

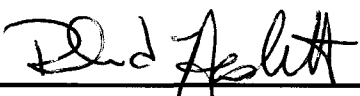
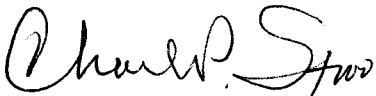
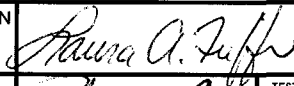

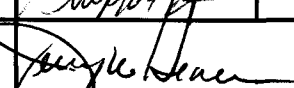
LOADING AND BRACING (TL & LTL) IN VAN TRAILERS* OF JASSM (AGM-158) MISSILES PACKED IN CNU-614/E CONTAINERS

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* **CAUTION:** THE PROCEDURES SHOWN HEREIN ARE ONLY APPLICABLE FOR HIGHWAY MOVEMENTS; NOT FOR TRAILER-ON-FLATCAR (TOFC) MOVEMENTS.

U.S. ARMY MATERIEL COMMAND DRAWING

APPROVED, U.S. ARMY JOINT MUNITIONS COMMAND 	CAUTION: VERIFY PRIOR TO USE AT WWW.DAC.ARMY.MIL THAT THIS IS THE MOST CURRENT VERSION OF THIS DOCUMENT. THIS IS PAGE 1 OF 16.			
	DO NOT SCALE		JUNE 2007	
	ENGINEER OR TECHNICIAN	BASIC REV.	MELVIN SIX	
APPROVED BY ORDER OF COMMANDING GENERAL, U.S. ARMY MATERIEL COMMAND 	TRANSPORTATION ENGINEERING DIVISION			
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U.S. ARMY DEFENSE AMMUNITION CENTER	ENGINEERING DIRECTORATE			
	CLASS	DIVISION	DRAWING	FILE
	19	48	8775	SP11J38

GENERAL NOTES

(GENERAL NOTES CONTINUED)

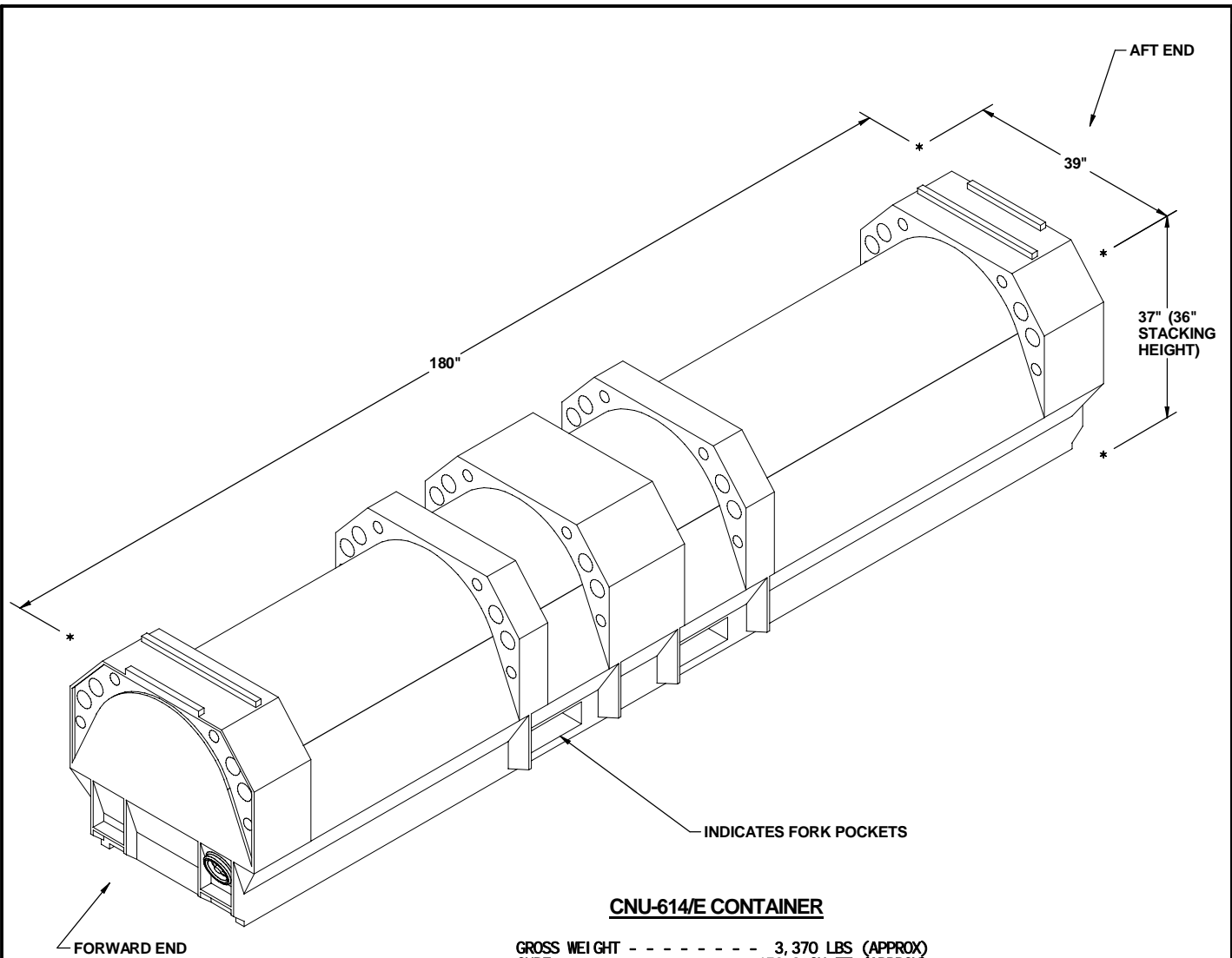
- A. THIS DOCUMENT HAS BEEN PREPARED AND ISSUED IN ACCORDANCE WITH AR 740-1 AND AUGMENTS TM 743-200-1 (CHAPTER 5).
- B. THE SPECIFIED OUTLOADING PROCEDURES ARE APPLICABLE TO LOADS OF JASSM MISSILES PACKED IN CNU-614/E CONTAINERS. SUBSEQUENT REFERENCE TO CONTAINER HEREIN MEANS CONTAINER WITH MISSILE ITEMS. SEE LOCKHEED MARTIN INTEGRATED SYSTEMS DRAWING 79601200 AND PAGE 3 FOR DETAILS OF THE CONTAINER.
- C. THE OUTLOADING PROCEDURES DEPICTED WITHIN THIS DOCUMENT ARE APPLICABLE FOR SHIPMENTS IN CONVENTIONAL TYPE VAN TRAILERS AND APPLY TO TRAILERS HAVING WOOD, OR WOOD AND METAL, OR ALL METAL FLOORS. REGARDLESS OF THE DIMENSIONS OF THE VAN TRAILERS SHOWN, THE PROCEDURES ARE ALSO APPLICABLE FOR TRAILERS WHICH ARE 89" THRU 101" IN WIDTH AND FOR TRAILERS OF OTHER LENGTHS FROM THE SHORTEST TO THE LONGEST AVAILABLE (REF: 24' TO 53'), AND FOR STRAIGHT TRUCK VANS. THE SPECIFIED BRACING IS ADEQUATE FOR LOADS WEIGHING UP TO AND INCLUDING THE MAXIMUM WEIGHTS PERMITTED BY LAW.
- D. THE GROSS WEIGHT AND AXLE DISTRIBUTION OF WEIGHT FOR A LOAD WILL BE THE RESPONSIBILITY OF THE CARRIER. THE CARRIER WILL ADVISE THE SHIPPER OF THE APPLICABLE LOADING REQUIREMENTS, AND THE SHIPPER WILL LOAD ACCORDINGLY. THE TOTAL WEIGHT OF THE LADING, OF THE DUNNAGE, OF THE TRACTOR, AND OF THE SEMITRAILER CARRYING THE LADING MUST NOT EXCEED THE MAXIMUM GROSS WEIGHT ALLOWED FOR THE STATE OR STATES THRU WHICH THE LOAD IS TO BE TRANSPORTED BY MOTOR CARRIER. LIKEWISE, THE GROSS WEIGHT ON A SINGLE OR TANDEM AXLE MUST NOT EXCEED THE MAXIMUM ALLOWABLE WEIGHT. IF THERE IS ANY DOUBT AS TO WHETHER THE TOTAL GROSS WEIGHT OR AXLE WEIGHT EXCEEDS THE MAXIMUM ALLOWED, WEIGHT SHOULD BE VERIFIED BY ACTUALLY WEIGHING THE LOADED VEHICLE.
- E. **NOTICE:** A SHIPMENT WILL BE POSITIONED IN THE TRAILER CONSISTENT WITH STATE WEIGHT LAWS. THE NUMBER OF LADING UNITS MAY BE ADJUSTED TO FIT THE SIZE OF THE TRAILER TO BE LOADED OR THE QUANTITY TO BE SHIPPED. COMBINATIONS OF THE OUTLOADING PROCEDURES SPECIFIED MAY BE USED, HOWEVER, THE APPROVED METHODS SHOWN MUST BE FOLLOWED AS CLOSELY AS POSSIBLE FOR BLOCKING, BRACING, AND STAYING OF THE DESIGNATED ITEMS.
- F. THE "LOAD AS SHOWN" FOR MOST OF THE FULL LOADS DEPICTED HEREIN IS BASED ON AN APPROXIMATE LADING WEIGHT OF 41,000 POUNDS. THE SPECIFIED BLOCKING AND BRACING FOR THE FULL LOADS IS ADEQUATE FOR THE RETENTION OF LOADS, UP TO 45,000 POUNDS, IF IT IS DESIRED TO INCREASE THE LADING WEIGHT.
- G. OTHER TYPES OF LADING ITEMS MAY BE LOADED INTO TRAILERS WHICH ARE PARTIALLY LOADED WITH CNU-614/E CONTAINERS, PROVIDING THE TOTAL LOAD IS COMPATIBLE, EXISTING DIRECTIVES ARE NOT VIOLATED, AND THE OTHER LADING ITEMS ARE BLOCKED AND BRACED TO EQUAL THE BLOCKING AND BRACING CRITERIA SPECIFIED HEREIN.

