

LOADING AND BRACING (TL & LTL) IN CLOSED OR OPEN TOP VAN TRAILERS OF THE MODULAR PACK MINE SYSTEM (MOPMS), M131, AND PRACTICE, M136, PALLETIZED

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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. ARMAMENT, MUNITIONS AND CHEMICAL COMMAND <div style="text-align: center; font-size: 1.5em; font-family: cursive;"> <i>Timothy R. Fore</i> </div>	DRAFTSMAN	TECHNICIAN	ENGINEER
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APPROVED BY ORDER OF COMMANDING GENERAL, U. S. ARMY MATERIEL COMMAND <div style="text-align: center; font-size: 1.5em; font-family: cursive;"> <i>John L. Byrd Jr.</i> </div>	VALIDATION ENGINEERING DIVISION <div style="text-align: center; font-size: 1.2em; font-family: cursive;"> <i>JMK</i> </div>	TRANSPORTATION ENGINEERING DIVISION <div style="text-align: center; font-size: 1.2em; font-family: cursive;"> <i>W. J. Inerick</i> </div>	LOGISTICS ENGINEERING OFFICE <div style="text-align: center; font-size: 1.2em; font-family: cursive;"> <i>W. J. Ernst</i> </div>
DECEMBER 1994			
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DO NOT SCALE

GENERAL NOTES

(GENERAL NOTES CONTINUED)

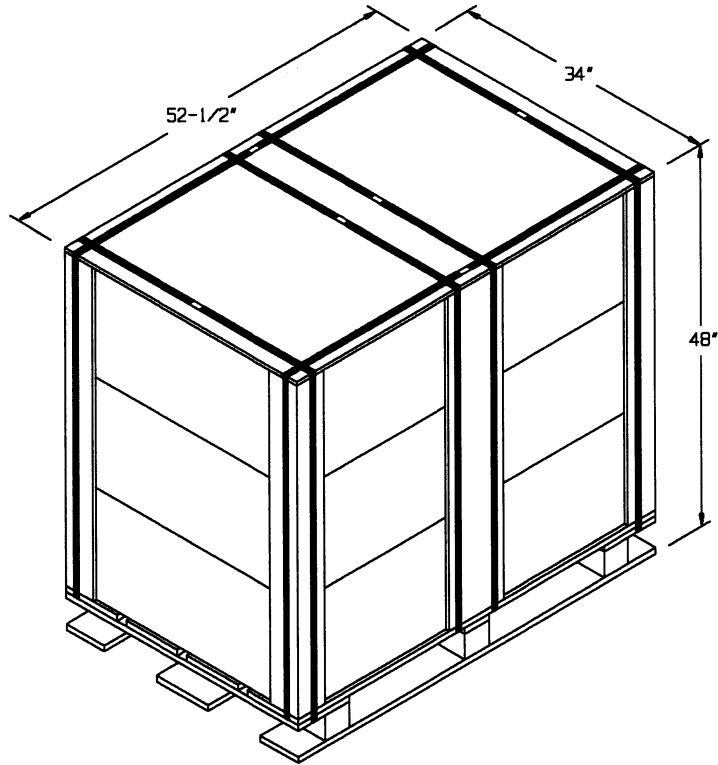
- A. THIS DOCUMENT HAS BEEN PREPARED AND ISSUED IN ACCORDANCE WITH AR 740-1 AND AUGMENTS TM 743-200-1 (CHAPTER 5).
- B. THE OUTLOADING PROCEDURES SPECIFIED IN THIS DRAWING ARE APPLICABLE TO LOADS OF MODULAR PACK MINE SYSTEM (MOPMS) PALLET UNITS. SEE PAGE 3 AND ARDEC DRAWING 9349988 FOR DETAILS OF THE PALLET UNIT.
- 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 99" 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. SELECTION OF A VEHICLE TO BE USED TO TRANSPORT THE DESIGNATED ITEM MUST COMPLY WITH AR 55-355, CHAPTER 29, FOR EXPLOSIVES AND OTHER DANGEROUS ARTICLES, IN FULL.
- E. 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.
- F. 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.
- G. THE "LOAD AS SHOWN" FOR MOST OF THE FULL LOADS DEPICTED HEREIN IS BASED ON AN APPROXIMATE LADING WEIGHT OF 42,000 POUNDS. THE SPECIFIED BLOCKING AND BRACING FOR THE FULL LOADS IS ADEQUATE FOR THE RETENTION OF LOADS, UP TO 43,000 POUNDS, IF IT IS DESIRED TO INCREASE THE LADING WEIGHT.
- H. OTHER TYPES OF LADING ITEMS MAY BE LOADED INTO TRAILERS WHICH ARE PARTIALLY LOADED WITH PALLET UNITS OF MOPMS, 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.
- J. 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, PIECE MARKED ①, AND POSITION THE PALLET UNITS DIRECTLY AGAINST THE FORWARD PORTION OF THE TRAILER.

(CONTINUED AT LEFT)

- K. 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.
- L. 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.
- M. 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.
- N. 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 FEDERAL SPECIFICATION FF-N-105 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.
- O. PORTIONS OF THE TRAILERS, SUCH AS SIDEWALLS, ENDWALLS, AND ROOFS, HAVE NOT BEEN SHOWN IN THE LOAD VIEWS FOR CLARITY PURPOSES.
- P. THE UNBLOCKED SPACE ACROSS THE WIDTH OF A LOAD BAY IS NOT TO EXCEED 6". EXCESSIVE SLACK CAN BE ELIMINATED FROM A LOAD BY LAMINATING ADDITIONAL PIECES OF APPROPRIATE THICKNESS TO THE ANTI-SWAY BRACES. NAIL EACH ADDITIONAL PIECE TO THE BUFFER PIECE W/1 APPROPRIATELY SIZED NAIL EVERY 12". ADDITIONALLY, THE THICKNESS AND QUANTITY OF THE LUMBER USED IN THE ANTI-SWAY BRACES MAY BE ADJUSTED AS REQUIRED TO FACILITATE VARIANCE IN THE SIZE OF THE PALLET UNIT.
- Q. IF THE SPACE AT THE REAR OF THE LOAD, BETWEEN THE PALLET UNITS 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 A" AS DEPICTED ON PAGE 19. IF THE VOID AT THE REAR OF THE LOAD IS 9" OR GREATER, USE THE "REAR BLOCKING ASSEMBLY B", AS SHOWN ON PAGE 20.
- R. CAUTION: WHEN POWER OR PNEUMATIC NAILERS ARE BEING USED IN THE APPLICATION OF NAILED FLOORLINE BLOCKING OR BRACING, PALLET UNITS 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.
- 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 25.4 MM AND ONE POUND EQUALS 0.454 KG.

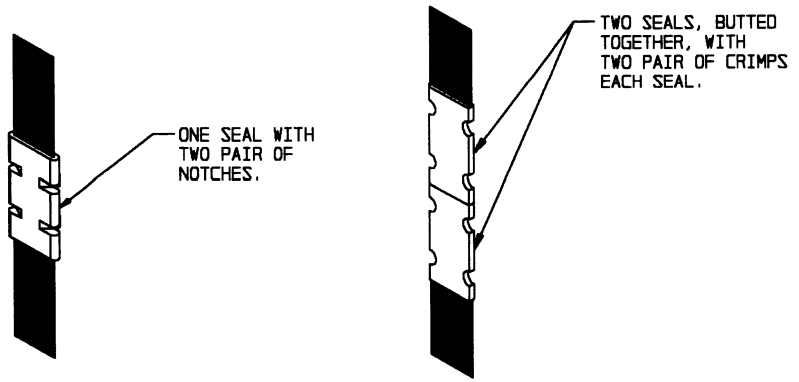
MATERIAL SPECIFICATIONS

- 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.



