUCH AS POSSIBLE. CARE MUST BE EXERCISED WHEN INSERTING FORKS UNDER A CONTAINER, TO PREVENT DAMAGE TO A CONTAINER BY THE FORK TINES OR THE FORKLIFT PACKAGE GUARD.

   C. IF A CONTAINER OR STACK OF CONTAINERS IS HANDLED BY SLINGING, THE SLING MUST BE OF SUCH A DESIGN THAT LIFTING IS DONE FROM THE LIFTING POINTS ON THE BOTTOM CONTAINER OF A STACK.

   D. WHEN LOADING A CONTAINER OR CONTAINER STACK, THE CONTAINER OR STACK WILL BE PARTIALLY PLACED INTO THE END OF THE TRAILER BY HANDLING WITH A FORKLIFT FROM THE SIDE. THE FORKLIFT THEN MUST INSERT ITS TINES FROM THE END OF THE CONTAINER OR STACK, LIFT THE END SLIGHTLY, THEN PROCEED TO PUSH THE CONTAINER OR STACK INTO ITS FINAL POSITION WITHIN THE TRAILER. CARE MUST BE EXERCISED TO AVOID DAMAGE TO THE CONTAINER ENDS, ETC., DURING PUSHING OPERATIONS.

   E. WHEN UNLOADING A CONTAINER OR CONTAINER STACK FROM THE TRAILER, THE FORKLIFT TINES WILL BE INSERTED UNDER THE LOWER CONTAINER, THE FORKLIFT WILL THEN ELEVATE THE END SLIGHTLY ABOVE THE FLOOR, AND BEGIN DRAGGING THE CONTAINER OR STACK FROM THE TRAILER AFTER ATTACHING A CHAIN OR WEB STRAP FROM A LOWER CONTAINER LIFT POINT AROUND THE FORKLIFT MAST TO A LOWER LIFT POINT ON THE OPPOSITE SIDE OF THE CONTAINER.



KEY NUMBERS

(1) FORWARD STRUT ASSEMBLY (2 REQD). SEE THE "FORWARD STRUT ASSEMBLY A" DETAIL ON PAGE 9.

(2) SPREADER PIECE, 2" X 4" BY INSIDE CONTAINER WIDTH MINUS 1" (REF: 7'-7") (2 REQD). NAIL TO THE VERTICAL PIECES OF PIECE MARKED (1) W/2-10d NAILS AT EACH END.

(3) FORWARD BLOCKING ASSEMBLY (1 REQD). SEE THE "FORWARD BLOCKING ASSEMBLY A" DETAIL ON PAGE 8. NAIL THROUGH THE BUFFER PIECES INTO THE VERTICAL PIECES OF PIECE MARKED (1) W/5-10d NAILS.

(4) UNITIZING STRAP, 1-1/4" X .035" OR .031" X 14'-6" LONG STEEL STRAPPING (24 REQD). SEE THE "UNITIZATION AND HANDLING PROCEDURES" ON PAGE 3 AND GENERAL NOTE "M" ON PAGE 2.

(5) SEAL FOR 1-1/4" STRAPPING (48 REQD, 2 PER STRAP). CRIMP EACH SEAL WITH TWO PAIR OF CRIMPS.

(6) CENTER FILL ASSEMBLY (3 REQD). SEE THE DETAIL ON PAGE 10.

(7) REAR BLOCKING ASSEMBLY (1 REQD). SEE THE "REAR BLOCKING ASSEMBLY A" DETAIL ON PAGE 8.

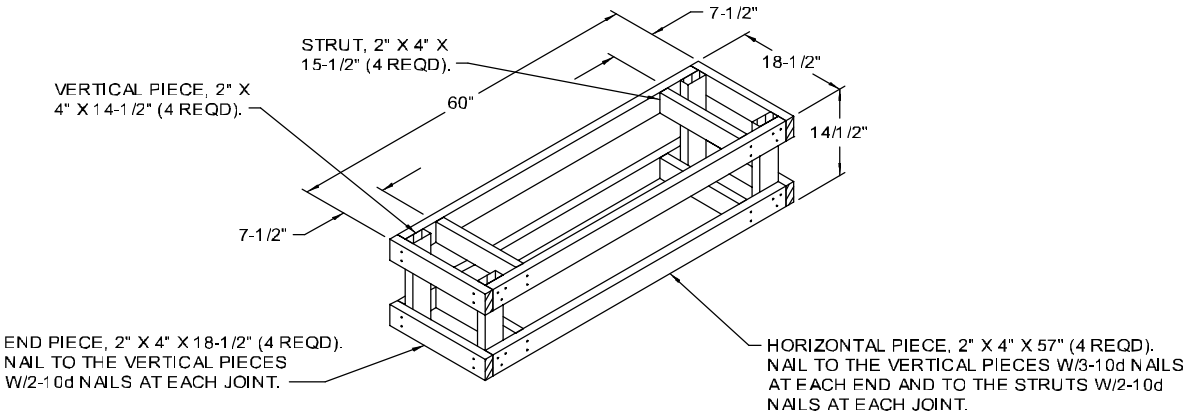
(8) DOOR POST VERTICAL (2 REQD). SEE THE "DOOR POST VERTICAL A" DETAIL ON PAGE 12 AND THE DETAILS AND SPECIAL NOTE ON PAGE 13.

(9) DOOR SPANNER, 4" X 4" MATERIAL, CUT TO A LENGTH THAT WILL PROVIDE FOR A DRIVE FIT (REF: 7'-1'3/8") (3 REQD). TOENAIL TO THE DOOR POST VERTICAL W/2-12d NAILS AT EACH END. SEE THE "BEVEL-CUT" DETAIL ON PAGE 13. AFTER INSTALLING THE BOTTOM AND TOP DOOR SPANNERS, THE STRUTS, PIECES MARKED (10), ARE TO BE INSTALLED.

(10) STRUT, 4" X 4" BY CUT-TO-FIT (REF: 14-1/4") (6 REQD). TOENAIL TO THE "REAR BLOCKING ASSEMBLY" AND THE "DOOR POST VERTICAL" W/2-12d NAILS AT EACH END. SEE THE "BEVEL-CUT" DETAIL ON PAGE 13.

RECOMMENDED SEQUENTIAL LOADING PROCEDURES

1. PREFABRICATE TWO FORWARD STRUT ASSEMBLIES, ONE FORWARD BLOCKING ASSEMBLY, ONE REAR BLOCKING ASSEMBLY, THREE CENTER FILL ASSEMBLIES AND TWO DOOR POST VERTICALS.
2. INSTALL THE TWO FORWARD STRUT ASSEMBLIES.
3. INSTALL THE SPREADER PIECES.
4. INSTALL THE FORWARD BLOCKING ASSEMBLY.
5. LOAD 12 UNITIZED CONTAINERS AND ONE CENTER FILL ASSEMBLY.
6. REPEAT STEP 5 TWO TIMES.
7. INSTALL THE REAR BLOCKING ASSEMBLY.
8. INSTALL THE DOOR POST VERTICALS AND, AS APPROPRIATE, NAIL TO THE DOOR POST VERTICAL RETAINERS.
9. INSTALL TWO DOOR SPANNERS (ONE AT THE LOWEST POSITION AND ONE AT THE UPPERMOST POSITION.)
10. INSTALL THE STRUTS BETWEEN THE REAR BLOCKING ASSEMBLY AND THE DOOR POST VERTICALS AND INSTALL THE REMAINING DOOR SPANNER PIECE.