(CONTINUED AT RIGHT)

- H. SOME LOADS ARE SHOWN IN TRAILERS HAVING ROUNDED CORNERS AT THE FORWARD END. IF THE CONVENTIONAL VAN TRAILER BEING USED IS EQUIPPED WITH A SQUARE FRONT OR WITH AN INSTALLED BULKHEAD, OMIT THE FORWARD BLOCKING ASSEMBLY AND POSITION THE CONTAINERS DIRECTLY AGAINST THE FORWARD PORTION OF THE TRAILER.
- J. 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 3 FOR GUIDANCE.
- K. DUNNAGE LUMBER SPECIFIED THROUGHOUT THIS PROCEDURAL DRAWING IS OF 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.
- L. **NOTICE:** A STAGGERED NAILING PATTERN WILL BE USED WHEREVER POSSIBLE WHEN NAILS ARE DRIVEN INTO JOINTS OF DUNNAGE ASSEMBLIES. ALSO, A STAGGERED NAILING PATTERN WILL BE USED WHEN DUNNAGE IS NAILED TO THE FLOOR OF THE TRANSPORTING VEHICLE, OR WHEN LAMINATING DUNNAGE. THE NAILING PATTERN WILL BE ADJUSTED AS REQUIRED SO THAT A NAIL DOES NOT PENETRATE INTO OR NEAR A CRACK BETWEEN FLOOR BOARDS. 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 THE PIECE ONTO OR RIGHT BESIDE A NAIL IN A LOWER PIECE.
- M. POWER DRIVEN STAPLES MAY BE USED AS ALTERNATIVE FASTENERS FOR NAILS WHEN CONSTRUCTING DUNNAGE ASSEMBLIES WHICH ARE TO BE USED IN THE DELINEATED TRAILER LOADS SHOWN THROUGHOUT THIS DRAWING. THE STAPLES TO BE USED MUST BE EQUAL IN LENGTH TO THE SPECIFIED NAIL SIZE AND MUST BE SUBSTITUTED ON A ONE STAPLE FOR ONE NAIL BASIS. STAPLES WHICH ARE 2-1/2" OR LESS IN LENGTH SHOULD BE IN ACCORDANCE WITH ASTM F1667 AS NEARLY AS PRACTICABLE. STAPLES WHICH ARE LONGER THAN 2-1/2" WILL BE A COMMERCIAL GRADE, OF A QUALITY EQUIVALENT TO THOSE MANUFACTURED BY SENCO PRODUCTS INCORPORATED. **NOTE:** STAPLES WILL NOT BE SUBSTITUTED FOR NAILS IN ANY LOAD RESTRAINING FLOOR DUNNAGE APPLICATION.
- N. PORTIONS OF THE TRAILERS, SUCH AS SIDEWALLS, ENDWALLS, AND ROOFS, HAVE NOT BEEN SHOWN IN THE LOAD VIEWS FOR CLARITY PURPOSES.
- O. THE UNBLOCKED SPACE ACROSS THE WIDTH OF A LOAD BAY IS NOT TO EXCEED 6". EXCESSIVE SLACK CAN BE ELIMINATED FROM A LOAD BY INCREASING THE LENGTH OF THE STRUTS IN THE CENTER FILL ASSEMBLIES.
- P. IF THE SPACE AT THE REAR OF THE LOAD, BETWEEN THE CONTAINERS AND THE REAR DOOR MEASURES 1-1/2" OR LESS REAR BLOCKING IS NOT REQUIRED. IF THE SPACE AT THE REAR OF THE LOAD IS GREATER THAN 1-1/2" BUT LESS THE 9", USE THE "REAR BLOCKING ASSEMBLY B" AS DEPICTED ON PAGE 7. IF THE VOID AT THE REAR OF THE LOAD IS 9" OR GREATER, USE THE "REAR BLOCKING ASSEMBLY A", AS SHOWN ON PAGE 15. **NOTE:** REAR BLOCKING ASSEMBLIES MAY BE REPLACED WITH NAILED HEADERS AT THE REAR OF THE LOAD, PROVIDED THE TRAILER IS CONFIGURED SUCH AS TO ALLOW NAILING IN THE AREA IN QUESTION. REFER TO THE REAR HEADER ON PAGE 8 AND THE HEADER NAILING CHARTS ON PAGE 9 FOR GUIDANCE. **CAUTION:** THE NAILED HEADER METHOD IS REQUIRED WHEN LOADING VAN TRAILERS EQUIPPED WITH ROLL-UP TYPE DOORS.
- Q. **CAUTION:** WHEN POWER OR PNEUMATIC NAILERS ARE BEING USED IN THE APPLICATION OF NAILED FLOORLINE BLOCKING OR BRACING, CONTAINERS BEING LOADED INTO THE CONVEYANCE MUST BE POSITIONED TO ALLOW A CLEAR PATH OF EXIT FOR THE OPERATOR AT ALL TIMES, SHOULD AN EMERGENCY EXIT BECOME NECESSARY.
- R. THESE PROCEDURES CAN ALSO BE UTILIZED FOR THE SHIPMENT OF CNU-614/E CONTAINERS WHEN THEY ARE LOADED WITH AN ITEM OTHER THAN THE SPECIFIED JASSM MISSILES, OR WHEN THEY ARE EMPTY.
- S. 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.
- T. ANTI-CHAFING MATERIAL MAY BE INSTALLED AT POINTS OF CONTACT BETWEEN CONTAINERS AND THE VAN TRAILER OR INDIVIDUAL CONTAINERS, IF DESIRED, TO PREVENT CHAFING DAMAGE TO CONTAINERS.

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).
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.
ANTI-CHAFING MATERIAL - - - - - :	MIL-PRF-121 (OR EQUAL); NEUTRAL BARRIER MATERIAL.



CNU-614/E CONTAINER

GROSS WEIGHT - - - - - 3,370 LBS (APPROX)
 CUBE - - - - - 150.3 CU FT (APPROX)



ONE SEAL WITH TWO PAIR OF NOTCHES.

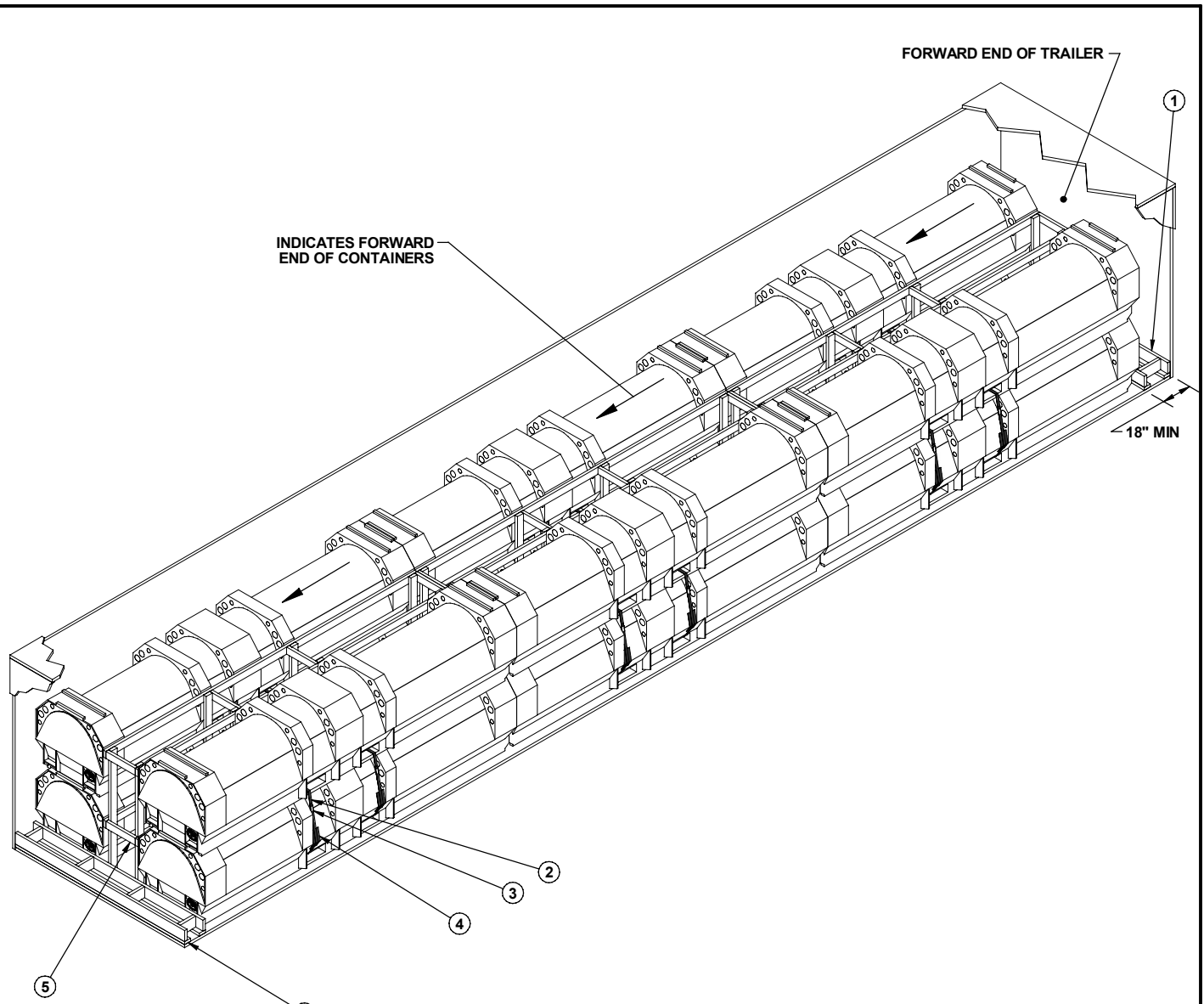
STRAP JOINT A
 METHOD OF SECURING A STRAP JOINT WHEN USING A NOTCH-TYPE SEALER.



TWO SEALS, BUTTED TOGETHER, WITH TWO PAIR OF CRIMPS EACH SEAL.

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

END-OVER-END LAP JOINT DETAILS



ISOMETRIC VIEW

KEY NUMBERS

- ① FORWARD BLOCKING ASSEMBLY A (1 REQD). SEE THE DETAIL ON PAGE 15 AND SPECIAL NOTE 2 ON PAGE 5.
- ② UNITIZING STRAP, 1-1/4" X .035" OR .031" X 12'-0" LONG STEEL STRAPPING (12 REQD, 2 PER CONTAINER STACK). INSTALL THROUGH FORK POCKETS AS FAR APART AS POSSIBLE.
- ③ SEAL FOR 1-1/4" STEEL STRAPPING (12 REQD, 1 PER STRAP). DOUBLE NOTCH EACH SEAL.
- ④ ANTI-CHAFING NEUTRAL BARRIER MATERIAL (AS REQD). POSITION UNDER ALL STRAPS AT POINTS OF CONTACT WITH THE CONTAINER, EXCEPT THROUGH FORKLIFT OPENINGS.
- ⑤ CENTER FILL ASSEMBLY (3 REQD). SEE THE DETAIL ON PAGE 14 AND SPECIAL NOTE 3 ON PAGE 5.
- ⑥ REAR BLOCKING ASSEMBLY A (1 REQD). SEE THE DETAIL ON PAGE 16 AND SPECIAL NOTE 4 ON PAGE 5.