PALLET UNIT

UNIT WEIGHT (M131) ----- 1,100 LBS (APPROX)
 UNIT WEIGHT (M136) ----- 1,130 LBS (APPROX)
 CUBE ----- 49.6 CUBIC FEET (APPROX)



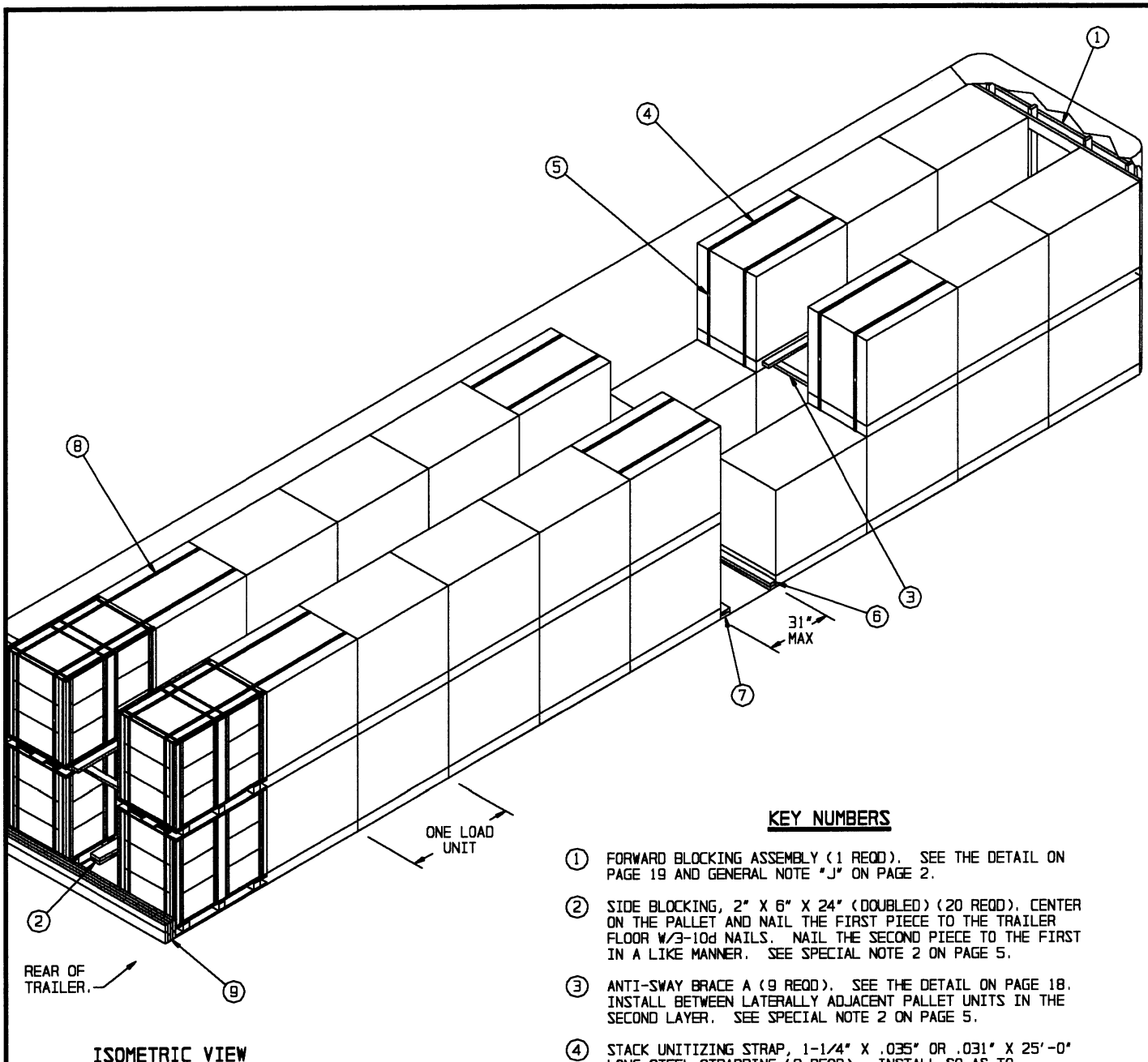
STRAP JOINT A

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



ISOMETRIC VIEW

KEY NUMBERS

- ① FORWARD BLOCKING ASSEMBLY (1 REQD). SEE THE DETAIL ON PAGE 19 AND GENERAL NOTE "J" ON PAGE 2.
- ② SIDE BLOCKING, 2" X 6" X 24" (DOUBLED) (20 REQD). CENTER ON THE PALLET AND NAIL THE FIRST PIECE TO THE TRAILER FLOOR W/3-10d NAILS. NAIL THE SECOND PIECE TO THE FIRST IN A LIKE MANNER. SEE SPECIAL NOTE 2 ON PAGE 5.
- ③ ANTI-SWAY BRACE A (9 REQD). SEE THE DETAIL ON PAGE 18. INSTALL BETWEEN LATERALLY ADJACENT PALLET UNITS IN THE SECOND LAYER. SEE SPECIAL NOTE 2 ON PAGE 5.
- ④ STACK UNITIZING STRAP, 1-1/4" X .035" OR .031" X 25'-0" LONG STEEL STRAPPING (8 REQD). INSTALL SO AS TO ENCIRCLE TWO PALLET UNITS AS SHOWN. SEE SPECIAL NOTE 4 ON PAGE 5.
- ⑤ SEAL FOR 1-1/4" STRAPPING (12 OR 24 REQD). CRIMP SINGLE SEALS WITH TWO PAIR OF NOTCHES OR CRIMP DOUBLE SEALS WITH TWO PAIR OF CRIMPS EACH.
- ⑥ HEADER, 2" X 4" X TRAILER WIDTH MINUS 1/2" (DOUBLED) (1 REQD). NAIL THE FIRST PIECE TO THE TRAILER FLOOR W/6-10d NAILS. NAIL THE SECOND PIECE TO THE FIRST IN A LIKE MANNER. SEE THE HEADER NAILING CHARTS ON PAGE 5.
- ⑦ HEADER, 2" X 6" X TRAILER WIDTH MINUS 1/2" (DOUBLED) (1 REQD). NAIL THE FIRST PIECE TO THE TRAILER FLOOR W/6-10d NAILS. NAIL THE SECOND PIECE TO THE FIRST W/6-20d NAILS. SEE SPECIAL NOTE 3 AND THE HEADER NAILING CHARTS ON PAGE 5.
- ⑧ BUNDLING STRAP, 1-1/4" X .035" OR .031" X 34'-0" LONG STEEL STRAPPING (4 REQD). INSTALL SO AS TO ENCIRCLE TWO PALLET UNITS IN THE SECOND LAYER AND TWO UNITS DIRECTLY BELOW AS SHOWN. SEE SPECIAL NOTE 5 ON PAGE 5.
- ⑨ REAR BLOCKING ASSEMBLY A (1 REQD). SEE THE DETAIL ON PAGE 19.