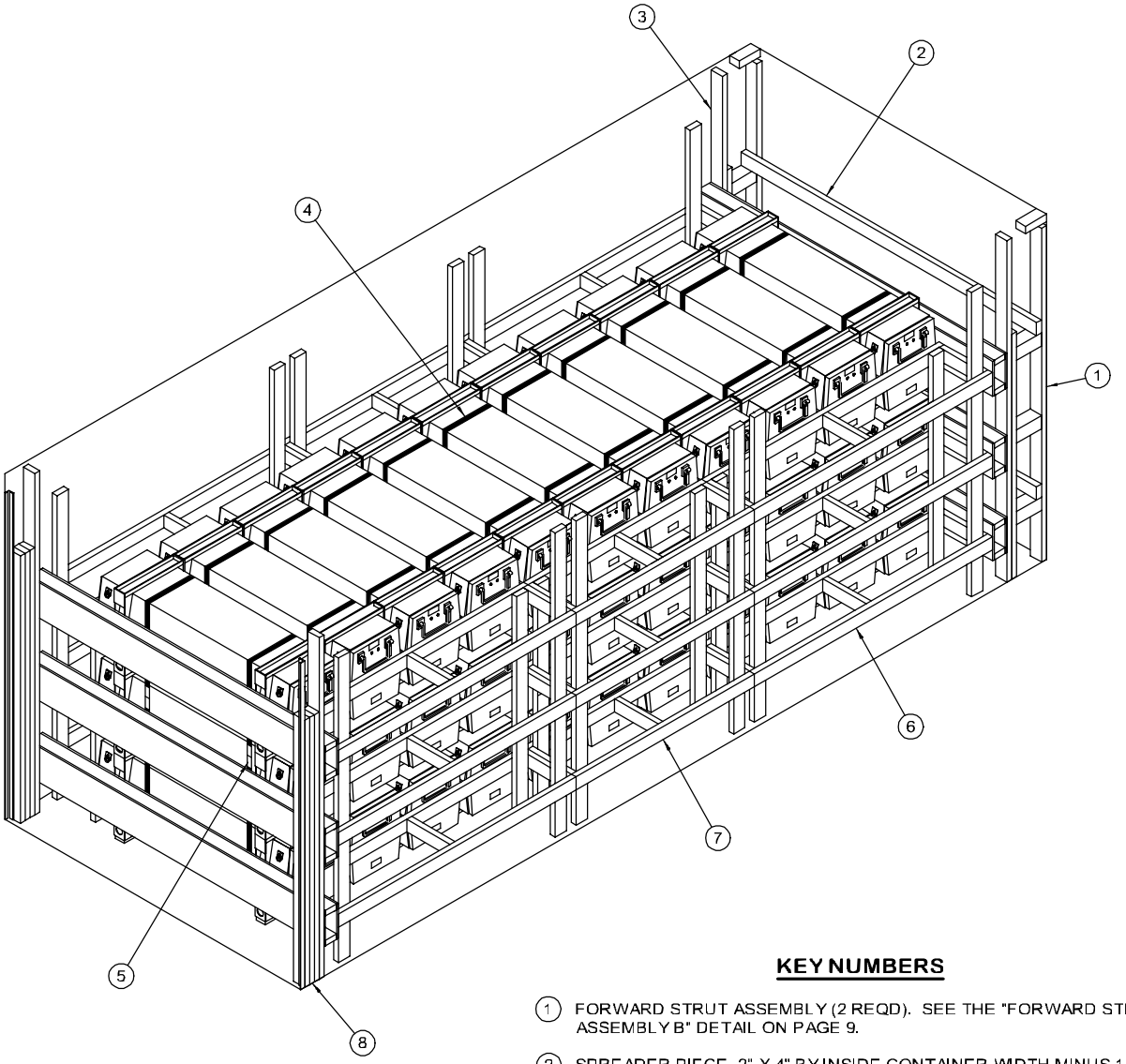
OMITTED CONTAINER ASSEMBLY

BILL OF MATERIAL		
LUMBER	LINEAR FEET	BOARD FEET
2" X 4" 4" X 4"	371 53	248 71
NAILS	NO. REQD	POUNDS
6d (2") 10d (3") 12d (3-1/4")	264 332 36	1-3/4 5-1/4 3/4
PLYWOOD, 1/2" - - - - - - - 72 SQ FT REQD - - - - - - - - - - - 99 LBS 1-1/4" STRAPPING - - - - - - - - - 348' REQD - - - - - - - - 49-3/4 LBS SEAL FOR 1-1/4" STRAPPING - - 48 REQD - - - - - - - - - 2-1/4 LBS		

LOAD AS SHOWN

ITEM	QUANTITY	WEIGHT (APPROX)
CNU-248	36	11,880 LBS
DUNNAGE		797 LBS
CONTAINER		4,700 LBS
TOTAL WEIGHT		17,377 LBS (APPROX)

36-CONTAINER LOAD



KEY NUMBERS

(1) FORWARD STRUT ASSEMBLY (2 REQD). SEE THE "FORWARD STRUT ASSEMBLY B" DETAIL ON PAGE 9.

(2) SPREADER PIECE, 2" X 4" BY INSIDE CONTAINER WIDTH MINUS 1" (REF: 7'-7") (2 REQD). NAIL TO THE VERTICAL PIECES OF PIECE MARKED (1) W/2-10d NAILS AT EACH END.

(3) FORWARD/REAR BLOCKING ASSEMBLY (2 REQD). SEE THE "FORWARD/REAR BLOCKING ASSEMBLY B" DETAIL ON PAGE 9. NAIL THRU THE BUFFER PIECES INTO THE VERTICAL PIECES OF PIECE MARKED (1) W/5-10d NAILS.

(4) UNITIZING STRAP, 1-1/4" X .035" OR .031" X 14'-6" LONG STEEL STRAPPING (22 REQD). SEE THE "UNITIZATION AND HANDLING PROCEDURES" ON PAGE 3 AND GENERAL NOTE "M" ON PAGE 2.

(5) SEAL FOR 1-1/4" STRAPPING (44 REQD, 2 PER STRAP). CRIMP EACH SEAL WITH TWO PAIR OF CRIMPS.

(6) SIDE FILL ASSEMBLY (4 REQD). SEE THE "SIDE FILL ASSEMBLY A" DETAIL ON PAGE 10.

(7) SIDE FILL ASSEMBLY (2 REQD). SEE THE "SIDE FILL ASSEMBLY B" DETAIL ON PAGE 10.

(8) FILL MATERIAL, 4" WIDE BY 72" LONG MATERIAL (AS REQD). NAIL THE FIRST PIECE TO THE REAR BLOCKING ASSEMBLY W/6 NAILS OF A SUITABLE SIZE (10d FOR 2" MATERIAL). LAMINATE EACH ADDITIONAL PIECE TO THE PREVIOUS PIECE IN A LIKE MANNER. NOTE: MULTIPLE PIECES MAY BE LAMINATED TOGETHER FIRST THEN TOENAILED TO THE REAR BLOCKING ASSEMBLY.

RECOMMENDED SEQUENTIAL LOADING PROCEDURES

1. PREFABRICATE TWO FORWARD STRUT ASSEMBLIES, TWO FORWARD/REAR BLOCKING ASSEMBLIES, FOUR SIDE FILL ASSEMBLIES "A", AND TWO SIDE FILL ASSEMBLIES "B".
2. INSTALL THE TWO FORWARD STRUT ASSEMBLIES AND TWO SPREADER PIECES.
3. INSTALL THE FORWARD BLOCKING ASSEMBLY.
4. LOAD 12 CONTAINERS AND TWO SIDE FILL ASSEMBLIES "A".
5. LOAD NINE CONTAINERS AND TWO SIDE FILL ASSEMBLIES "B".
6. REPEAT STEP 4.
7. INSTALL THE REAR BLOCKING ASSEMBLY.
8. INSTALL THE FILL MATERIAL BETWEEN THE REAR BLOCKING ASSEMBLY AND THE LOAD RETAINER.