SPECIAL NOTES:

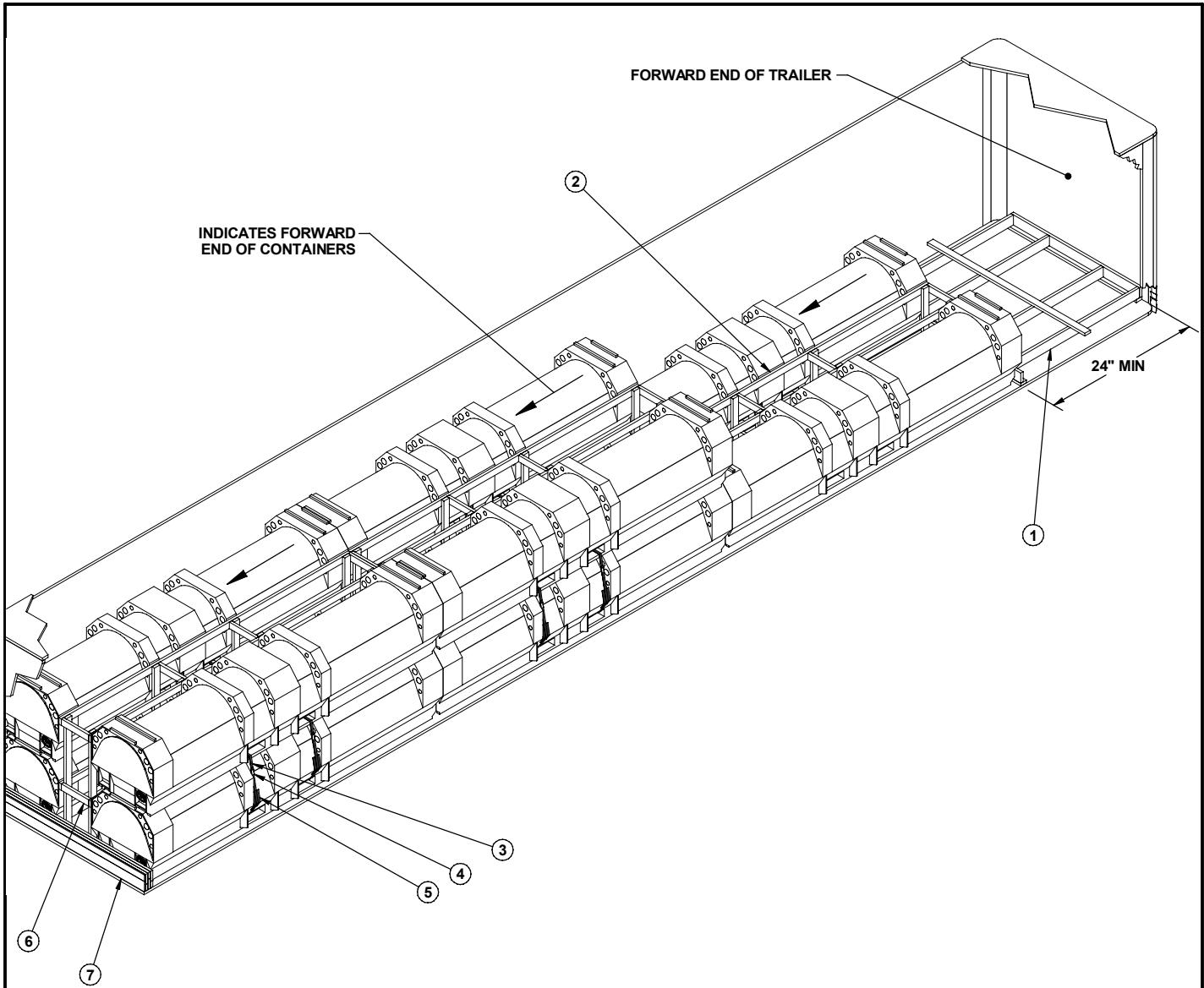
1. A 48'-0" LONG BY 8'-2" WIDE (INSIDE DIMENSION) VAN TRAILER WITH SQUARE FRONT IS SHOWN. TRAILERS OF OTHER DIMENSIONS CAN BE USED.
2. THE 18" MINIMUM FORWARD BLOCKING ASSEMBLY IS REQUIRED TO PROVIDE AN ALLOWABLE AXLE WEIGHT DISTRIBUTION IN AN AVERAGE TRAILER. THE FORWARD BLOCKING ASSEMBLY MAY BE OMITTED IN ACCORDANCE WITH GENERAL NOTE "H" ON PAGE 2 IF THE RESULTANT AXLE WEIGHT DISTRIBUTION OF THE LOADED TRAILER WILL BE IN ACCORDANCE WITH STATE WEIGHT LAWS.
3. CENTER FILL ASSEMBLIES MAY BE OMITTED WHEN THE SPACE BETWEEN LATERALLY ADJACENT CONTAINERS IS 6" OR LESS.
4. IF THE SPACE AT THE REAR OF THE LOAD BETWEEN THE CONTAINERS AND THE REAR DOOR IS 9" OR GREATER, USE THE "REAR BLOCKING ASSEMBLY A" AS SHOWN. IF THE SPACE AT THE REAR OF THE LOAD IS GREATER THAN 1-1/2" BUT LESS THAN 9", USE THE "REAR BLOCKING ASSEMBLY B" AS DETAILED ON PAGE 7. IF THE SPACE AT THE REAR OF THE LOAD IS 1-1/2" OR LESS, REAR BLOCKING IS NOT REQUIRED. NOTE: REAR BLOCKING ASSEMBLIES MAY BE REPLACED WITH NAILED HEADERS AT THE REAR OF THE LOAD, PROVIDED THE TRAILER IS CONFIGURED SUCH AS TO ALLOW NAILING IN THE AREA IN QUESTION. REFER TO THE REAR HEADER ON PAGE 8 AND THE HEADER NAILING CHARTS ON PAGE 9 FOR GUIDANCE.
5. THE DEPICTED LOAD CAN BE ADJUSTED TO SUIT THE QUANTITY TO BE SHIPPED, OR TO SUIT THE WEIGHT OF THE UNIT BEING LOADED.

BILL OF MATERIAL

LUMBER	LINEAR FEET	BOARD FEET
2" X 4"	370	247
2" X 6"	41	41
NAILS	NO. REQD	POUNDS
10d (3")	288	4-1/2
STEEL STRAPPING, 1-1/4" - - 144' REQD - - - 21 LBS		
SEAL FOR 1-1/4" STRAPPING - - 12 REQD - - - 3/4 LB		

LOAD AS SHOWN

ITEM	QUANTITY	WEIGHT (APPROX)
CNU-614/E CONTAINER - - -	12 - - - -	40,440 LBS
DUNNAGE - - - - -	- - - - -	600 LBS
TOTAL WEIGHT - - - - -		41,040 LBS (APPROX)



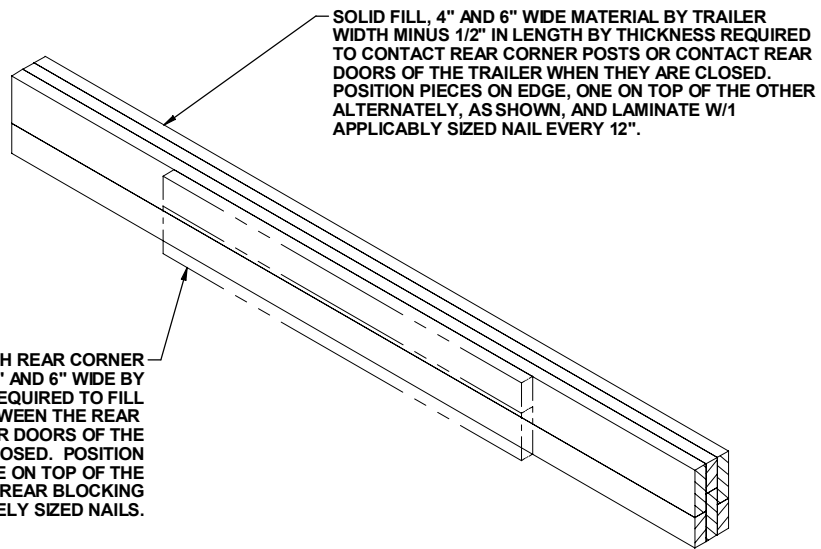
ISOMETRIC VIEW

KEY NUMBERS

- ① FORWARD BLOCKING ASSEMBLY A (1 REQD). SEE THE DETAIL ON PAGE 15 AND SPECIAL NOTE 2 ON PAGE 7.
- ② CENTER FILL ASSEMBLY (1 REQD, ONE HIGH). SEE THE DETAIL ON PAGE 14 AND SPECIAL NOTE 3 ON PAGE 7.
- ③ UNITIZING STRAP, 1-1/4" X .035" OR .031" X 12'-0" LONG STEEL STRAPPING (8 REQD, 2 PER CONTAINER STACK). INSTALL THROUGH FORK POCKETS AS FAR APART AS POSSIBLE.
- ④ SEAL FOR 1-1/4" STEEL STRAPPING (8 REQD, 1 PER STRAP). DOUBLE NOTCH EACH SEAL.
- ⑤ ANTI-CHAFING NEUTRAL BARRIER MATERIAL (AS REQD). POSITION UNDER ALL STRAPS AT POINTS OF CONTACT WITH THE CONTAINER, EXCEPT THROUGH FORKLIFT OPENINGS.
- ⑥ CENTER FILL ASSEMBLY (2 REQD, TWO HIGH). SEE THE DETAIL ON PAGE 14 AND SPECIAL NOTE 3 ON PAGE 7.
- ⑦ REAR BLOCKING ASSEMBLY B (1 REQD). SEE THE DETAIL ON PAGE 7 AND SPECIAL NOTE 4 ON PAGE 7.

SPECIAL NOTES:

1. A 53'-0" LONG BY 8'-2" WIDE (INSIDE DIMENSION) VAN TRAILER IS SHOWN. TRAILERS OF OTHER DIMENSIONS CAN BE USED.
2. THE 24" MINIMUM FORWARD BLOCKING ASSEMBLY DIMENSION REPRESENTS THE MINIMUM DIMENSION NEEDED TO PROVIDE AN ALLOWABLE AXLE WEIGHT DISTRIBUTION IN AN AVERAGE TRAILER.
3. CENTER FILL ASSEMBLIES MAY BE OMITTED WHEN THE SPACE BETWEEN THE LATERALLY ADJACENT CONTAINERS IS 6" OR LESS.
4. IF THE SPACE AT THE REAR OF THE LOAD, BETWEEN THE CONTAINERS AND THE REAR DOOR IS 1-1/2" OR LESS, REAR BLOCKING IS NOT REQUIRED. IF THE SPACE AT THE REAR OF THE LOAD IS GREATER THAN 1-1/2" BUT LESS THAN 9", USE THE "REAR BLOCKING ASSEMBLY B" AS SHOWN. IF THE SPACE AT THE REAR OF THE LOAD IS 9" OR GREATER, USE THE "REAR BLOCKING ASSEMBLY A" AS DETAILED ON PAGE 16. **NOTE:** REAR BLOCKING ASSEMBLIES MAY BE REPLACED WITH NAILED HEADERS AT THE REAR OF THE LOAD, PROVIDED THE TRAILER IS CONFIGURED SUCH AS TO ALLOW NAILING IN THE AREA IN QUESTION. REFER TO THE REAR HEADER ON PAGE 8 AND THE HEADER NAILING CHARTS ON PAGE 9 FOR GUIDANCE.
5. THE DEPICTED LOAD CAN BE ADJUSTED TO SUIT THE QUANTITY TO BE SHIPPED, OR TO SUIT THE WEIGHT OF THE UNIT BEING LOADED.



IF THE TRAILER IS EQUIPPED WITH REAR CORNER POSTS, INSTALL SOLID FILL, 4" AND 6" WIDE BY 48" LONG BY THE THICKNESS REQUIRED TO FILL THE EXCESS SPACE BETWEEN THE REAR BLOCKING AND THE REAR DOORS OF THE TRAILER WHEN THEY ARE CLOSED. POSITION PIECES ON THE EDGE, ONE ON TOP OF THE OTHER AS SHOWN. NAIL TO THE REAR BLOCKING W/4 APPROPRIATELY SIZED NAILS.