SPECIAL NOTES:

1. A 48'-0" LONG BY 8'-2" WIDE (INSIDE DIMENSION) HIGH VOLUME CONVENTIONAL VAN TRAILER IS SHOWN. TRAILERS OF OTHER DIMENSIONS CAN BE USED.
2. SIDE BLOCKING AND/OR ANTI-SWAY BRACES ARE REQUIRED WHEN THE SPACE BETWEEN LATERALLY ADJACENT UNITS EXCEEDS 6", AS MEASURED FROM PALLET DUNNAGE TO PALLET DUNNAGE. NOTE: THE SIDE BLOCKING, PIECE MARKED ②, MAY BE REPLACED WITH ANTI-SWAY BRACES, PIECE MARKED ③. REPLACE EACH SET OF TWO DOUBLED 2" X 6" PIECES WITH ONE ANTI-SWAY BRACE, IF DESIRED.
3. IF THE SPACE AT THE REAR OF THE LOAD, BETWEEN THE PALLET UNITS 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 A", AS SHOWN. IF THE VOID AT THE REAR OF THE LOAD IS 9" OR GREATER, USE THE "REAR BLOCKING ASSEMBLY B", AS DEPICTED ON PAGE 20. 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 PIECE MARKED ⑥ ON PAGE 10 AND THE HEADER NAILING CHARTS AT RIGHT FOR GUIDANCE.
4. THE STACK UNITIZING STRAPS, PIECE MARKED ④, MUST BE APPLIED AROUND THE TWO-HIGH STACKS WHICH ARE IMMEDIATELY ADJACENT EITHER LATERALLY OR LONGITUDINALLY TO THE ONE-HIGH UNITS. THESE STRAPS MUST BE INSTALLED PRIOR TO FINAL POSITIONING OF THE STACK.
5. IF A STACK AT THE REAR OF THE LOAD IS MORE THAN ONE UNIT HIGH, AS IN THE DEPICTED LOAD, BUNDLING STRAPS, SHOWN AS PIECE MARKED ⑤, MUST BE INSTALLED SO AS TO ENCIRCLE THE REARMOST TWO STACKS IN EACH APPLICABLE ROW.
6. THE DEPICTED LOAD CAN BE ADJUSTED TO SUIT THE QUANTITY TO BE SHIPPED, OR TO SUIT THE WEIGHT OF THE UNIT BEING LOADED. A 2-TIER LOAD CAN BE REDUCED BY A MULTIPLE OF FOUR UNITS BY OMITTING ONE OR MORE FULL LOAD UNITS FROM THE LOAD; OR, THE ENTIRE TOP TIER CAN BE LEFT OFF; OR, ONE OR MORE UNITS CAN BE ADDED TO OR OMITTED FROM THE TOP TIER.

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

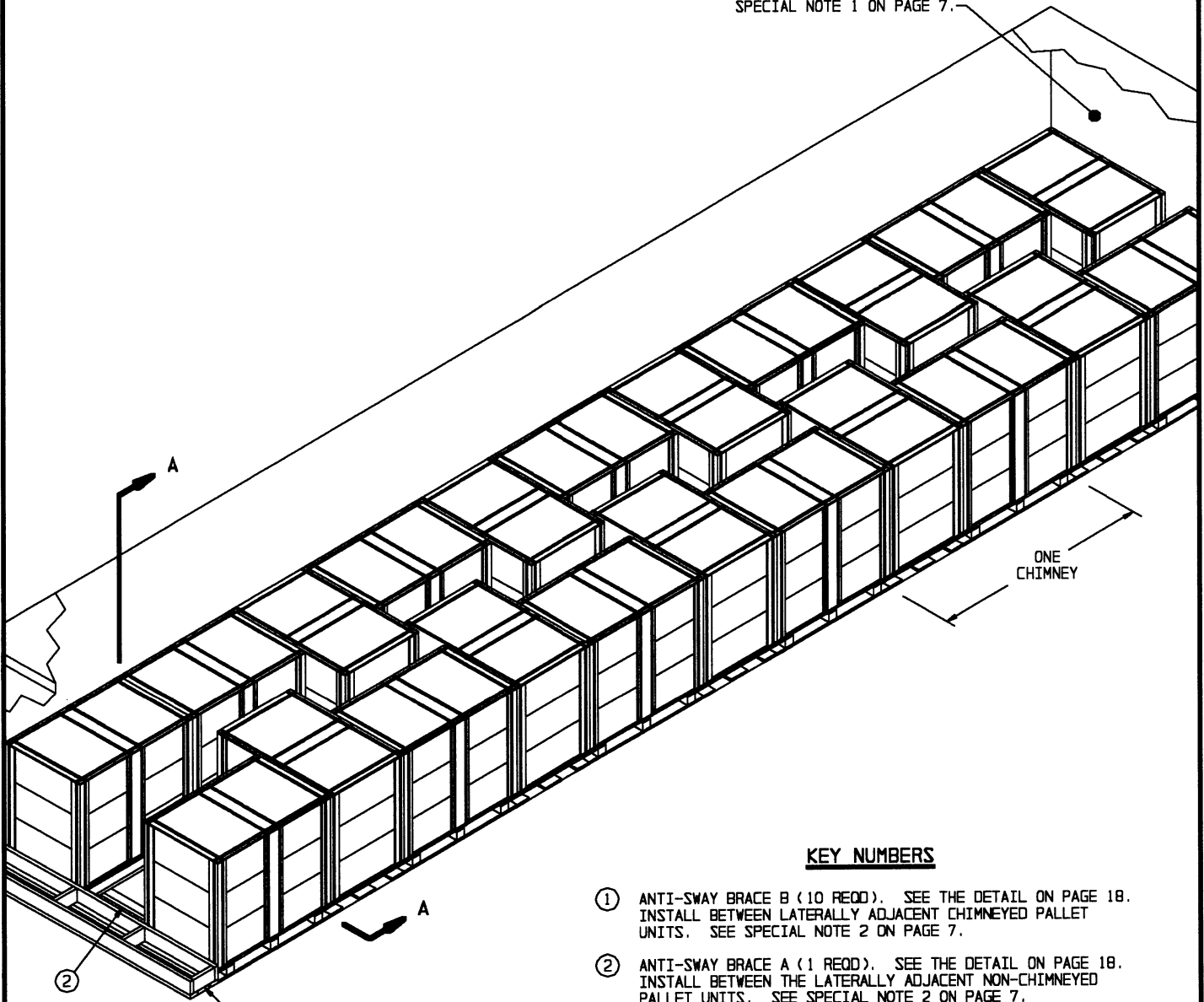
* HEADERS AT THE REAR OF A FULL LOAD OR AT THE REAR END OF A DIVIDED LOAD WILL BE DOUBLED 2" X 4" MATERIAL. THE NUMBER OF NAILS INDICATED ABOVE REFERS TO THE NUMBER OF NAILS USED IN EACH LAMINATION OF A HEADER, FOR EXAMPLE 8 NAILS MEANS THE FIRST BOARD IS NAILED TO THE TRAILER FLOOR W/8-10d NAILS, AND 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.

BILL OF MATERIAL		
LUMBER	LINEAR FEET	BOARD FEET
2" X 4"	213	142
2" X 6"	189	189
NAILS	NO. REQD	POUNDS
10d (3")	322	5
20d (4")	6	1/4
STEEL STRAPPING, 1-1/4"	-- 336' REQD	-- 48.00 LBS
SEAL FOR 1-1/4" STRAPPING	-- 12 REQD	-- 0.55 LBS

LOAD AS SHOWN

ITEM	QUANTITY	WEIGHT (APPROX)
PALLET UNIT	38	41,800 LBS
DUNNAGE		716 LBS
TOTAL WEIGHT		42,516 LBS (APPROX)

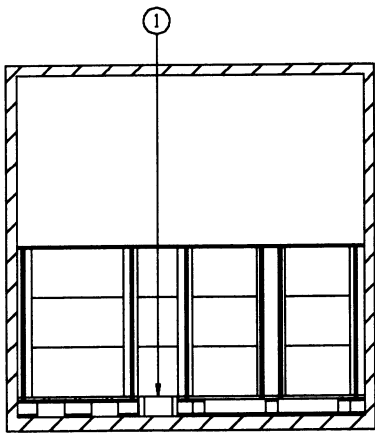
FORWARD END OF TRAILER. SEE SPECIAL NOTE 1 ON PAGE 7.



ISOMETRIC VIEW

KEY NUMBERS

- ① ANTI-SWAY BRACE B (10 REQD). SEE THE DETAIL ON PAGE 18. INSTALL BETWEEN LATERALLY ADJACENT CHIMNEYED PALLET UNITS. SEE SPECIAL NOTE 2 ON PAGE 7.
- ② ANTI-SWAY BRACE A (1 REQD). SEE THE DETAIL ON PAGE 18. INSTALL BETWEEN THE LATERALLY ADJACENT NON-CHIMNEYED PALLET UNITS. SEE SPECIAL NOTE 2 ON PAGE 7.
- ③ REAR BLOCKING B (1 REQD). SEE THE DETAIL ON PAGE 20 AND SPECIAL NOTE 4 ON PAGE 7.