BILL OF MATERIAL

LUMBER	LINEAR FEET	BOARD FEET
2" X 4" 4" X 4"	614 4	410 6
NAILS	NO. REQD	POUNDS
6d (2") 10d (3")	264 524	1-3/4 8-1/4
PLYWOOD, 1/2" - - - - - - - 72 SQ FT REQD - - - - - - - - - - - 99 LBS 1-1/4" STRAPPING - - - - - - - - - 319' REQD - - - - - - - - 45-3/4 LBS SEAL FOR 1-1/4" STRAPPING - - 44 REQD - - - - - - - - - - - - 2 LBS		

LOAD AS SHOWN

ITEM	QUANTITY	WEIGHT (APPROX)
CNU-248	33	10,890 LBS
DUNNAGE		989 LBS
CONTAINER		4,700 LBS
TOTAL WEIGHT		16,579 LBS (APPROX)

33-CONTAINER LOAD

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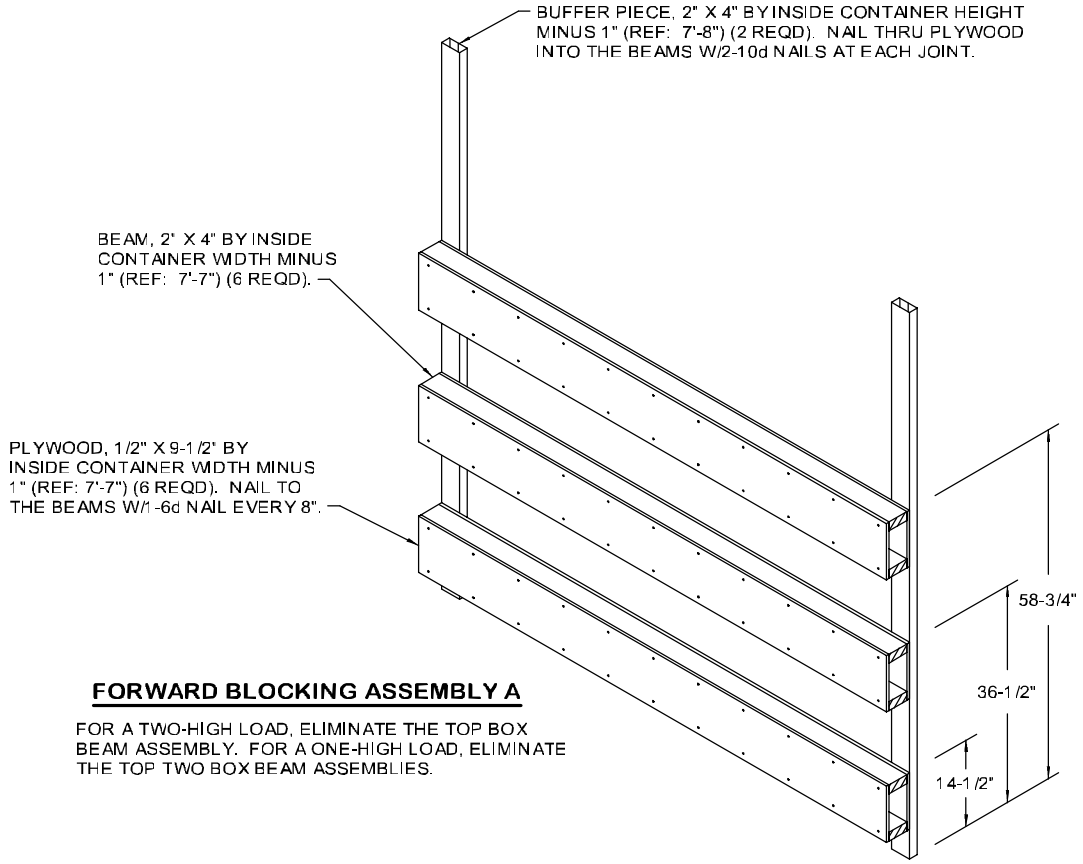
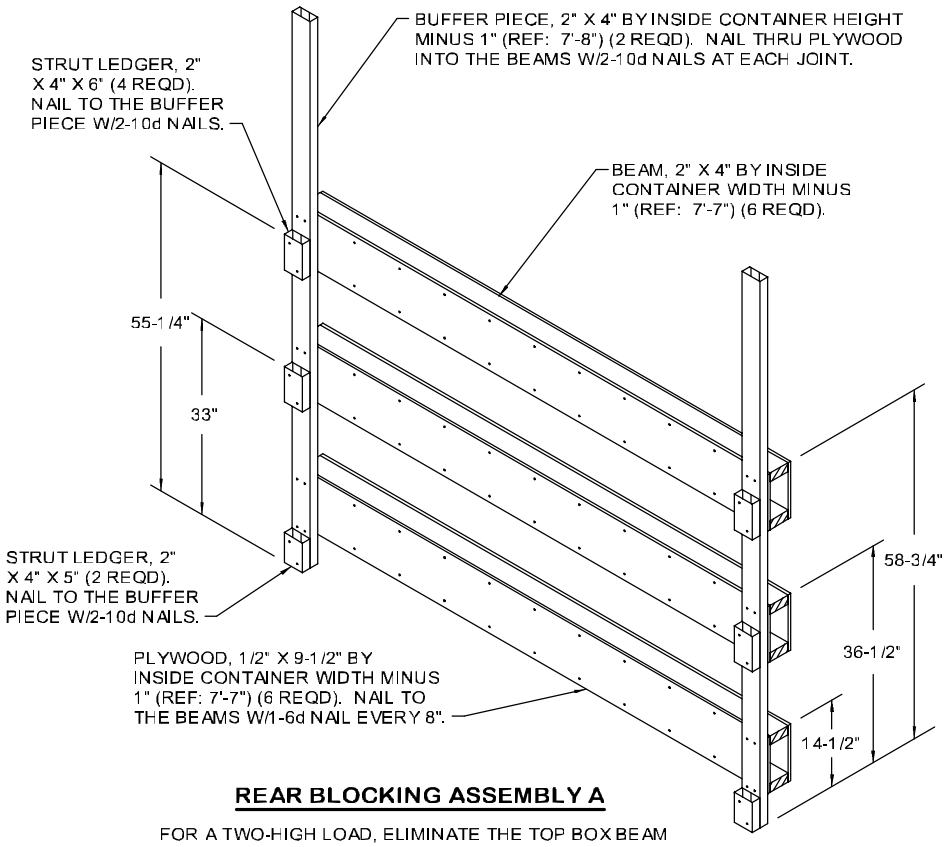