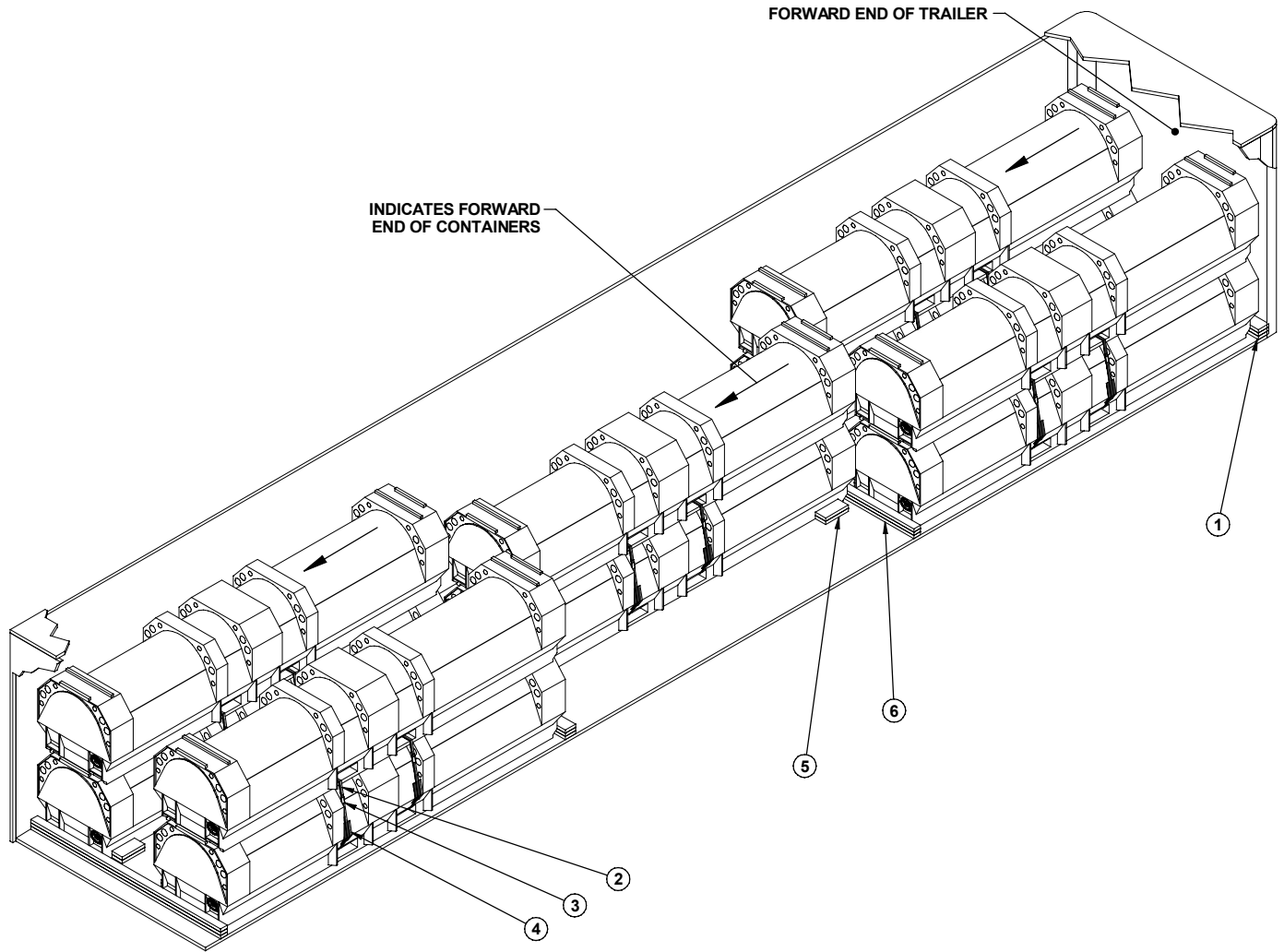
REAR BLOCKING ASSEMBLY B

THIS ASSEMBLY IS DESIGNED FOR USE AT THE REAR OF A LOAD WHEN THE SPACE BETWEEN THE LADING AND THE TRAILER DOOR IS GREATER THAN 1-1/2" BUT LESS THAN 9", AS SHOWN ON PAGE 6. NOTE THAT THE ABOVE VIEW IS ROTATED 180° FROM THE POSITION IN WHICH IT WILL BE INSTALLED.

BILL OF MATERIAL		
LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	9	3
1" X 6"	9	4
2" X 4"	361	241
2" X 6"	67	67
NAILS	NO. REQD	POUNDS
6d (2")	18	NIL
10d (3")	290	4-1/2
STEEL STRAPPING, 1-1/4" - - 96' REQD - - - 14 LBS		
SEAL FOR 1-1/4" STRAPPING - - 8 REQD - - - 1/2 LB		

LOAD AS SHOWN

ITEM	QUANTITY	WEIGHT (APPROX)
CNU-614/E CONTAINER	10	33,700 LBS
DUNNAGE		646 LBS
TOTAL WEIGHT		34,346 LBS (APPROX)



ISOMETRIC VIEW

KEY NUMBERS

- ① FORWARD HEADER, 2" X 6" BY TRAILER WIDTH MINUS 1/2" (TRIPLED) (2 REQD). NAIL THE FIRST PIECE TO THE TRAILER FLOOR W/6-10d NAILS. NAIL THE SECOND AND THIRD PIECE TO THE PREVIOUS PIECE W/6-20d NAILS. SEE THE HEADER NAILING CHARTS ON PAGE 9.
- ② UNITIZING STRAP, 1-1/4" X .035" OR .031" X 12'-0" LONG STEEL STRAPPING (10 REQD, 2 PER CONTAINER STACK). INSTALL THROUGH FORK POCKETS AS FAR APART AS POSSIBLE.
- ③ SEAL FOR 1-1/4" STEEL STRAPPING (10 REQD, 1 PER STRAP). DOUBLE NOTCH EACH SEAL.
- ④ ANTI-CHAFING NEUTRAL BARRIER MATERIAL (AS REQD). POSITION UNDER ALL STRAPS AT POINTS OF CONTACT WITH THE CONTAINER, EXCEPT THROUGH THE FORKLIFT OPENINGS.
- ⑤ SIDE BLOCKING, 2" X 6" X 12" (DOUBLED) (12 REQD). NAIL THE FIRST PIECE TO THE TRAILER FLOOR W/4-10d NAILS. NAIL THE SECOND PIECE TO THE FIRST W/4-10d NAILS. SEE SPECIAL NOTE 2 ON PAGE 9.
- ⑥ REAR HEADER, 2" X 4" BY TRAILER WIDTH MINUS 1/2" (TRIPLED) (2 REQD). NAIL THE FIRST PIECE TO THE TRAILER FLOOR W/8-10d NAILS. NAIL THE SECOND AND THIRD PIECE TO THE PREVIOUS PIECE W/8-10d NAILS. SEE THE HEADER NAILING CHARTS ON PAGE 9 AND SPECIAL NOTE 3 ON PAGE 9.

FORWARD HEADER NAILING CHART*	
#NAILS	MAX. LOAD WEIGHT (LBS)
3	15,000
4	20,000
5	25,000
6	30,000
7	35,000
8	40,000
9	45,000

● HEADERS AT THE FRONT END OF A LOAD OR AT THE FRONT END OF A DIVIDED LOAD WILL BE DOUBLED 2" X 6" MATERIAL. THE NUMBER OF NAILS INDICATED ABOVE REFERS TO THE NUMBER OF NAILS USED IN EACH LAMINATION OF A HEADER, FOR EXAMPLE 8 NAILS MEANS THE FIRST BOARD IS NAILED TO THE TRAILER FLOOR W/8-10d NAILS, AND THE SECOND BOARD IS LAMINATED TO THE FIRST W/8-20d NAILS, FOR A TOTAL OF 8-10d AND 8-20d NAILS PER HEADER.

REAR HEADER NAILING CHART*	
#NAILS	MAX. LOAD WEIGHT (LBS)
6	15,000
7	17,500
8	20,000
9	22,500
10	25,000
11	27,500
12	30,000
13	32,500
14	35,000
15	37,500
16	40,000
17	42,500
18	45,000

* HEADERS AT THE REAR OF A FULL LOAD OR AT THE REAR END OF A DIVIDED LOAD WILL BE DOUBLED 2" X 4" MATERIAL. THE NUMBER OF NAILS INDICATED ABOVE REFERS TO THE NUMBER OF NAILS USED IN EACH LAMINATION OF A HEADER, FOR EXAMPLE 8 NAILS MEANS THE FIRST BOARD IS NAILED TO THE TRAILER FLOOR W/8-10d NAILS, AND THE SECOND BOARD IS LAMINATED TO THE FIRST W/8-10d NAILS, FOR A TOTAL OF 16-10d NAILS. NOTE: REAR HEADERS MAY BE HANDLED IN THE SAME MANNER AS FORWARD HEADERS, USING 2" X 6" MATERIAL WITH 10d AND 20d NAILS, IF DESIRED.