SECTION A-A

SPECIAL NOTES:

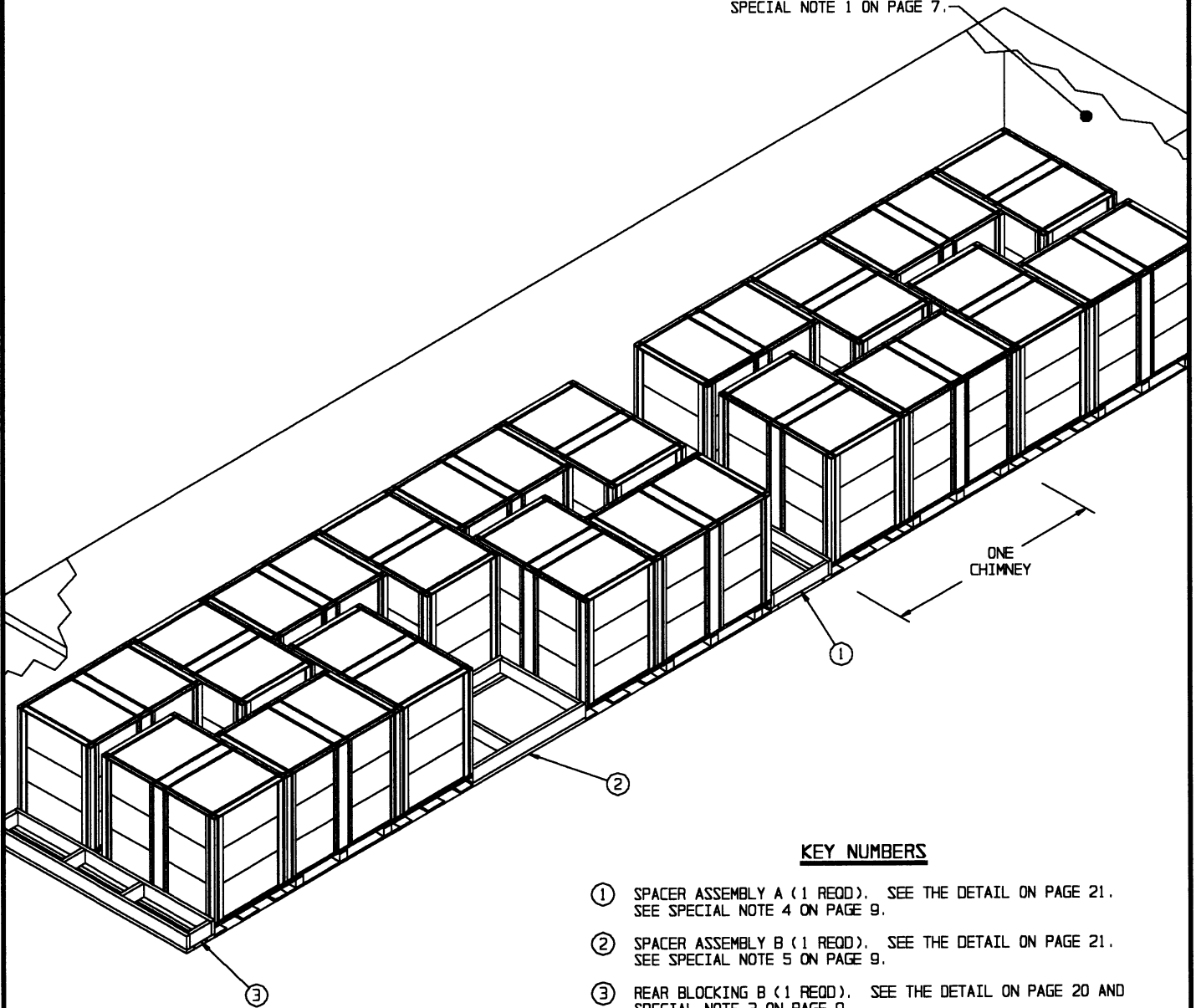
1. A 42'-0" LONG BY 8'-2" WIDE (INSIDE DIMENSION) CONVENTIONAL VAN TRAILER IS SHOWN. TRAILERS OF OTHER DIMENSIONS CAN BE USED. THE LOAD ON PAGE 6 IS DEPICTED IN A VAN TRAILER EQUIPPED WITH A SQUARE FRONT OR WITH AN INSTALLED BULKHEAD. IF A 42'-0" TRAILER HAVING ROUNDED CORNERS IS TO BE LOADED, A FORWARD BLOCKING ASSEMBLY, AS DEPICTED ON PAGE 19, WILL BE REQUIRED.
2. THE ANTI-SWAY BRACES MAY BE OMITTED IF THE SPACE BETWEEN LATERALLY ADJACENT UNITS IS 6" OR LESS, AS MEASURED FROM PALLET DUNNAGE TO PALLET DUNNAGE.
3. THE ANTI-SWAY BRACE "B", PIECE MARKED ②, MAY BE REPLACED WITH NAILED SIDE BLOCKING, SHOWN AS PIECE MARKED ② ON PAGE 4. REPLACE THE ANTI-SWAY BRACE "B" WITH TWO DOUBLED 2" X 6" PIECES, IF DESIRED.
4. IF THE SPACE AT THE REAR OF THE LOAD, BETWEEN THE PALLET UNITS 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 A" AS DEPICTED ON PAGE 19. IF THE VOID AT THE REAR OF THE LOAD IS 9" OR GREATER, USE THE "REAR BLOCKING ASSEMBLY B", AS SHOWN. 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 PIECE MARKED ⑥ ON PAGE 4 AND THE HEADER NAILING CHARTS ON PAGE 5 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"	31	21
2" X 6"	128	128
NAILS	NO. REQD	POUNDS
10d (3")	228	3-3/4

LOAD AS SHOWN

<u>ITEM</u>	<u>QUANTITY</u>	<u>WEIGHT (APPROX)</u>
PALLET UNIT	22	24,200 LBS
DUNNAGE		302 LBS
TOTAL WEIGHT		24,502 LBS (APPROX)

FORWARD END OF TRAILER. SEE
SPECIAL NOTE 1 ON PAGE 7.



ISOMETRIC VIEW

KEY NUMBERS

- ① SPACER ASSEMBLY A (1 REQD). SEE THE DETAIL ON PAGE 21.
SEE SPECIAL NOTE 4 ON PAGE 9.
- ② SPACER ASSEMBLY B (1 REQD). SEE THE DETAIL ON PAGE 21.
SEE SPECIAL NOTE 5 ON PAGE 9.
- ③ REAR BLOCKING B (1 REQD). SEE THE DETAIL ON PAGE 20 AND
SPECIAL NOTE 3 ON PAGE 9.