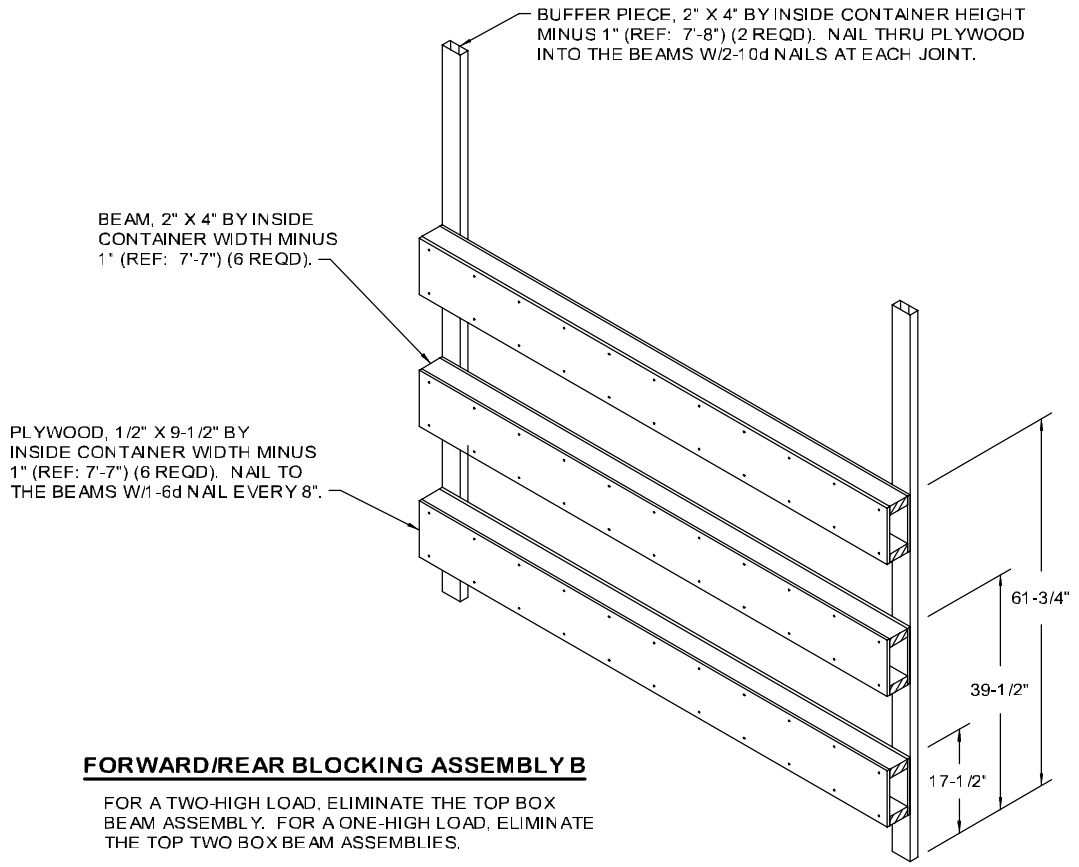
FORWARD BLOCKING ASSEMBLY A

FOR A TWO-HIGH LOAD, ELIMINATE THE TOP BOX BEAM ASSEMBLY. FOR A ONE-HIGH LOAD, ELIMINATE THE TOP TWO BOX BEAM ASSEMBLIES.



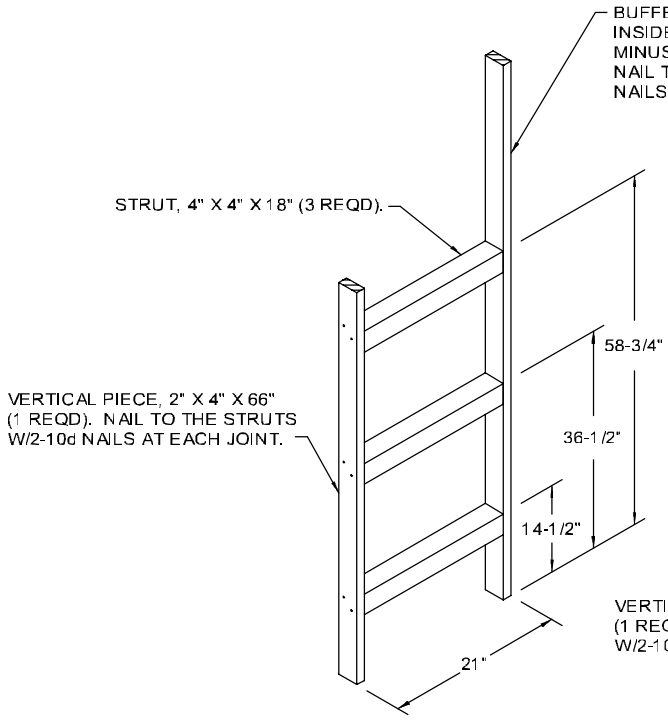
REAR BLOCKING ASSEMBLY A

FOR A TWO-HIGH LOAD, ELIMINATE THE TOP BOX BEAM ASSEMBLY AND THE TOP TWO STRUT LEDGERS. FOR A ONE-HIGH LOAD, ELIMINATE THE TOP TWO BOX BEAM ASSEMBLIES AND THE TOP FOUR STRUT LEDGERS.



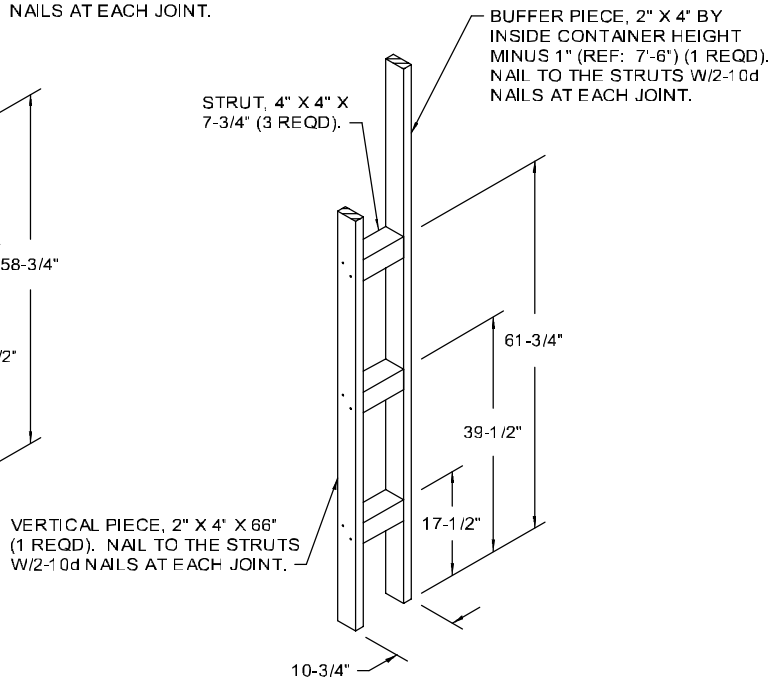
FORWARD/REAR BLOCKING ASSEMBLY B

FOR A TWO-HIGH LOAD, ELIMINATE THE TOP BOX BEAM ASSEMBLY. FOR A ONE-HIGH LOAD, ELIMINATE THE TOP TWO BOX BEAM ASSEMBLIES.