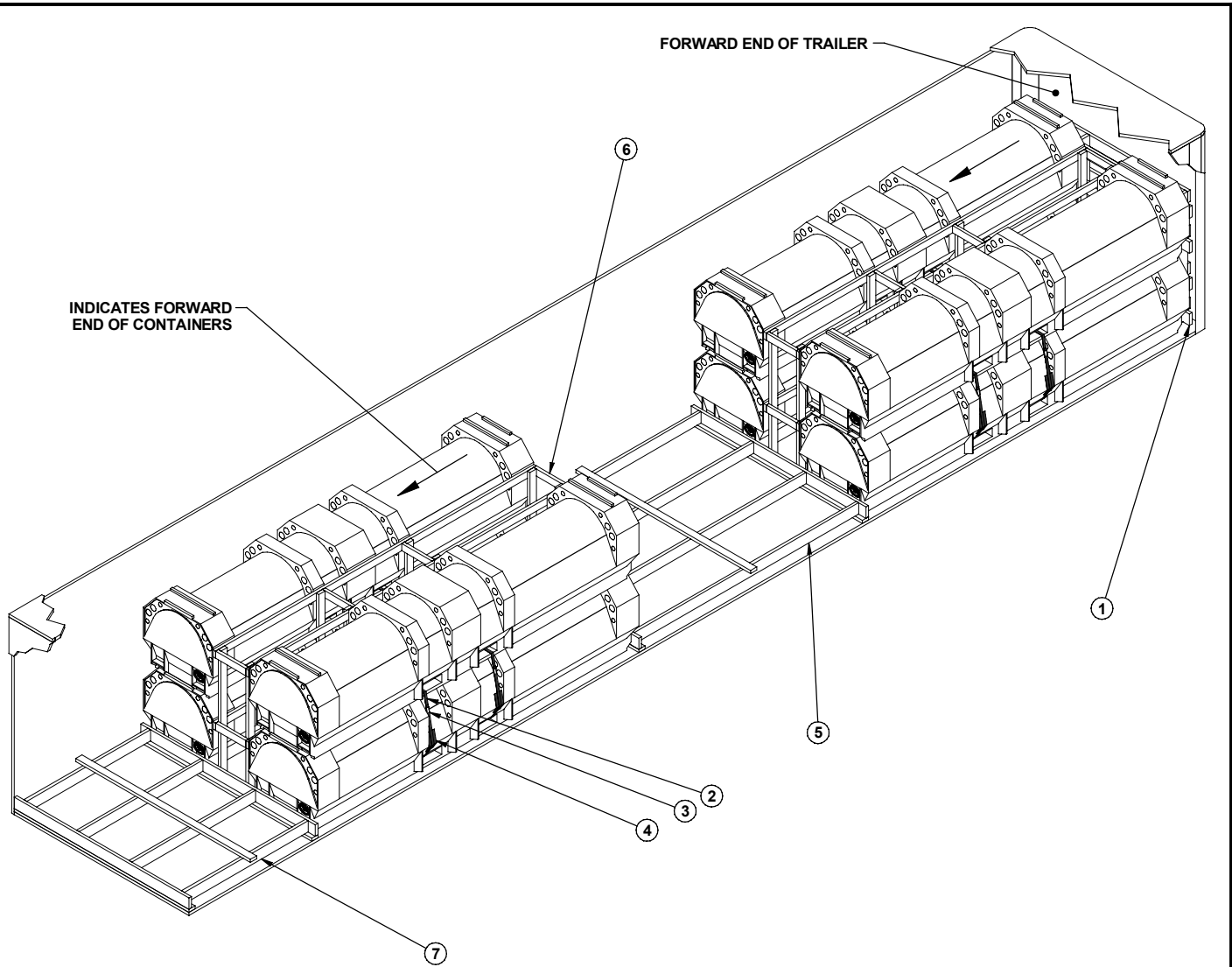
SPECIAL NOTES:

1. A 48'-0" LONG BY 8'-5" WIDE (INSIDE DIMENSION) VAN TRAILER WITH ROUNDED FRONT CORNERS IS SHOWN. TRAILERS OF OTHER DIMENSIONS CAN BE USED.
2. SIDE BLOCKING OR CENTER FILL ASSEMBLIES ARE REQUIRED WHEN THE SPACE BETWEEN THE Laterally Adjacent Containers Exceeds 6".
3. IF THE SPACE AT THE REAR OF THE LOAD, BETWEEN THE CONTAINERS AND THE REAR DOOR IS 1-1/2" OR LESS, REAR BLOCKING IS NOT REQUIRED. IF THE TRAILER IS EQUIPPED WITH A METAL THRESHOLD PLATE AND IT INTERFERES WITH THE NAILING OF THE REAR HEADER, ONE OF THE REAR BLOCKING ASSEMBLIES DESCRIBED BELOW MUST BE INSTALLED. IF THE SPACE AT THE REAR OF THE LOAD IS GREATER THAN 1-1/2" BUT LESS THAN 9", USE THE "REAR BLOCKING ASSEMBLY B" AS DETAILED ON PAGE 7. IF THE SPACE AT THE REAR OF THE LOAD IS 9" OR GREATER, USE THE "REAR BLOCKING ASSEMBLY A" AS DETAILED ON PAGE 16.
4. THE SPLIT IN THE LOAD CONFIGURATION ON PAGE 8 IS SHOWN AS TYPICAL ONLY. CONTAINERS MAY BE SHIFTED FORE OR AFT, THE QUANTITY IN EACH LOAD BAY MAY BE ADJUSTED, OR ALL THE CONTAINERS MAY BE GROUPED TOGETHER IN ONE LOAD BAY AS NEEDED TO SUIT THE QUANTITY TO BE SHIPPED, OR TO SUIT THE WEIGHT OF THE UNIT BEING LOADED OR THE SUPPLIED EQUIPMENT.

BILL OF MATERIAL		
LUMBER	LINEAR FEET	BOARD FEET
2" X 4"	51	34
2" X 6"	75	75
NAILS	NO. REQD	POUNDS
10d (3")	144	2-1/4
20d (4")	12	1/2
STEEL STRAPPING, 1-1/4" -- 120' REQD -- 18 LBS		
SEAL FOR 1-1/4" STRAPPING -- 10 REQD -- 1/2 LB		

LOAD AS SHOWN

ITEM	QUANTITY	WEIGHT (APPROX)
CNU-614/E CONTAINER	10	33,700 LBS
DUNNAGE		238 LBS
TOTAL WEIGHT		33,938 LBS (APPROX)



ISOMETRIC VIEW

KEY NUMBERS

- ① FORWARD BLOCKING ASSEMBLY B (1 REQD). SEE THE DETAIL ON PAGE 16.
- ② UNITIZING STRAP, 1-1/4" X .035" OR .031" X 12'-0" LONG STEEL STRAPPING (8 REQD, 2 PER CONTAINER STACK). INSTALL THROUGH FORK POCKETS AS FAR APART AS POSSIBLE.
- ③ SEAL FOR 1-1/4" STEEL STRAPPING (8 REQD, 1 PER STRAP). DOUBLE NOTCH EACH SEAL.
- ④ ANTI-CHAFING NEUTRAL BARRIER MATERIAL (AS REQD). POSITION UNDER ALL STRAPS AT POINTS OF CONTACT WITH THE CONTAINER, EXCEPT THROUGH FORKLIFT OPENINGS.
- ⑤ CENTER FILL ASSEMBLY (2 REQD). SEE THE DETAIL ON PAGE 14 AND SPECIAL NOTE 2 ON PAGE 11.
- ⑥ CENTER SPACER ASSEMBLY (1 REQD). SEE THE DETAIL ON PAGE 14 AND SPECIAL NOTE 4 ON PAGE 11.
- ⑦ REAR BLOCKING ASSEMBLY A (1 REQD). SEE THE DETAIL ON PAGE 16 AND SPECIAL NOTE 3 ON PAGE 11.

SPECIAL NOTES:

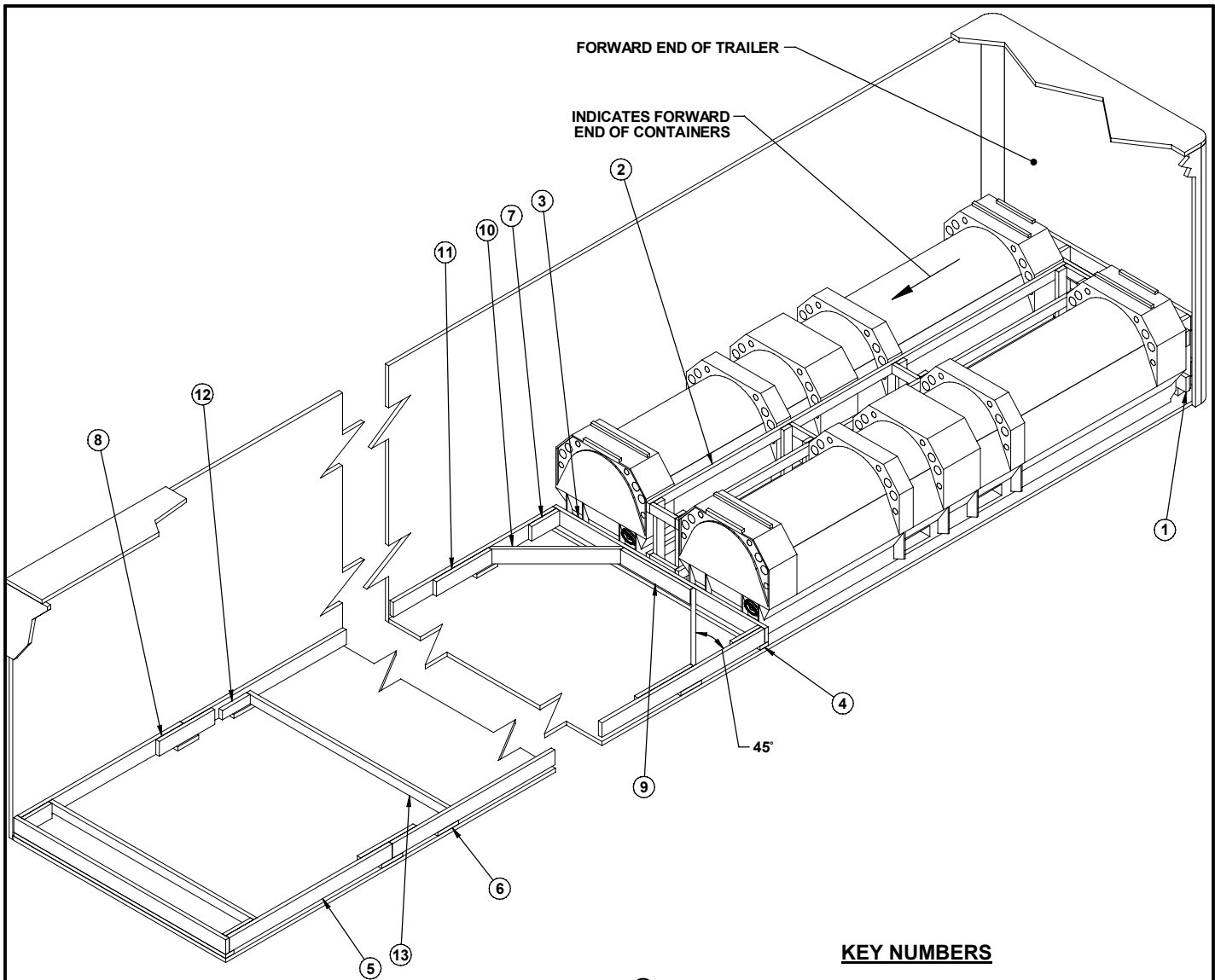
1. A 48'-0" LONG BY 8'-2" WIDE (INSIDE DIMENSION) VAN TRAILER WITH ROUNDED FRONT CORNERS IS SHOWN. TRAILERS OF OTHER DIMENSIONS CAN BE USED.
2. CENTER FILL ASSEMBLIES MAY BE OMITTED WHEN THE SPACE BETWEEN LATERALLY ADJACENT CONTAINERS IS 6" OR LESS.
3. IF THE SPACE AT THE REAR OF THE LOAD BETWEEN THE CONTAINERS AND THE REAR DOOR IS 9" OR GREATER, USE THE "REAR BLOCKING ASSEMBLY A" AS SHOWN. IF THE SPACE AT THE REAR OF THE LOAD IS GREATER THAN 1-1/2" BUT LESS THAN 9", USE THE "REAR BLOCKING ASSEMBLY B" AS DETAILED ON PAGE 7. IF THE SPACE AT THE REAR OF THE LOAD IS 1-1/2" OR LESS, REAR BLOCKING IS NOT REQUIRED. **NOTE:** REAR BLOCKING ASSEMBLIES MAY BE REPLACED WITH NAILED HEADERS AT THE REAR OF THE LOAD, PROVIDED THE TRAILER IS CONFIGURED SUCH AS TO ALLOW NAILING IN THE AREA IN QUESTION. REFER TO THE REAR HEADER ON PAGE 8 AND THE HEADER NAILING CHARTS ON PAGE 9 FOR GUIDANCE.
4. IF THE TRAILER BEING LOADED IS EQUIPPED WITH A WOOD OR WOOD AND METAL FLOOR, AND IF DESIRED, NAILED HEADERS MAY BE USED IN LIEU OF CENTER SPACER ASSEMBLIES. SEE THE LOAD ON PAGE 8 FOR DETAILS.
5. THE DEPICTED LOAD CAN BE ADJUSTED TO SUIT THE QUANTITY TO BE SHIPPED, OR TO SUIT THE WEIGHT OF THE UNIT BEING LOADED.