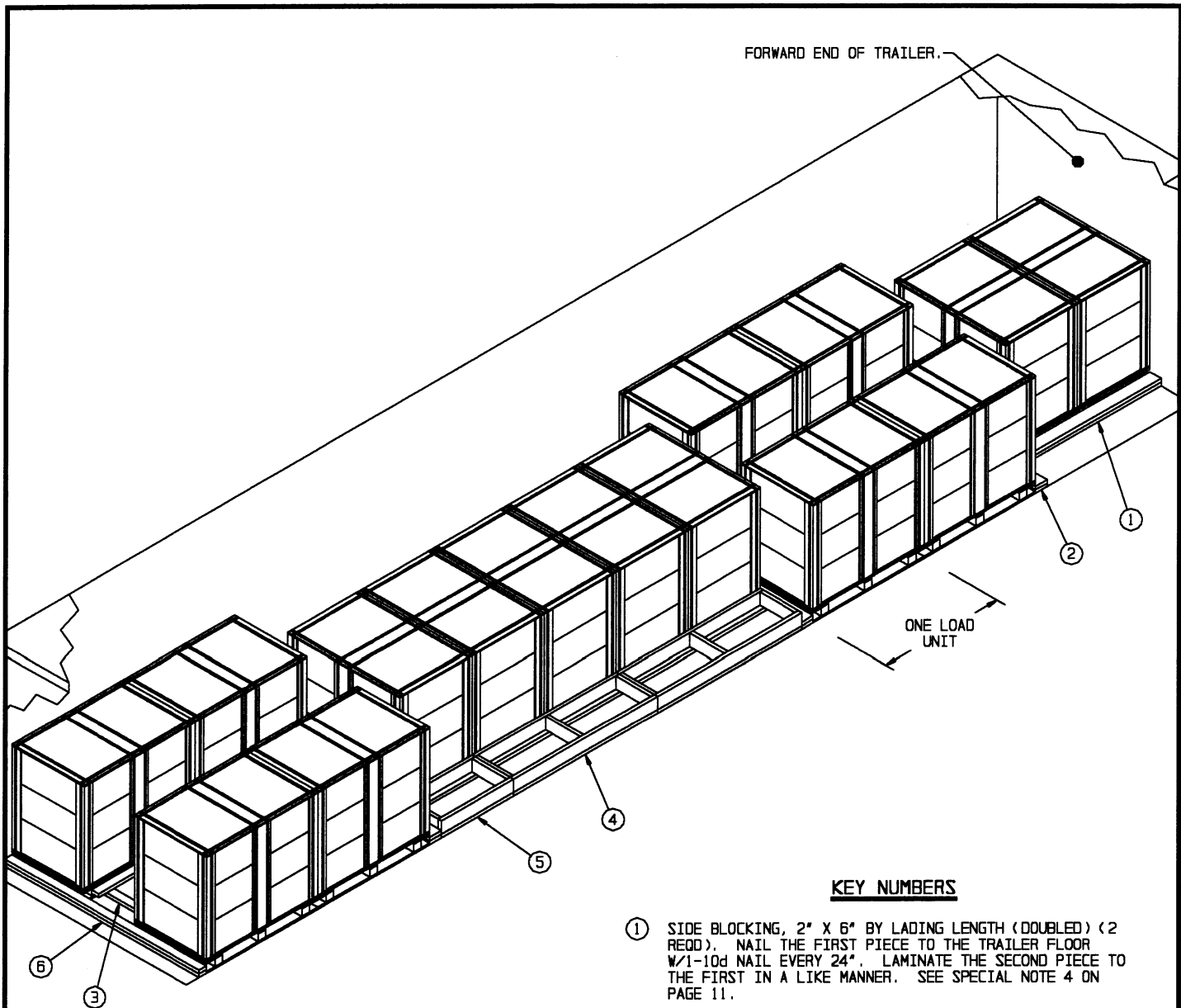
SPECIAL NOTES:

1. A 40'-0" LONG BY 7'-8" WIDE (INSIDE DIMENSION) CONVENTIONAL VAN TRAILER IS SHOWN. TRAILERS OF OTHER DIMENSIONS CAN BE USED. THE LOAD ON PAGE 8 IS DEPICTED IN A VAN TRAILER EQUIPPED WITH A SQUARE FRONT OR WITH AN INSTALLED BULKHEAD. IF A 40'-0" TRAILER HAVING ROUNDED CORNERS IS TO BE LOADED, A FORWARD BLOCKING ASSEMBLY, AS DEPICTED ON PAGE 19, WILL BE REQUIRED.
2. ANTI-SWAY BRACES ARE REQUIRED IF THE SPACE BETWEEN LATERALLY ADJACENT UNITS EXCEEDS 6", AS MEASURED FROM PALLET DUNNAGE TO PALLET DUNNAGE. SEE THE "ANTI-SWAY BRACE B" DETAIL ON PAGE 18 AND THE LOAD ON PAGE 6 FOR DETAILS.
3. IF THE SPACE AT THE REAR OF THE LOAD, BETWEEN THE PALLET UNITS 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 THAN 9", USE THE "REAR BLOCKING ASSEMBLY A" AS DEPICTED ON PAGE 19. IF THE VOID AT THE REAR OF THE LOAD IS 9" OR GREATER, USE THE REAR BLOCKING ASSEMBLY "B", AS SHOWN. 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 PIECE MARKED ⑥ ON PAGE 4 AND THE HEADER NAILING CHARTS ON PAGE 5 FOR GUIDANCE.
4. SPACER ASSEMBLY "A", SHOWN AS PIECE MARKED ① IN THE LOAD ON PAGE 8, IS TO BE USED FOR THE PURPOSE OF PROVIDING FOR PROPER WEIGHT DISTRIBUTION, AND IS SHOWN AS TYPICAL ONLY. IF THE TRAILER TO BE LOADED IS LONGER THAN 40', THE LOCATION OF THE ASSEMBLY, AND/OR THE STRUT LENGTHS, MAY BE DIFFERENT FROM WHAT IS SHOWN. IF A SHORTER TRAILER IS USED FOR THE DEPICTED LOAD, THIS ASSEMBLY MAY NOT BE REQUIRED. NOTE THAT A SPACER ASSEMBLY "A" MUST NOT BE POSITIONED ADJACENT TO THE FORWARD BLOCKING ASSEMBLY, IF REQUIRED.
5. SPACER ASSEMBLY "B", SHOWN AS PIECE MARKED ② IN THE LOAD ON PAGE 8, IS ONLY SHOWN TO DEPICT A TYPICAL INSTALLATION. IF A PALLET UNIT IS LOADED IN PLACE OF THE SPACER ASSEMBLY "B", PIECE MARKED ② WILL NOT BE REQUIRED. NOTE THAT A SPACER ASSEMBLY "B" MUST BE POSITIONED WHERE THERE WILL BE A PALLET UNIT AT EACH END. A SPACER ASSEMBLY "B" MUST NOT BE POSITIONED ADJACENT TO THE FORWARD BLOCKING ASSEMBLY, IF REQUIRED. ALIGN THE STRUTS WITH THE EDGES OF THE PALLET UNITS.
6. 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"	40	27
2" X 6"	61	61
NAILS	NO. REQD	POUNDS
10d (3")	102	1-3/4

LOAD AS SHOWN

ITEM	QUANTITY	WEIGHT (APPROX)
PALLET UNIT	19	20,900 LBS
DUNNAGE		178 LBS
TOTAL WEIGHT		21,078 LBS (APPROX)



ISOMETRIC VIEW

KEY NUMBERS

- ① SIDE BLOCKING, 2" X 6" BY LADING LENGTH (DOUBLED) (2 REOD). NAIL THE FIRST PIECE TO THE TRAILER FLOOR W/1-10d NAIL EVERY 24". LAMINATE THE SECOND PIECE TO THE FIRST IN A LIKE MANNER. SEE SPECIAL NOTE 4 ON PAGE 11.
- ② HEADER, 2" X 6" X TRAILER WIDTH MINUS 1/2" (DOUBLED) (3 REOD). NAIL THE FIRST PIECE TO THE TRAILER FLOOR W/3-10d NAILS. NAIL THE SECOND PIECE TO THE FIRST W/3-20d NAILS. SEE SPECIAL NOTES 2 AND 6 ON PAGE 11 AND THE HEADER NAILING CHARTS ON PAGE 5.
- ③ ANTI-SWAY BRACE A (4 REOD). SEE THE DETAIL ON PAGE 18. INSTALL BETWEEN LATERALLY ADJACENT PALLET UNITS. SEE SPECIAL NOTE 5 ON PAGE 11.
- ④ SIDE SPACER ASSEMBLY A (4 REOD). SEE THE DETAIL ON PAGE 22. SEE SPECIAL NOTE 4 ON PAGE 11.
- ⑤ SIDE SPACER ASSEMBLY B (2 REOD). SEE THE DETAIL ON PAGE 22. SEE SPECIAL NOTE 4 ON PAGE 11.
- ⑥ HEADER, 2" X 4" X TRAILER WIDTH MINUS 1/2" (DOUBLED) (1 REOD). NAIL THE FIRST PIECE TO THE TRAILER FLOOR W/6-10d NAILS. NAIL THE SECOND PIECE TO THE FIRST IN A LIKE MANNER. SEE SPECIAL NOTE 2 ON PAGE 11 AND THE HEADER NAILING CHARTS ON PAGE 5.