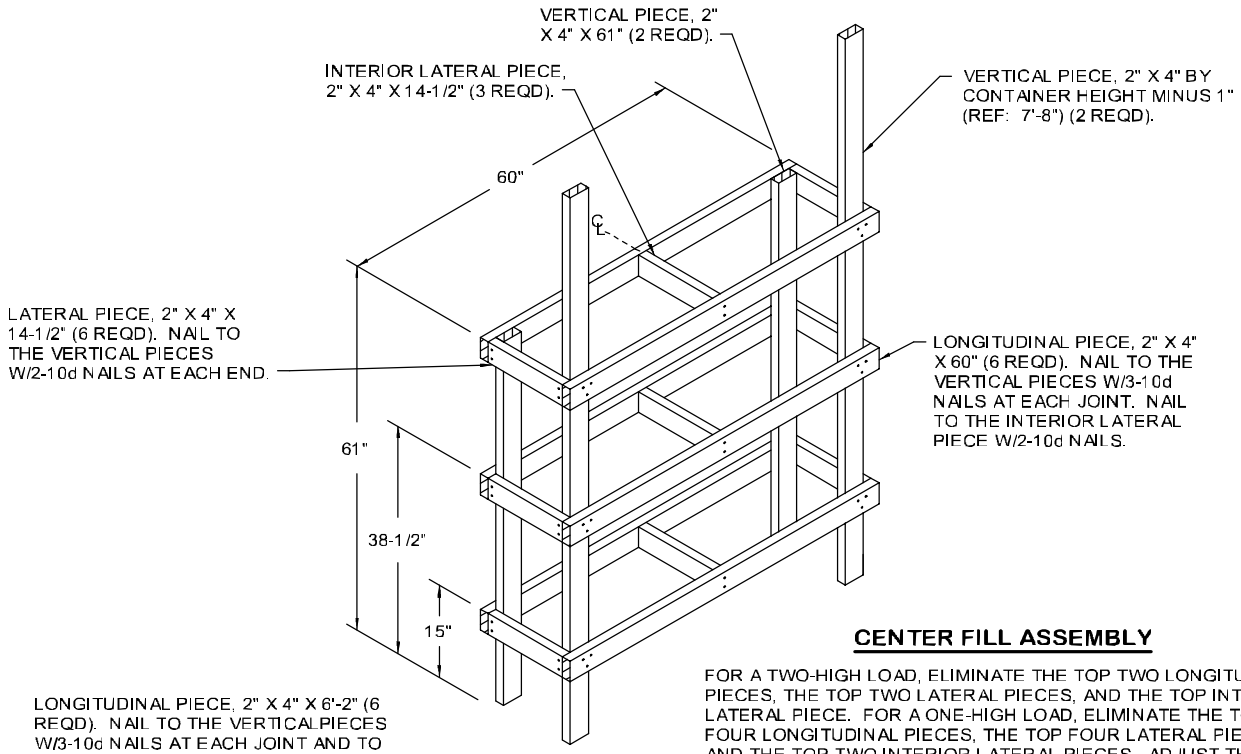
FORWARD STRUT ASSEMBLY A

FOR A TWO-HIGH LOAD, ELIMINATE THE TOP STRUT. FOR A ONE-HIGH LOAD, ELIMINATE THE TOP TWO STRUTS. SHORTEN THE SHORTER VERTICAL PIECES ACCORDINGLY.



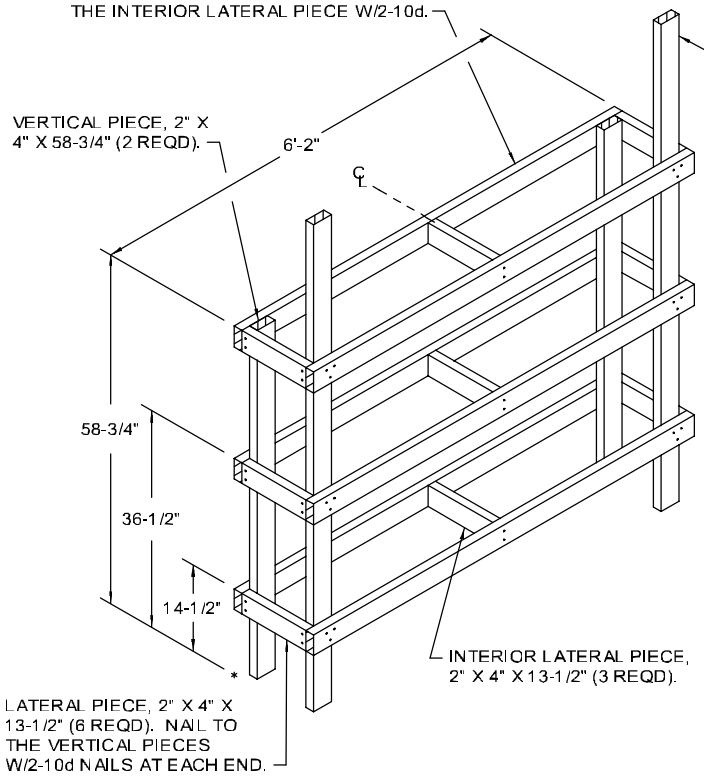
FORWARD STRUT ASSEMBLY B

FOR A TWO-HIGH LOAD, ELIMINATE THE TOP STRUT. FOR A ONE-HIGH LOAD, ELIMINATE THE TOP TWO STRUTS. SHORTEN THE SHORTER VERTICAL PIECES ACCORDINGLY.



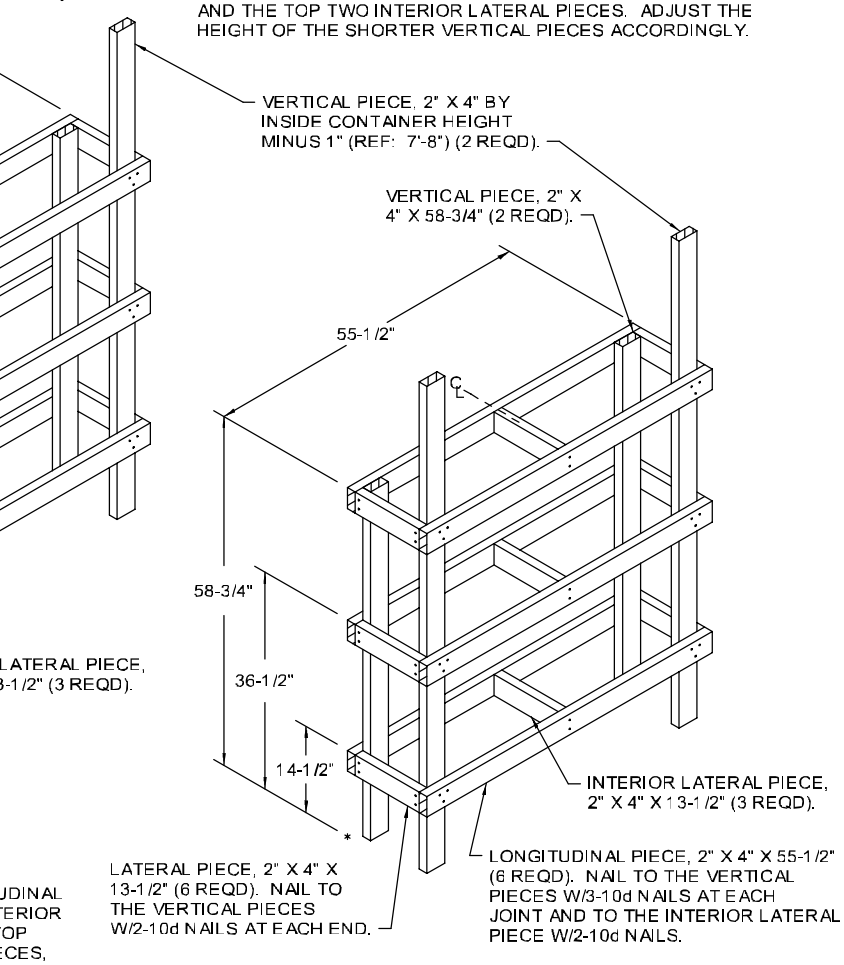
CENTER FILL ASSEMBLY

FOR A TWO-HIGH LOAD, ELIMINATE THE TOP TWO LONGITUDINAL PIECES, THE TOP TWO LATERAL PIECES, AND THE TOP INTERIOR LATERAL PIECE. FOR A ONE-HIGH LOAD, ELIMINATE THE TOP FOUR LONGITUDINAL PIECES, THE TOP FOUR LATERAL PIECES, AND THE TOP TWO INTERIOR LATERAL PIECES. ADJUST THE HEIGHT OF THE SHORTER VERTICAL PIECES ACCORDINGLY.