BILL OF MATERIAL

LUMBER	LINEAR FEET	BOARD FEET
2" X 4"	273	182
2" X 6"	178	178
NAILS	NO. REQD	POUNDS
10d (3")	336	5-1/4
STEEL STRAPPING, 1-1/4" - - 96' REQD - - 14 LBS		
SEAL FOR 1-1/4" STRAPPING - - 8 REQD - - 1/2 LB		

LOAD AS SHOWN

ITEM	QUANTITY	WEIGHT (APPROX)
CNU-614/E CONTAINER	8	26,960 LBS
DUNNAGE		739 LBS
TOTAL WEIGHT		27,699 LBS (APPROX)



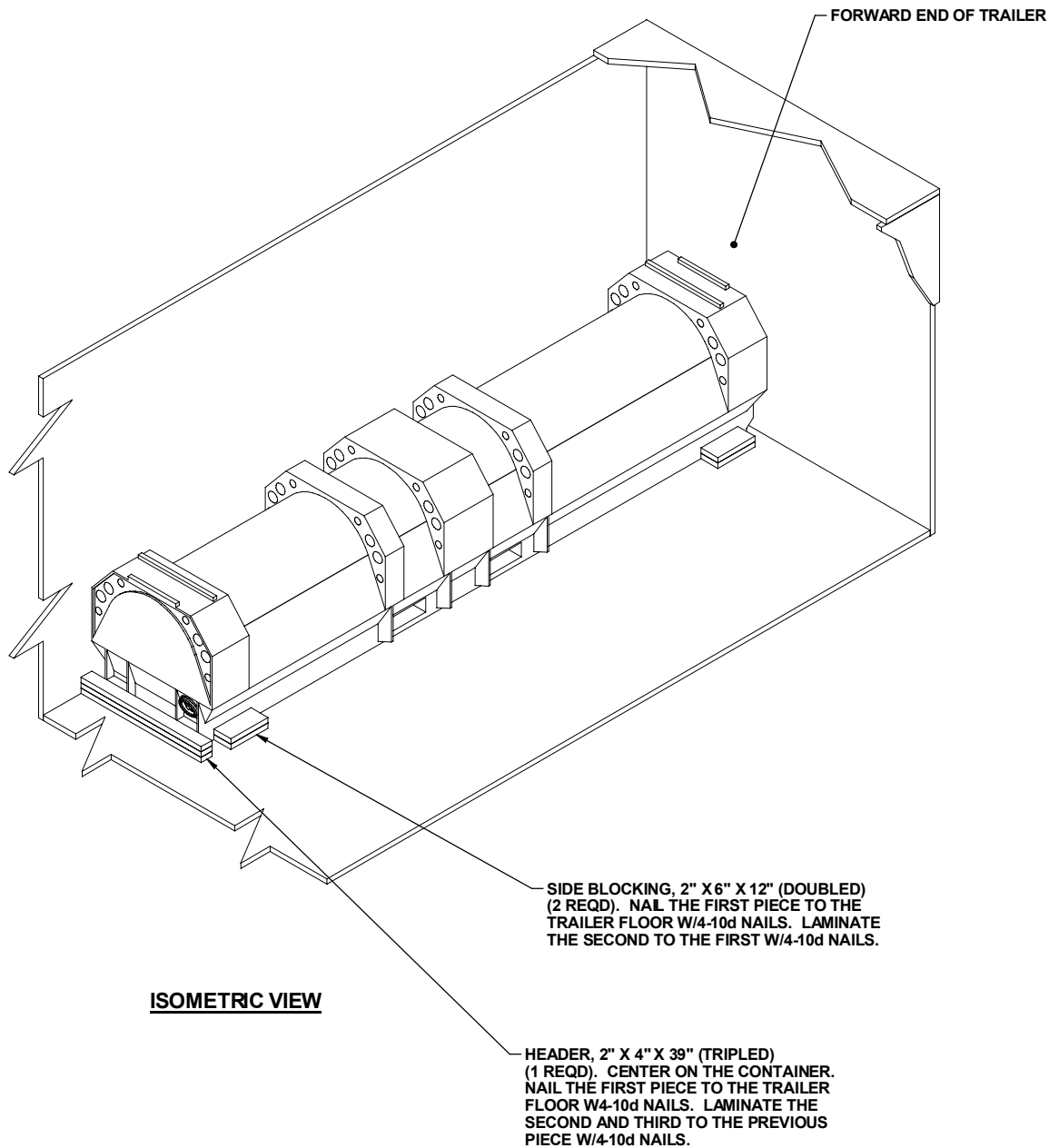
ISOMETRIC VIEW

KEY NUMBERS

- ① FORWARD BLOCKING ASSEMBLY B (1 REQD). SEE THE DETAIL ON PAGE 16.
- ② CENTER FILL ASSEMBLY (1 REQD). INSTALL BETWEEN LATERALLY ADJACENT CONTAINERS. SEE THE DETAIL ON PAGE 14 AND SPECIAL NOTE 2 AT LEFT.
- ③ HEADER, 2" X 6" BY TRAILER WIDTH MINUS 1/2" IN LENGTH (2 REQD).
- ④ HEADER AND SIDE STRUT SUPPORT, 2" X 4" BY TRAILER WIDTH MINUS 1/2" (2 REQD). NAIL TO THE HEADER W/1-10d NAIL EVERY 8".
- ⑤ SIDE STRUT, 2" X 6" BY CUT TO FIT BETWEEN THE FORWARD AND REAR HEADERS (2 REQD). SEE SPECIAL NOTE 3 AT LEFT.
- ⑥ RISER PIECE, 2" X 4" X 9" (AS REQD). CENTER UNDER THE JOINTS OF THE DIAGONAL BRACE AND BACK-UP CLEAT, AND UNDER THE SPLICE OF SIDE STRUT IF APPLICABLE. NAIL TO THE SIDE STRUT W/2-10d NAILS.
- ⑦ POCKET CLEAT, 2" X 6" X 12" (4 REQD). NAIL TO A SIDE STRUT W/3-10d NAILS. TOENAIL TO THE ADJACENT HEADER W/3-12d NAILS.
- ⑧ SPLICE PIECE, 2" X 6" X 24" (AS REQD). CENTER ON JOINT OF PIECE AND NAIL TO SIDE STRUT W/4-10d NAILS AT EACH END.
- ⑨ CENTER CLEAT, 2" X 6" X 30" (1 REQD). NAIL TO A HEADER W/6-10d NAILS.
- ⑩ DIAGONAL BRACE, 2" X 6" BY CUT TO FIT (2 REQD). DOUBLE BEVEL EACH END WITH 45° CUTS. INSTALL AT A 45° ANGLE AS SHOWN AND TOENAIL TO THE ADJACENT HEADER AND SIDE STRUT W/2-16d NAILS AT EACH END.
- ⑪ BACK-UP CLEAT, 2" X 6" X 24" (2 REQD). NAIL TO A SIDE STRUT W/8-10d NAILS.
- ⑫ STRUT BRACE RETAINING CLEAT, 2" X 4" X 12" (AS REQD). NAIL TO A SIDE STRUT W/3-10d NAILS.
- ⑬ STRUT BRACE, 2" X 4" BY TRAILER WIDTH MINUS 3" IN LENGTH (MINIMUM OF ONE REQUIRED). NAIL TO THE POCKET CLEATS AND/OR TO THE STRUT BRACE RETAINING CLEATS, W/2-12d NAILS AT EACH END. SEE SPECIAL NOTE 4 AT LEFT.

SPECIAL NOTES:

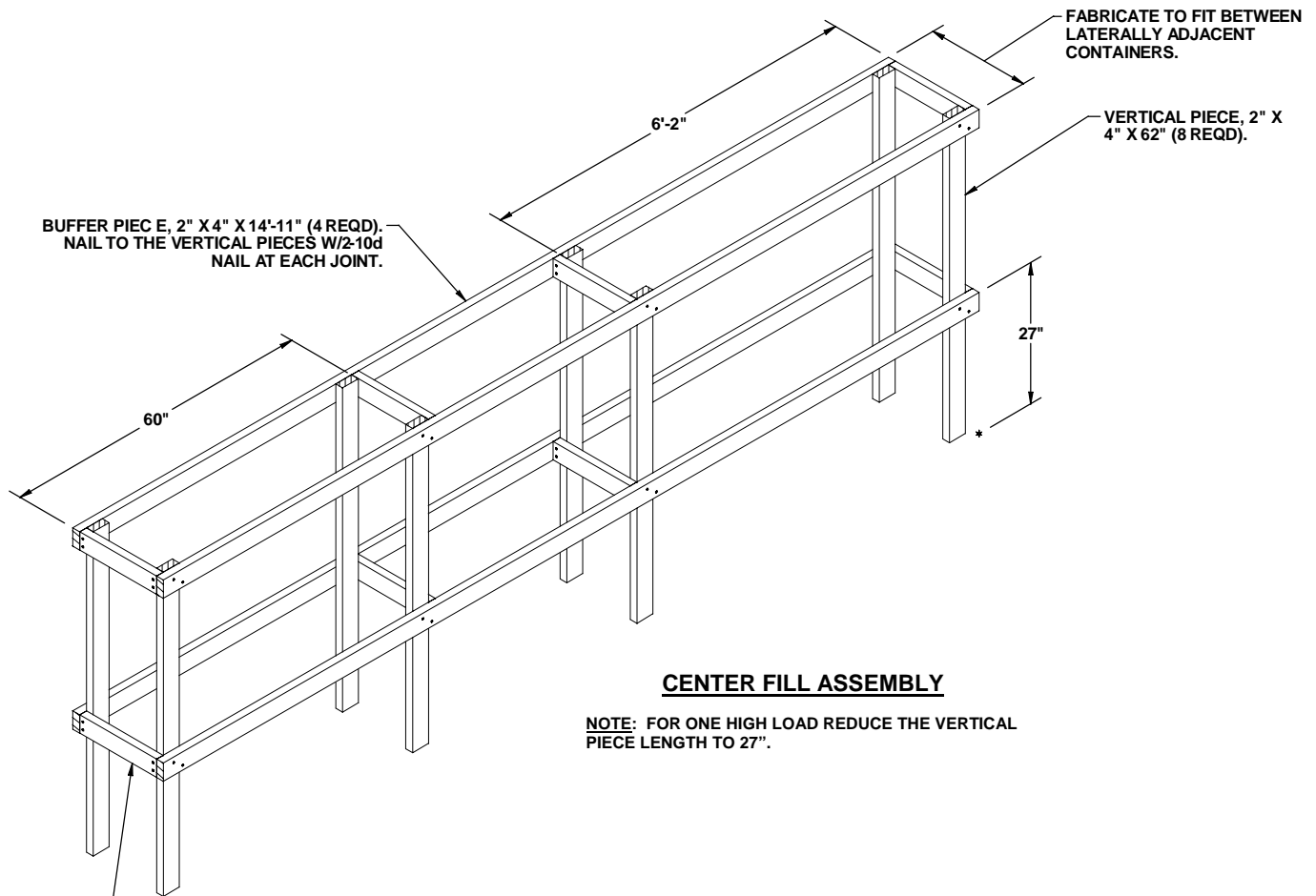
- 1. A 7'-8" WIDE (INSIDE DIMENSION) VAN TRAILER IS SHOWN. TRAILERS OF OTHER WIDTHS CAN BE USED.
- 2. CENTER FILL ASSEMBLIES MAY BE OMITTED WHEN THE SPACE BETWEEN LATERALLY ADJACENT CONTAINERS IS 6" OR LESS.
- 3. DEPENDING ON THE NUMBER OF UNITS BEING LOADED, EACH OF THE SIDE STRUTS MAY NEED TO BE FORMED FROM MORE THAN ONE PIECE OF MATERIAL. IF SUCH IS THE CASE, THE SIDE STRUTS MUST BE SPLICED. SPLICING CAN BE ACCOMPLISHED BY CENTERING A 2" X 6" X 24" PIECE ON THE JOINT OF THE SIDE STRUTS AND NAILING IT TO THE SIDE STRUTS W/4-10d NAILS AT EACH END.
- 4. ALL LTL LOADS, REGARDLESS OF THEIR SIZE, REQUIRE ONE STRUT BRACE POSITIONED AT THE REAR OF THE TRAILER AND NAILED TO POCKET CLEAT. IF THE SIDE STRUTS ARE LONGER THAN 7'-0", AN ADDITIONAL STRUT BRACE, AND TWO STRUT BRACE RETAINING CLEATS, AND TWO RISER PIECES MUST BE APPLIED FOR EVERY 7'-0" OF SIDE STRUT LENGTH.
- 5. THE "K-BRACE" BLOCKING IS ADEQUATE FOR RETAINING A MAXIMUM LTL LOAD OF 20,000 POUNDS.
- 6. TRAILERS EQUIPPED WITH ROLL-UP TYPE DOORS MAY BE USED; HOWEVER, THE NAILED-HEADER METHOD OF REAR BLOCKING MUST BE INSTALLED IN LIEU OF THE "K-BRACE" TYPE BLOCKING. REFER TO PAGE 8 AND THE HEADER NAILING CHARTS ON PAGE 9 FOR GUIDANCE. NOTE THAT THE NAILED-HEADER METHOD OF REAR BLOCKING MAY ALSO BE USED IN TRAILERS EQUIPPED WITH HINGED DOORS AND NAILABLE FLOORS.