COMBINATION 1-WIDE AND 2-WIDE
15-UNIT LOAD IN A 40'-0" LONG BY 7'-8" WIDE CONVENTIONAL VAN TRAILER

SPECIAL NOTES:

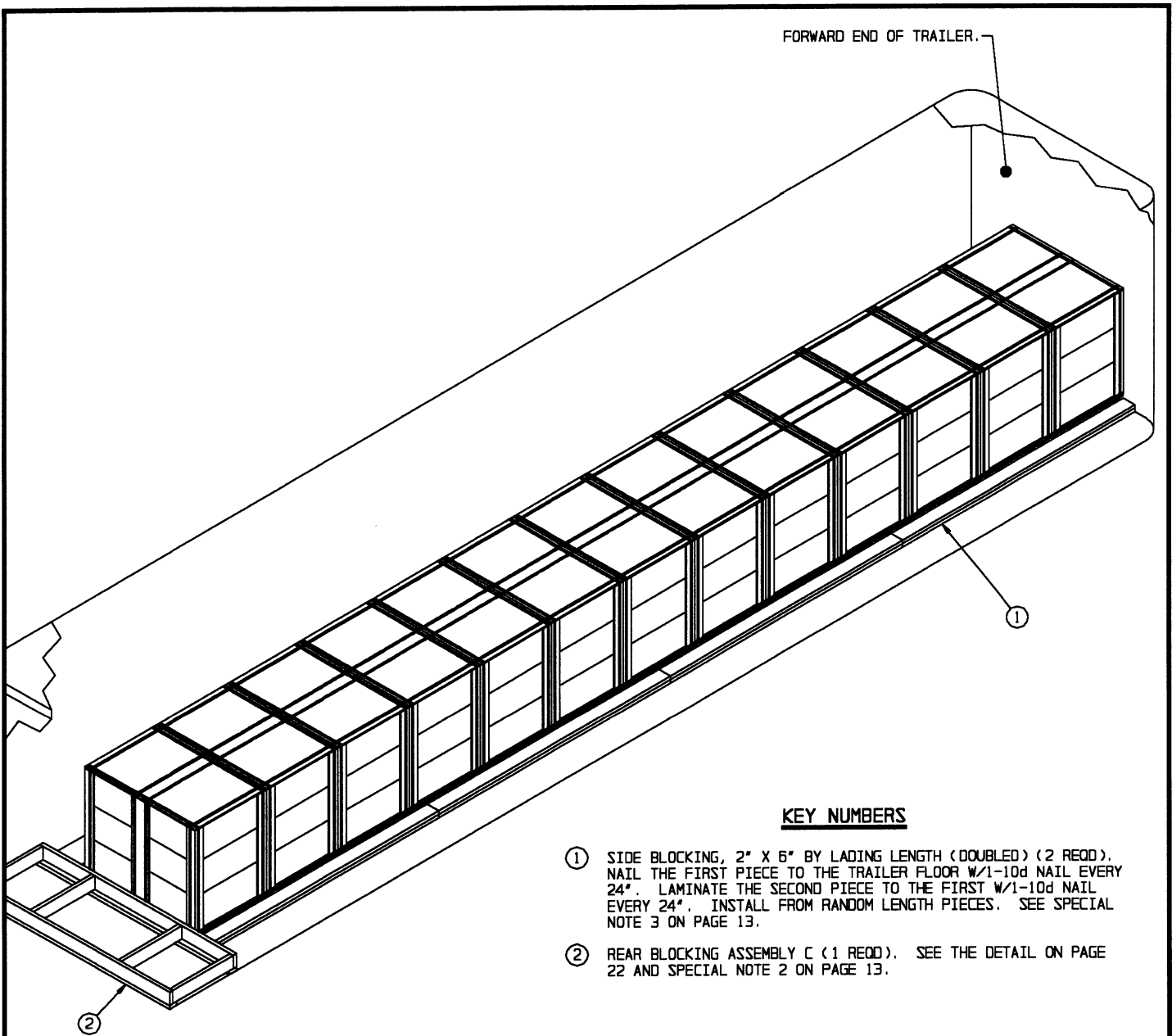
1. A 40'-0" LONG BY 7'-8" WIDE (INSIDE DIMENSION) CONVENTIONAL VAN TRAILER IS SHOWN. TRAILERS OF OTHER DIMENSIONS CAN BE USED.
2. IF THE SPACE AT THE REAR OF THE LOAD, BETWEEN THE PALLET UNITS AND THE REAR DOOR MEASURES 1-1/2" OR LESS REAR BLOCKING IS NOT REQUIRED. IF THE SPACE AT THE REAR OF THE LOAD IS GREATER THAN 1-1/2" BUT LESS THE 9", USE THE "REAR BLOCKING ASSEMBLY A" AS DEPICTED ON PAGE 19 OR A NAILED HEADER, AS SHOWN. IF THE VOID AT THE REAR OF THE LOAD IS 9" OR GREATER, USE THE "REAR BLOCKING ASSEMBLY B" AS DEPICTED ON PAGE 20, OR A NAILED HEADER, AS SHOWN. IF THE TRAILER IS EQUIPPED WITH A METAL THRESHOLD PLATE AND IT INTERFERES WITH THE NAILING OF PIECE MARKED ⑥ AT THE REAR OF THE LOAD, REAR BLOCKING ASSEMBLY "B", AS DEPICTED ON PAGE 20, MUST BE INSTALLED.
3. ONE OR MORE 2-WIDE LOAD UNITS MAY BE POSITIONED NEAR THE FRONT AND/OR CENTER OF THE TRAILER LENGTH IN PLACE OF THE 1-WIDE LOAD UNITS TO PROVIDE FOR PROPER WEIGHT DISTRIBUTION.
4. SIDE SPACERS "A" AND/OR "B", PIECES MARKED ④ AND ⑤, MAY BE SUBSTITUTED FOR THE NAILED SIDE BLOCKING, PIECE MARKED ①, AND THE NAILED SIDE BLOCKING MAY BE SUBSTITUTED FOR THE SIDE SPACERS, AS DESIRED AND AS TRAILER CONFIGURATIONS ALLOW. SIDE SPACERS AND NAILED SIDE BLOCKING WERE SHOWN TOGETHER IN THE LOAD ON PAGE 10 FOR GUIDANCE PURPOSES ONLY.
5. SIDE BLOCKING AND/OR ANTI-SWAY BRACES ARE REQUIRED WHEN THE SPACE BETWEEN LATERALLY ADJACENT UNITS EXCEEDS 6", AS MEASURED FROM PALLET DUNNAGE TO PALLET DUNNAGE. NOTE: THE ANTI-SWAY BRACES, PIECE MARKED ③, MAY BE REPLACED WITH NAILED SIDE BLOCKING, SHOWN AS PIECE MARKED ② ON PAGE 4. REPLACE EACH ANTI-SWAY BRACE WITH ONE SET OF TWO DOUBLED 2" X 6" PIECES, IF DESIRED.
6. A HEADER, PIECE MARKED ②, IS REQUIRED BETWEEN PALLET UNITS WHENEVER TWO NON-CHIMNEYED LONGITUDINALLY ADJACENT PALLET UNITS ARE ORIENTED PERPENDICULAR TO EACH OTHER. SEE THE HEADER NAILING CHARTS ON PAGE 5.
7. THE LOADING PROCEDURES SHOWN ON PAGE 10 ARE LIMITED TO 1-LAYER LOADS; PALLET UNITS WILL NOT BE STACKED.
8. THE DEPICTED LOAD CAN BE ADJUSTED TO SUIT THE QUANTITY TO BE SHIPPED, OR TO SUIT THE WEIGHT OF THE UNIT BEING LOADED. THE LOAD CAN BE INCREASED BY REPLACING SOME OF THE 1-WIDE UNITS WITH 2-WIDE UNITS, OR THE LOAD CAN BE REDUCED BY REPLACING 2-WIDE PORTIONS WITH SINGLE UNITS.