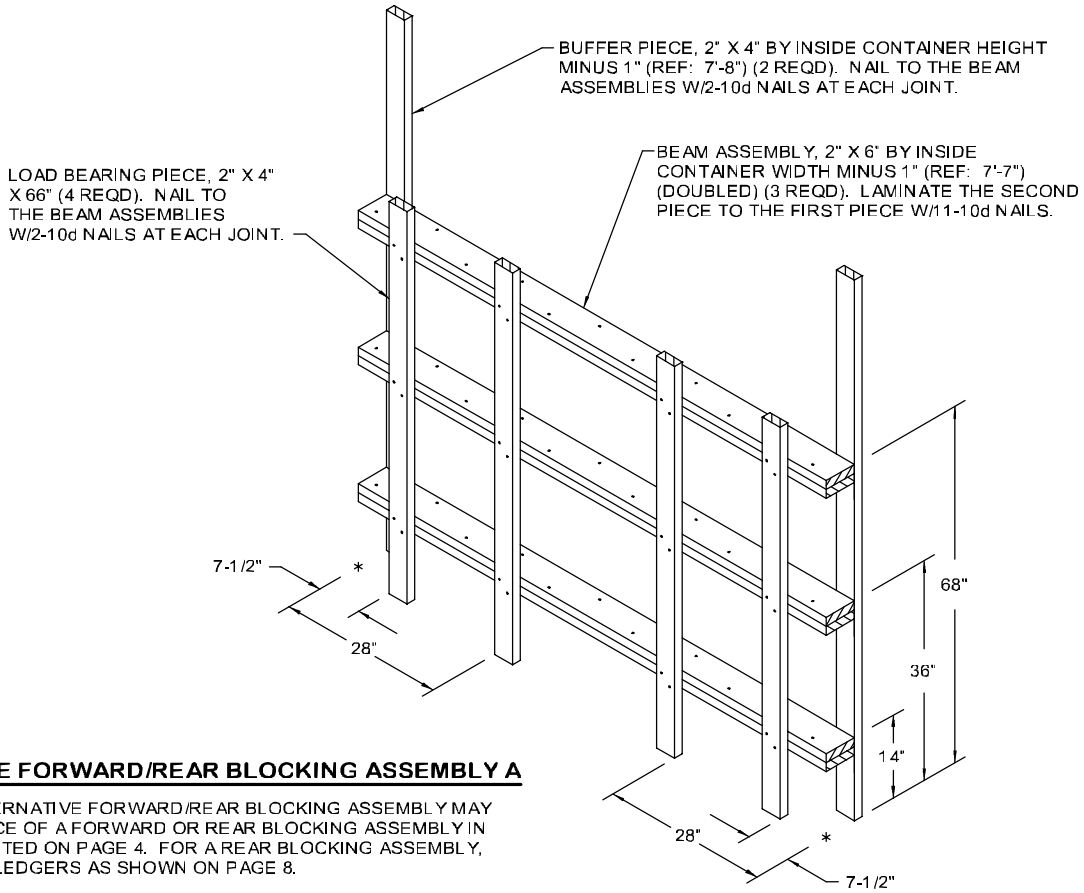
SIDE FILL ASSEMBLY A

FOR A TWO-HIGH LOAD, ELIMINATE THE TOP TWO LONGITUDINAL PIECES, THE TOP TWO LATERAL PIECES, AND THE TOP INTERIOR LATERAL PIECE. FOR A ONE-HIGH LOAD, ELIMINATE THE TOP FOUR LONGITUDINAL PIECES, THE TOP FOUR LATERAL PIECES, AND THE TOP TWO INTERIOR LATERAL PIECES. ADJUST THE HEIGHT OF THE SHORTER VERTICAL PIECES ACCORDINGLY.



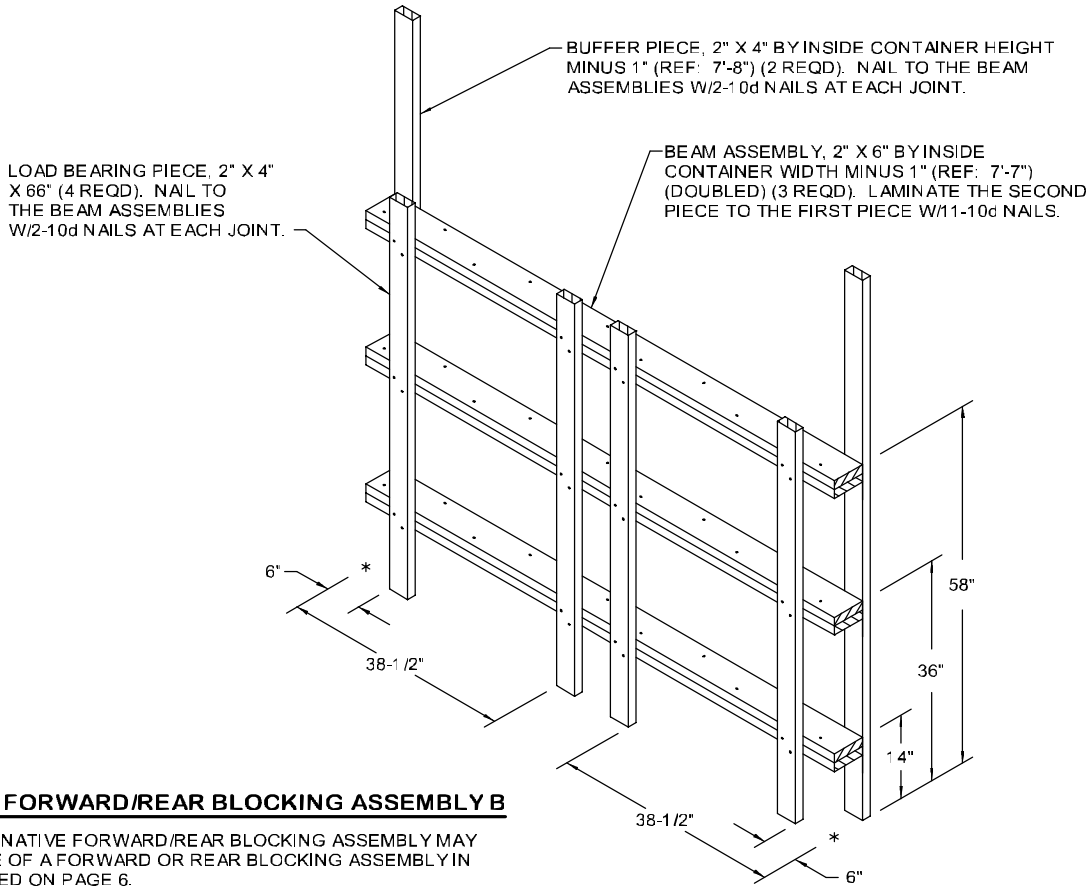
SIDE FILL ASSEMBLY B

FOR A TWO-HIGH LOAD, ELIMINATE THE TOP TWO LONGITUDINAL PIECES, THE TOP TWO LATERAL PIECES, AND THE TOP INTERIOR LATERAL PIECE. FOR A ONE-HIGH LOAD, ELIMINATE THE TOP FOUR LONGITUDINAL PIECES, THE TOP FOUR LATERAL PIECES, AND THE TOP TWO INTERIOR LATERAL PIECES. ADJUST THE HEIGHT OF THE SHORTER VERTICAL PIECES ACCORDINGLY.



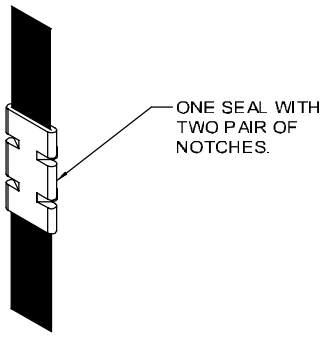
ALTERNATIVE FORWARD/REAR BLOCKING ASSEMBLY A

NOTE: THE ALTERNATIVE FORWARD/REAR BLOCKING ASSEMBLY MAY BE USED IN PLACE OF A FORWARD OR REAR BLOCKING ASSEMBLY IN THE LOAD DEPICTED ON PAGE 4. FOR A REAR BLOCKING ASSEMBLY, ATTACH STRUT LEDGERS AS SHOWN ON PAGE 8.



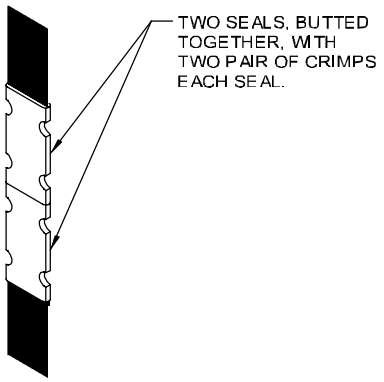
ALTERNATIVE FORWARD/REAR BLOCKING ASSEMBLY B

NOTE: THE ALTERNATIVE FORWARD/REAR BLOCKING ASSEMBLY MAY BE USED IN PLACE OF A FORWARD OR REAR BLOCKING ASSEMBLY IN THE LOAD DEPICTED ON PAGE 6.