ISOMETRIC VIEW

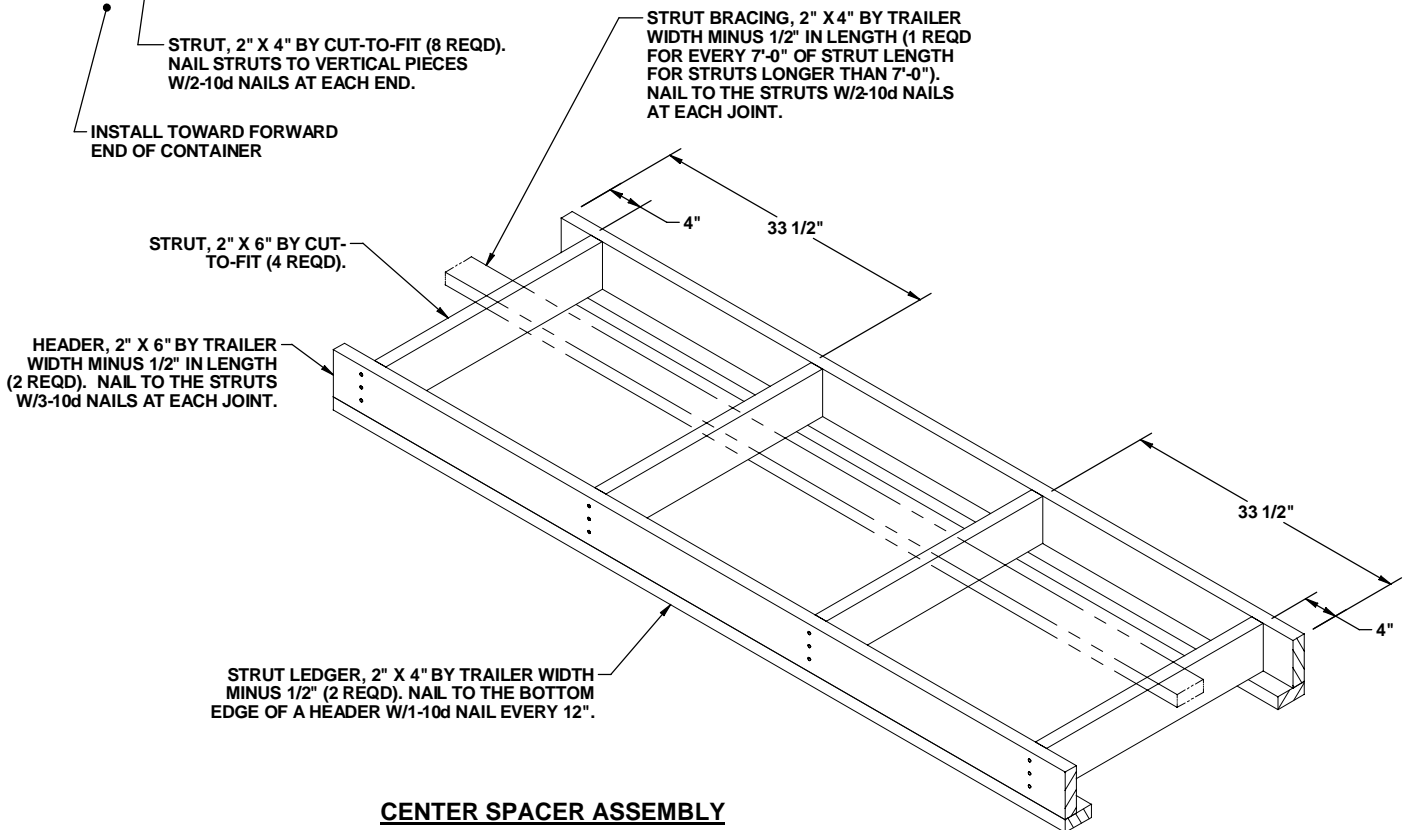
SPECIAL NOTES:

1. AN 8'-2" WIDE (INSIDE DIMENSION) VAN TRAILER WHICH HAS A NAILABLE FLOOR IS SHOWN. TRAILERS OF OTHER WIDTHS CAN BE USED.
2. THE POSITIONING OF A UNIT IS OPTIONAL. UNITS MAY BE LOCATED IN THE CORNER OF THE TRAILER. IF THE TRAILER DOES NOT HAVE A SQUARE FRONT, A FORWARD BLOCKING ASSEMBLY MUST BE INSTALLED WHEN POSITIONING A UNIT IN THE CORNER OF THE TRAILER. SEE THE DETAILS ON PAGES 15 AND 16.
3. MORE THAN ONE CONTAINER CAN BE SHIPPED. THE LOAD SHOULD BE FORMED IN ROWS, WITH THE CONTAINERS POSITIONED AGAINST OPPOSITE SIDEWALLS, SIDE BLOCKING OR THE PROPER CENTER FILL WILL BE INSTALLED BETWEEN THE LATERALLY ADJACENT CONTAINERS. SEE THE DETAILS ON PAGE 15.
4. THE HEADER AS APPLIED ABOVE FOR LONGITUDINAL BRACING WILL SUPPORT 10,000 POUNDS OF LADING; A TRAILER WIDTH HEADER WILL SUPPORT UP TO A FULL TRAILER LOAD OF CONTAINERS. SEE THE HEADER NAILING CHARTS ON PAGE 9.



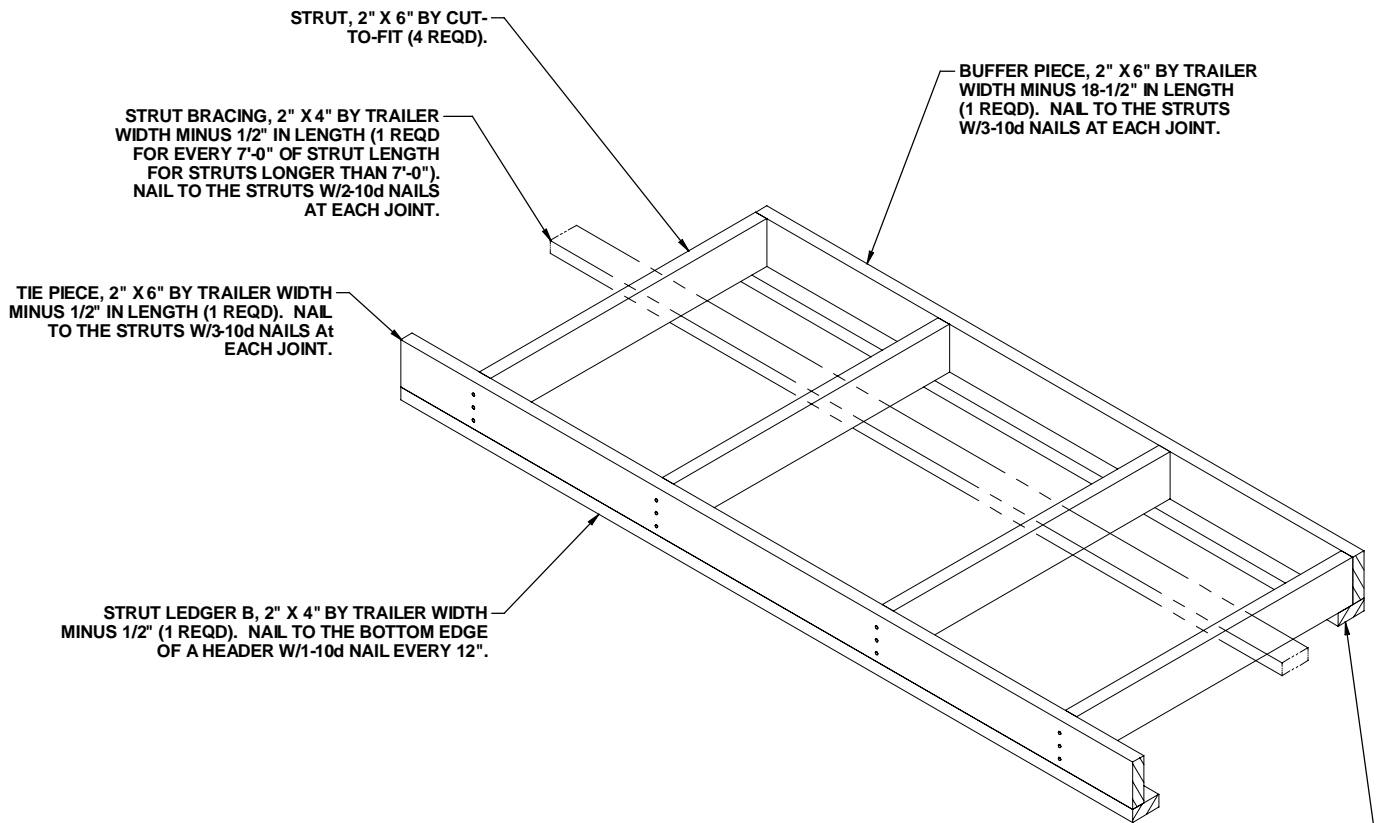
CENTER FILL ASSEMBLY

NOTE: FOR ONE HIGH LOAD REDUCE THE VERTICAL PIECE LENGTH TO 27".