BILL OF MATERIAL		
LUMBER	LINEAR FEET	BOARD FEET
2" X 4"	126	84
2" X 6"	148	148
NAILS	NO. REQD	POUNDS
10d (3")	221	3-1/2
20d (4")	9	1/2

LOAD AS SHOWN

ITEM	QUANTITY	WEIGHT (APPROX)
PALLET UNIT	15	16,500 LBS
DUNNAGE		468 LBS
TOTAL WEIGHT		16,968 LBS (APPROX)

COMBINATION 1-WIDE AND 2-WIDE
 15-UNIT LOAD IN A 40'-0" LONG BY 7'-8" WIDE CONVENTIONAL VAN TRAILER



KEY NUMBERS

- ① SIDE BLOCKING, 2" X 6" BY LADING LENGTH (DOUBLED) (2 REQD). NAIL THE FIRST PIECE TO THE TRAILER FLOOR W/1-10d NAIL EVERY 24". LAMINATE THE SECOND PIECE TO THE FIRST W/1-10d NAIL EVERY 24". INSTALL FROM RANDOM LENGTH PIECES. SEE SPECIAL NOTE 3 ON PAGE 13.
- ② REAR BLOCKING ASSEMBLY C (1 REQD). SEE THE DETAIL ON PAGE 22 AND SPECIAL NOTE 2 ON PAGE 13.

ISOMETRIC VIEW

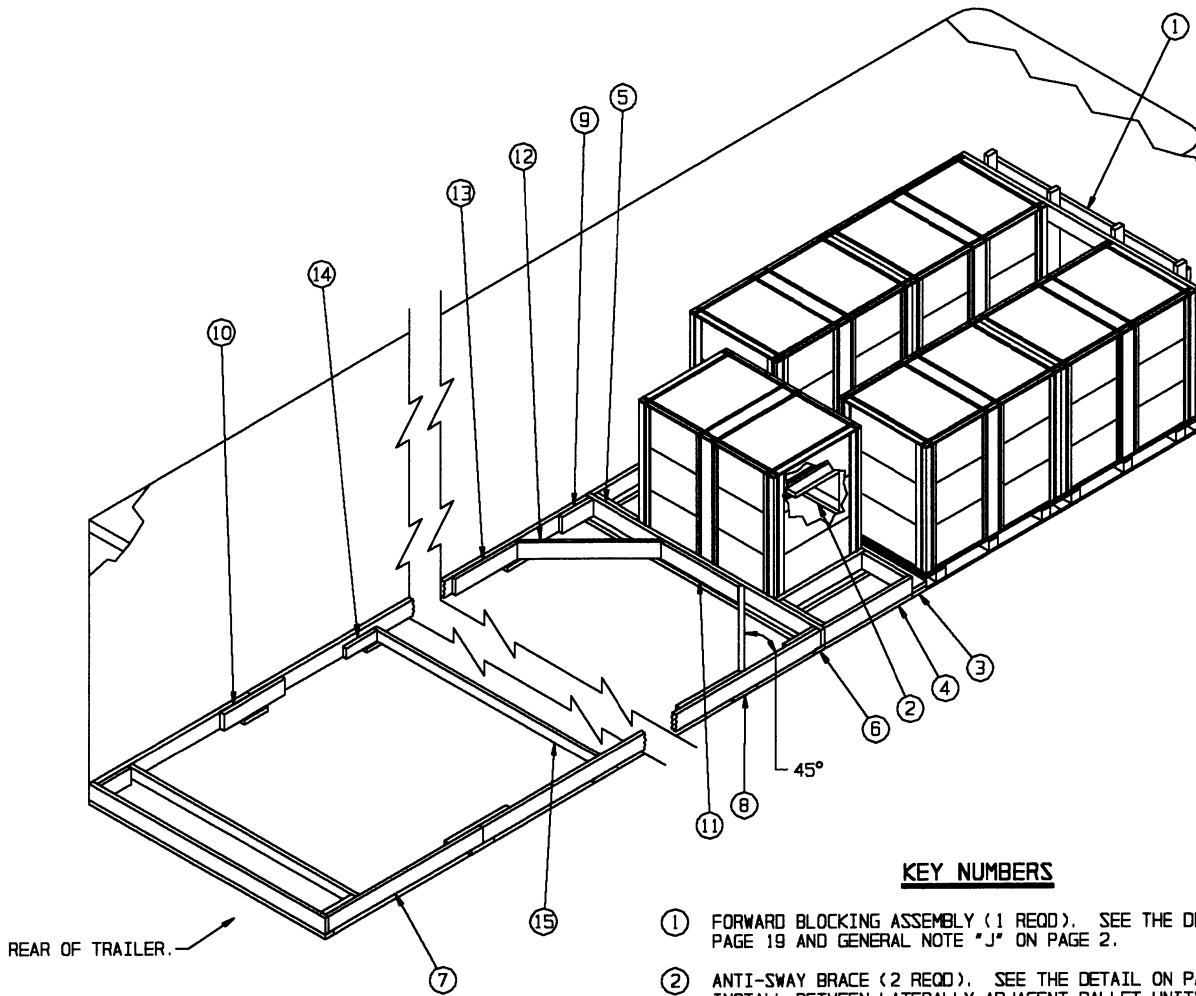
SPECIAL NOTES:

1. A 40'-0" LONG BY 7'-8" WIDE (INSIDE DIMENSION) CONVENTIONAL VAN TRAILER IS SHOWN. TRAILERS OF OTHER DIMENSIONS CAN BE USED.
2. IF THE SPACE AT THE REAR OF THE LOAD, BETWEEN THE PALLET UNITS 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 "A" AS DEPICTED ON PAGE XX. IF THE VOID AT THE REAR OF THE LOAD IS 9" OR GREATER, USE THE REAR BLOCKING ASSEMBLY "C" AS SHOWN, OR A NAILED HEADER, AS DEPICTED ON PAGE 10.
3. IF DESIRED, SIDE SPACERS "A" AND/OR "B", AS DEPICTED ON PAGE 24, MAY BE USED IN LIEU OF THE SIDE BLOCKING, PIECE MARKED ①. SEE THE LOAD ON PAGE 10 FOR DETAILS.
4. THE LOADING PROCEDURES SHOWN ON PAGE 10 ARE LIMITED TO 1-LAYER LOADS; PALLET UNITS WILL NOT BE STACKED.
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"	16	11
2" X 6"	173	173
NAILS	NO. REQD	POUNDS
10d (3")	110	1-3/4

LOAD AS SHOWN

ITEM	QUANTITY	WEIGHT (APPROX)
PALLET UNIT	13	14,300 LBS
DUNNAGE		370 LBS
TOTAL WEIGHT		14,670 LBS (APPROX)



ISOMETRIC VIEW

(KEY NUMBERS CONTINUED)