STRAP JOINT A

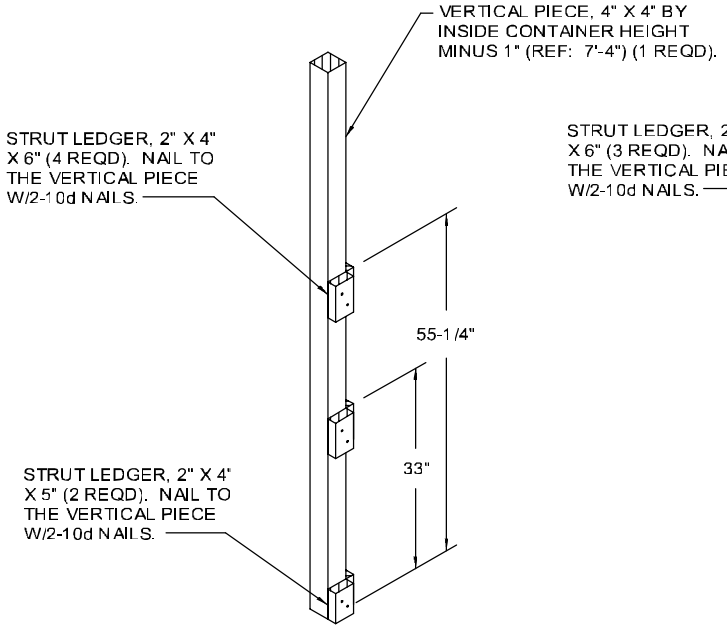
METHOD OF SECURING A STRAP JOINT WHEN USING A NOTCH-TYPE SEALER.



STRAP JOINT B

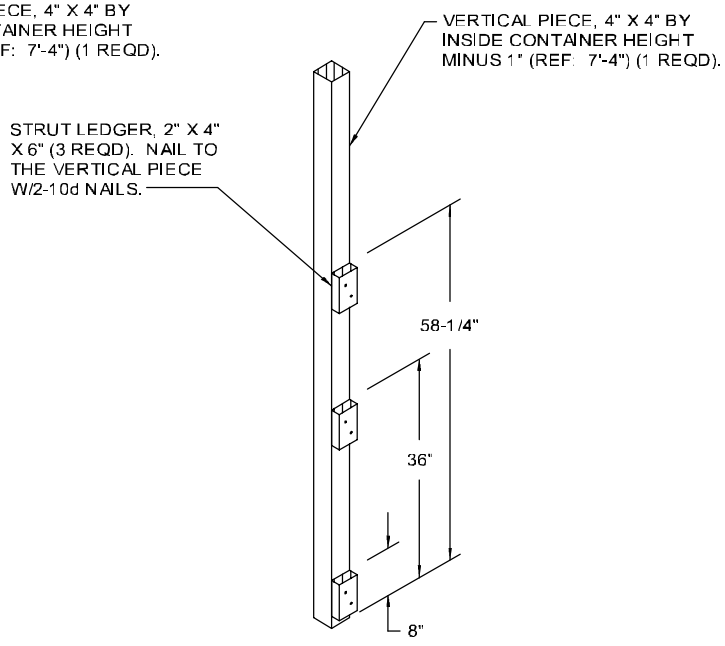
METHOD OF SECURING A STRAP JOINT WHEN USING A CRIMP-TYPE SEALER.

END-OVER-END LAP JOINT DETAILS



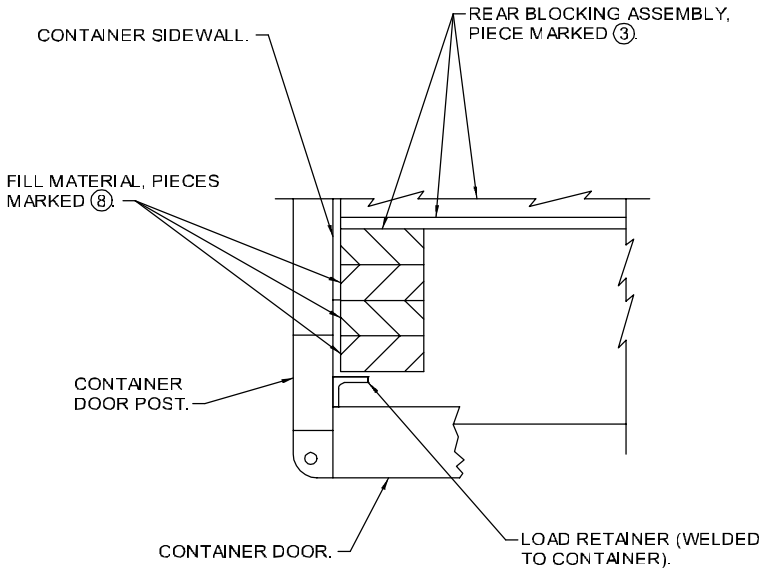
DOOR POST VERTICAL A

IF THE ISO CONTAINER TO BE LOADED IS NOT EQUIPPED WITH PRE-WELDED LOAD RETAINERS, THE DOOR POST VERTICALS MUST BE NAILED TO THE DOOR POST VERTICAL RETAINER. NAIL THROUGH THE HOLES IN THE DOOR POST VERTICAL RETAINER INTO THE DOOR POST VERTICAL W/4-10d NAILS.



DOOR POST VERTICAL B

IF THE ISO CONTAINER TO BE LOADED IS NOT EQUIPPED WITH PRE-WELDED LOAD RETAINERS, THE DOOR POST VERTICALS MUST BE NAILED TO THE DOOR POST VERTICAL RETAINER. NAIL THROUGH THE HOLES IN THE DOOR POST VERTICAL RETAINER INTO THE DOOR POST VERTICAL W/4-10d NAILS. TWO DOOR POST VERTICALS ARE REQUIRED WITHIN THE LOAD ON PAGE 6 WHEN THE ISO CONTAINER IS NOT EQUIPPED WITH PRE-WELDED LOAD RETAINERS. SEE "DETAIL B" ON PAGE 13.

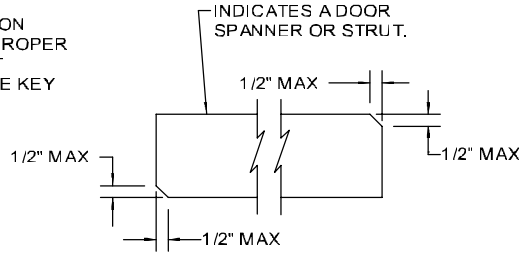


DETAIL A

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. KEY NUMBERS REFER TO THE KEY NUMBERS ON PAGE 6.