CENTER SPACER ASSEMBLY

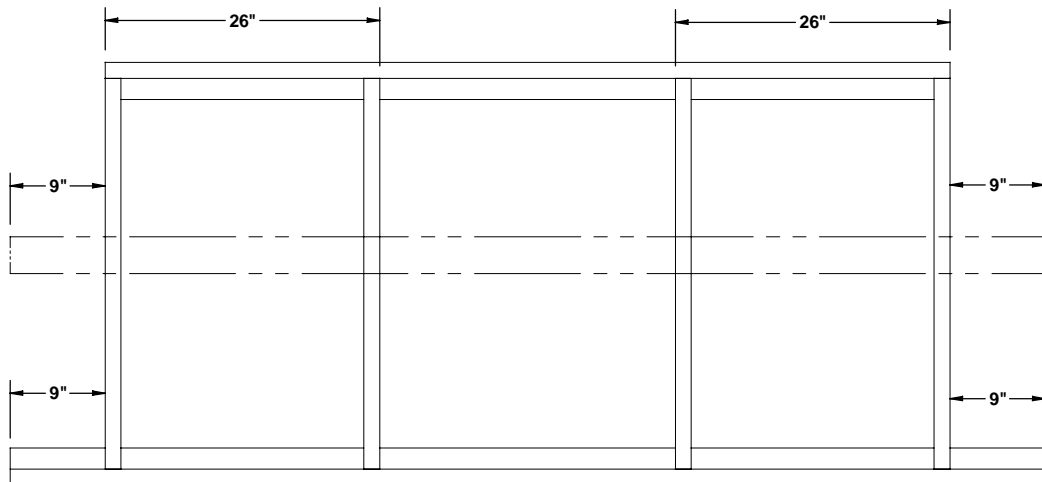
THIS CENTER SPACER ASSEMBLY IS DESIGNED FOR USE WITH CONTAINERS POSITIONED AGAINST THE TRAILER WALLS.



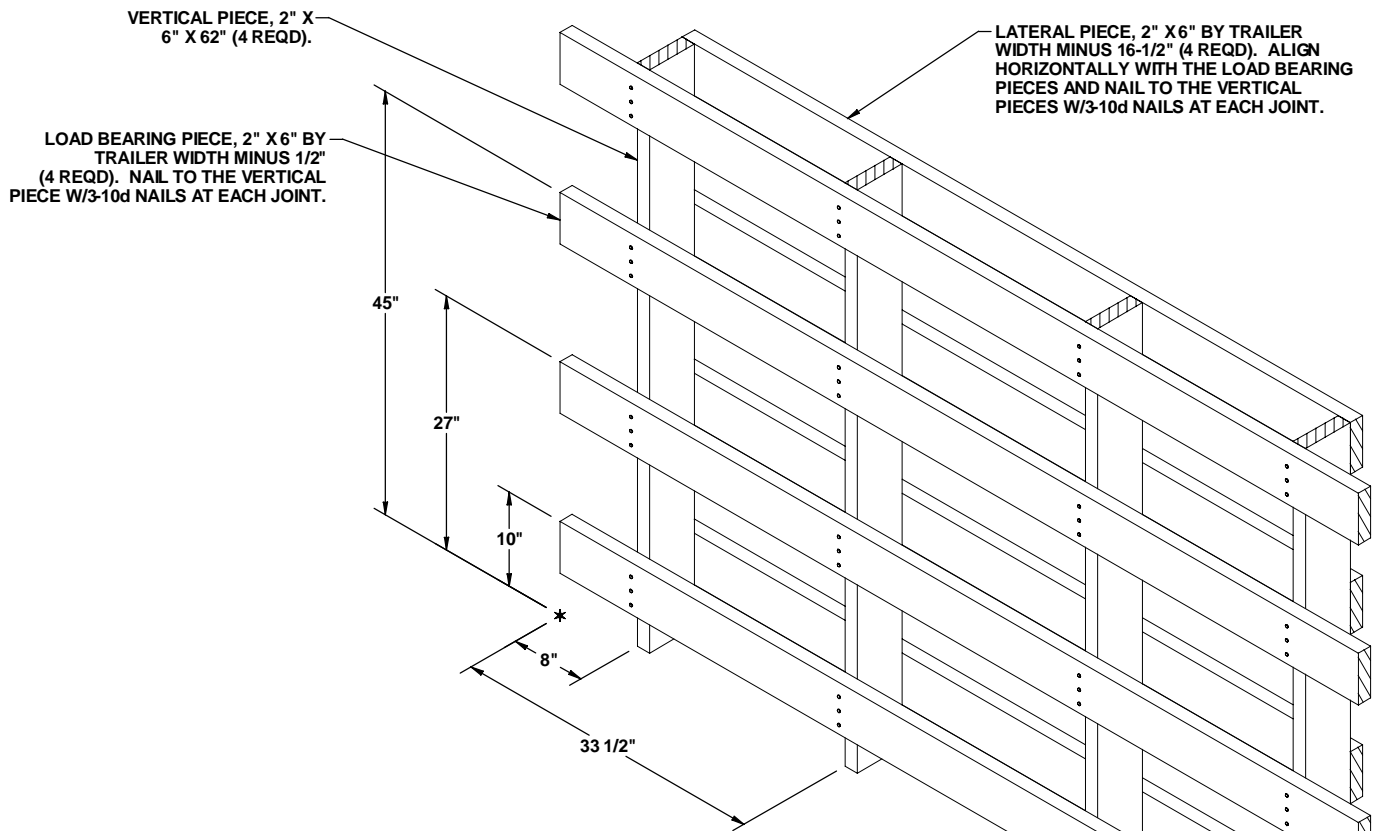
FORWARD BLOCKING ASSEMBLY A

NOTE: IF THE TRAILER TO BE LOADED HAS SQUARE INSIDE FRONT CORNERS, INCREASE THE BUFFER PIECE LENGTH TO "INSIDE TRAILER WIDTH MINUS 1/2 INCH". INSTALL THE OUTER STRUTS AT THE ENDS OF THE BUFFER AND TIE PIECES.

STRUT LEDGER A, 2" X 4" BY TRAILER WIDTH MINUS 18-1/2" (1 REQD). NAIL TO THE BOTTOM EDGE OF A HEADER W/1-10d NAIL EVERY 12".



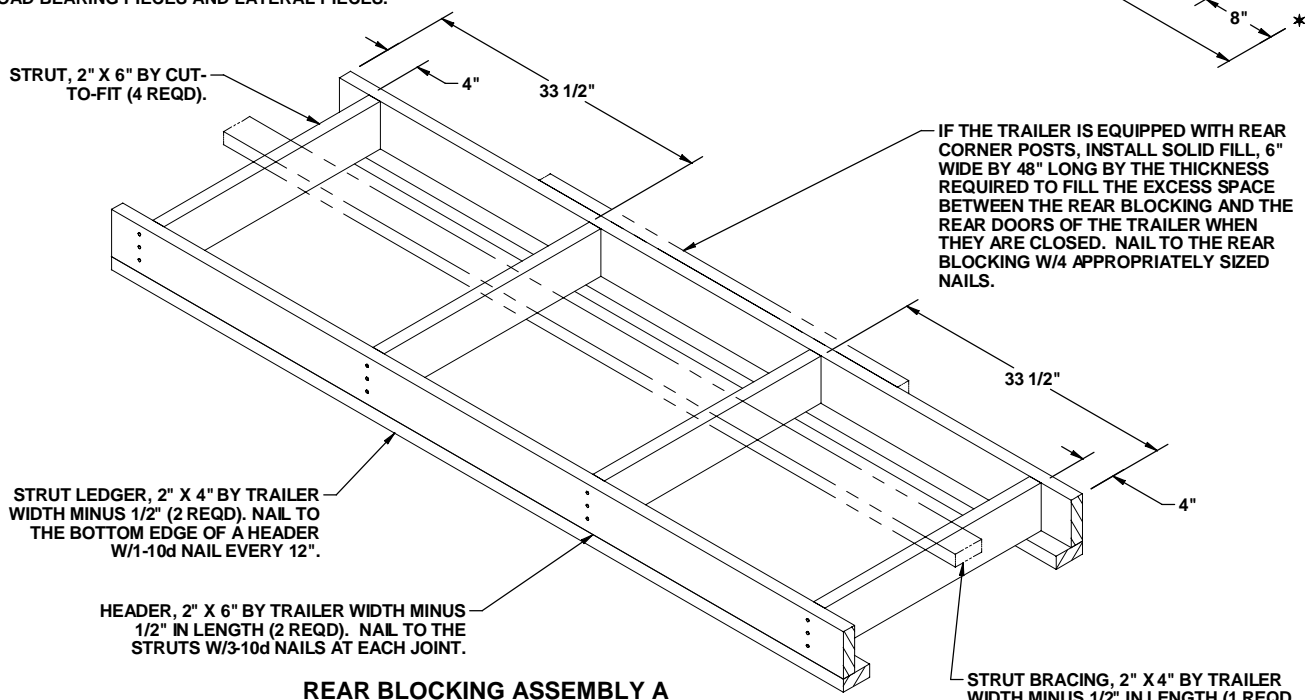
TOP VIEW



FORWARD BLOCKING ASSEMBLY B

NOTES:

1. THIS ASSEMBLY IS DESIGNED FOR USE AT THE FRONT END OF A TRAILER HAVING ROUNDED CORNERS, AND IS APPLICABLE FOR A CORNER RADIUS OF BETWEEN 6-1/2" AND 8". IF THE RADIUS IS LESS THAN 6-1/2", 2" X 4" VERTICAL PIECES WILL BE USED IN LIEU OF THE 2" X 6" PIECES.
2. FOR ONE HIGH LOAD REDUCE VERTICAL PIECE LENGTH TO 27" AND ELIMINATE THE TOP TWO LOAD BEARING PIECES AND LATERAL PIECES.



REAR BLOCKING ASSEMBLY A

THIS ASSEMBLY IS DESIGNED FOR USE AT THE REAR OF A LOAD WHEN THE SPACE BETWEEN THE LADING AND THE TRAILER DOOR IS MORE THAN 9" AND TWO CONTAINERS ARE LOADED ADJACENT TO THE TRAILER DOORS, AS SHOWN ON PAGE 4. NOTE THAT THE ABOVE VIEW IS ROTATED 180° FROM THE POSITION IN WHICH IT WILL BE INSTALLED.