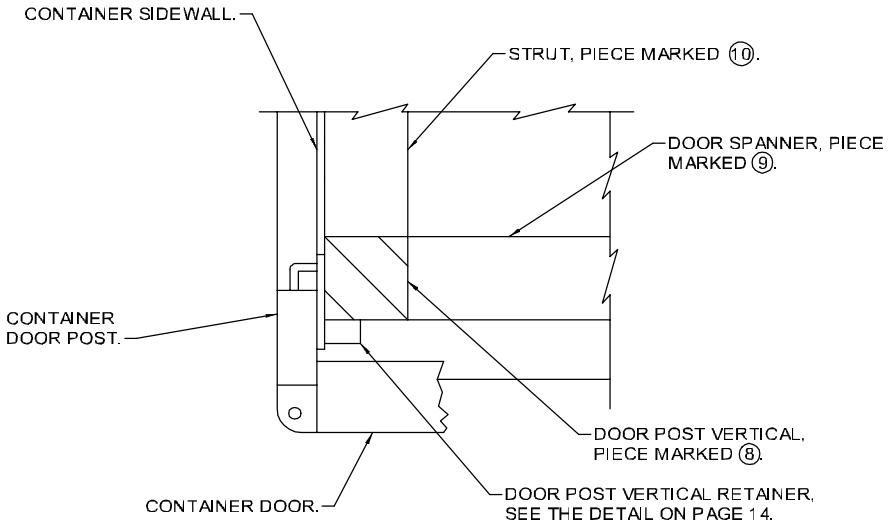
SPECIAL NOTE:

WHEN ISO CONTAINERS ARE NOT EQUIPPED WITH PRE-WELDED LOAD RETAINERS, AS DEPICTED IN "DETAIL A" ABOVE, DOOR POST VERTICAL RETAINERS WILL BE REQUIRED FOR THE LOADS DEPICTED ON PAGE 4 AND 6.. SEE VARIOUS LOADS WITHIN AMC DRAWING 19-48-4153-15PA1002 FOR EXAMPLES. SEE PAGE 14 FOR DETAILS OF THE METAL DOOR POST VERTICAL RETAINER.



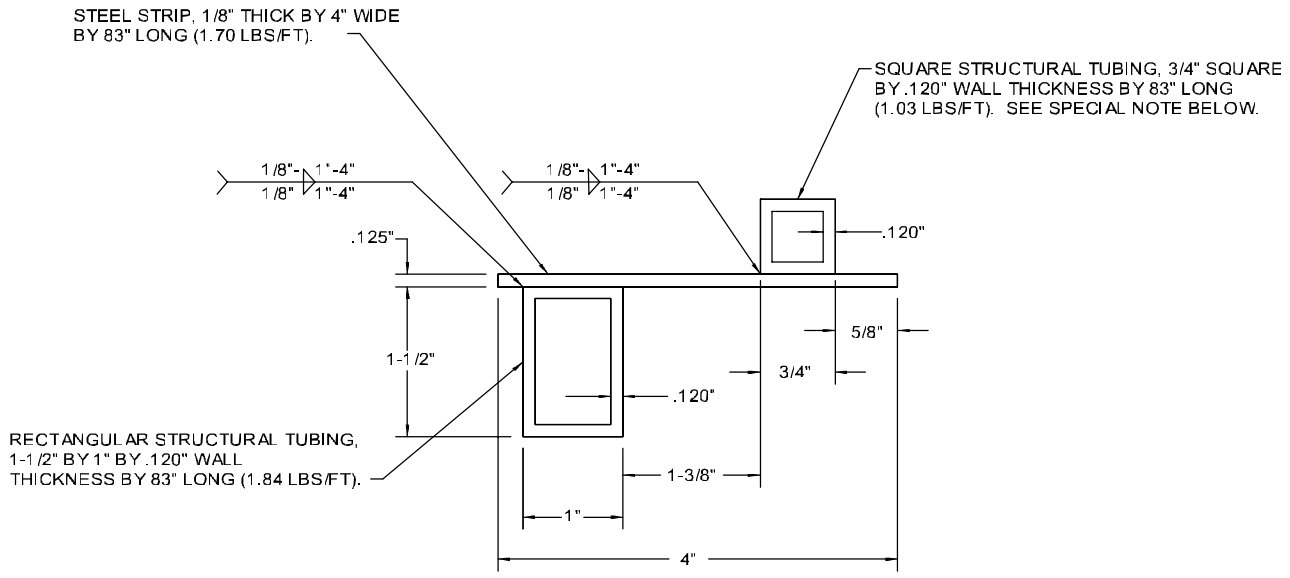
BEVEL-CUT

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

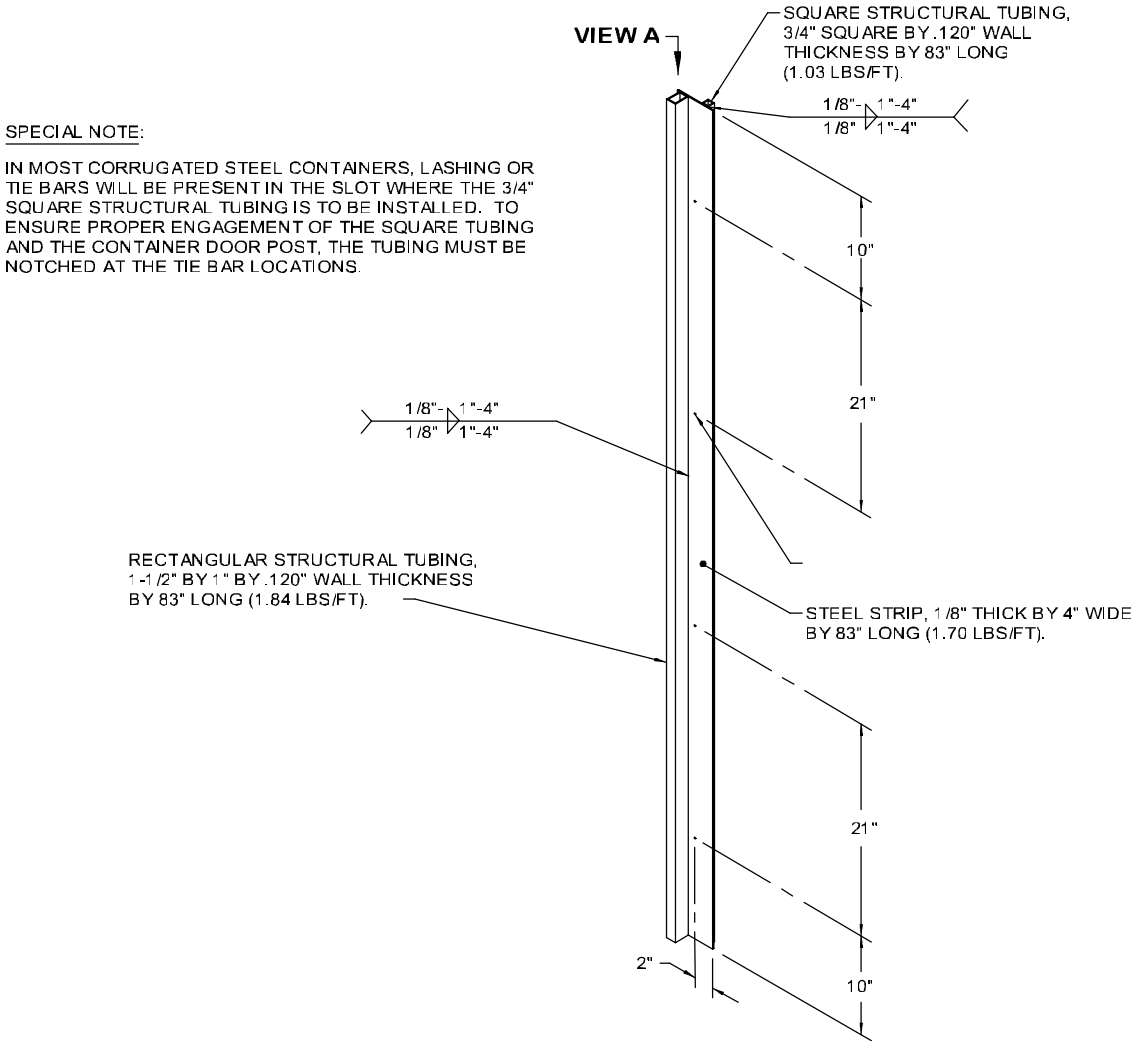


DETAIL B

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. KEY NUMBERS REFER TO THE KEY NUMBERS ON PAGE 4.



VIEW A



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.

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.