- ⑩ SPLICE PIECE, 2" X 6" X 24" (AS REQD). CENTER ON JOINT OF PIECES MARKED ⑦ AND NAIL TO SIDE STRUT MARKED ⑦ W/4-10d NAILS AT EACH END. SEE SPECIAL NOTE 5 ON PAGE 15.
- ⑪ CENTER CLEAT, 2" X 6" X 30" (1 REQD). NAIL TO A HEADER, PIECE MARKED ⑤, W/6-10d NAILS.
- ⑫ 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, PIECES MARKED ⑤ AND ⑦, W/2-16d NAILS AT EACH END.
- ⑬ BACK-UP CLEAT, 2" X 6" X 24" (2 REQD). NAIL TO A SIDE STRUT, PIECE MARKED ⑦, W/8-10d NAILS.
- ⑭ STRUT BRACE RETAINING CLEAT, 2" X 4" X 12" (AS REQD). NAIL TO A SIDE STRUT, PIECE MARKED ⑦, W/3-10d NAILS. SEE SPECIAL NOTE 5 ON PAGE 15.
- ⑮ STRUT BRACE, 2" X 4" BY TRAILER WIDTH MINUS 3" IN LENGTH (MINIMUM OF ONE REQUIRED). NAIL TO THE POCKET CLEATS, PIECES MARKED ⑨, AND/OR TO THE STRUT BRACE RETAINING CLEATS, PIECES MARKED ⑭, W/2-12d NAILS AT EACH END. SEE SPECIAL NOTE 5 ON PAGE 15.

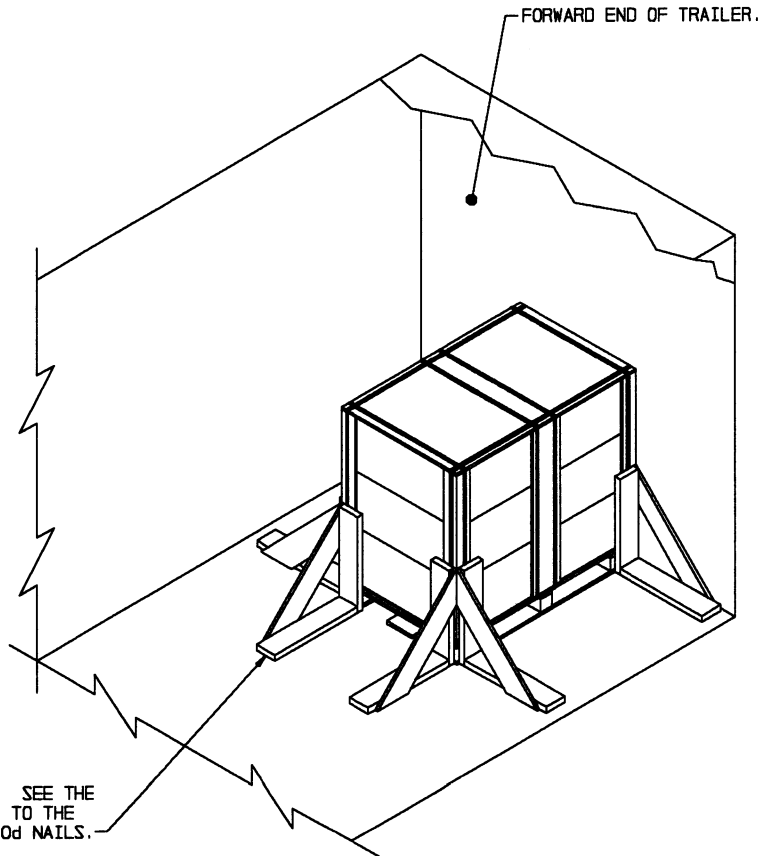
KEY NUMBERS

- ① FORWARD BLOCKING ASSEMBLY (1 REQD). SEE THE DETAIL ON PAGE 19 AND GENERAL NOTE "J" ON PAGE 2.
- ② ANTI-SWAY BRACE (2 REQD). SEE THE DETAIL ON PAGE 18. INSTALL BETWEEN LATERALLY ADJACENT PALLET UNITS. SEE SPECIAL NOTE 2 ON PAGE 15.
- ③ HEADER, 2" X 6" X TRAILER WIDTH MINUS 1/2" (DOUBLED) (1 REQD). NAIL THE FIRST PIECE TO THE TRAILER FLOOR W/3-10d NAILS. NAIL THE SECOND PIECE TO THE FIRST W/3-20d NAILS. SEE SPECIAL NOTE 4 ON PAGE 15.
- ④ SIDE SPACER ASSEMBLY B (2 REQD). SEE THE DETAIL ON PAGE 22. SEE SPECIAL NOTE 3 ON PAGE 15.
- ⑤ HEADER, 2" X 6" BY TRAILER WIDTH MINUS 1/2" IN LENGTH (2 REQD).
- ⑥ HEADER AND SIDE STRUT SUPPORT, 2" X 4" BY TRAILER WIDTH MINUS 1/2" IN LENGTH (2 REQD). NAIL TO THE BOTTOM EDGE OF A HEADER, PIECE MARKED ⑤, W/1-10d NAIL EVERY 8".
- ⑦ SIDE STRUT, 2" X 6" BY CUT TO FIT BETWEEN THE FORWARD AND REAR HEADERS, PIECES MARKED ⑤ (2 REQD). SEE SPECIAL NOTE 5 ON PAGE 15.
- ⑧ RISER PIECE, 2" X 4" X 9" (AS REQD). CENTER UNDER THE JOINTS OF PIECES MARKED ② AND ③, ④ AND ⑤, AND UNDER THE SPLICE OF PIECES MARKED ⑦ IF APPLICABLE. NAIL TO SIDE STRUT MARKED ⑦ W/2-10d NAILS.
- ⑨ POCKET CLEAT, 2" X 6" X 12" (4 REQD). NAIL TO A SIDE STRUT, PIECE MARKED ⑦, W/3-10d NAILS. TOENAIL TO THE ADJACENT HEADER, PIECE MARKED ⑤, W/3-12d NAILS.

(CONTINUED AT LEFT)

SPECIAL NOTES:

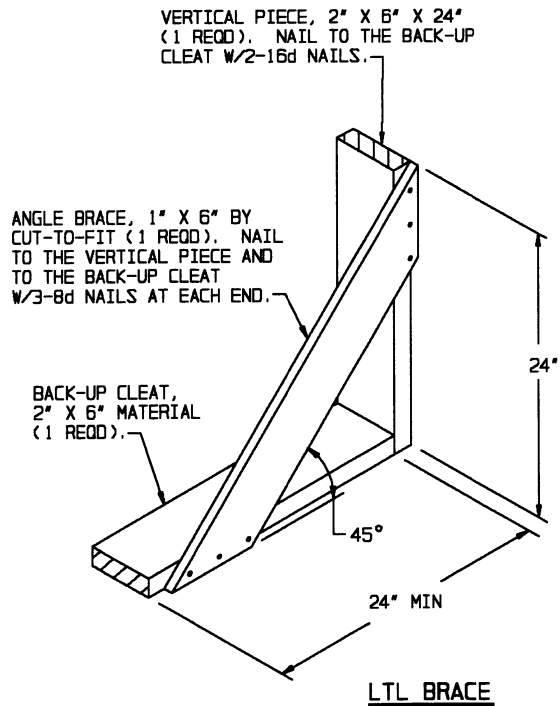
1. A 40'-0" LONG BY 7'-8" WIDE (INSIDE DIMENSION) CONVENTIONAL VAN TRAILER IS SHOWN. TRAILERS OF OTHER DIMENSIONS CAN BE USED. THE LOAD ON PAGE 14 IS DEPICTED IN A VAN TRAILER EQUIPPED WITH ROUNDED CORNERS. IF A 40'-0" TRAILER HAVING A SQUARE FRONT OR INSTALLED BULKHEAD IS TO BE LOADED, THE FORWARD BLOCKING ASSEMBLY, PIECE MARKED ①, MAY BE OMITTED.
2. SIDE BLOCKING AND/OR ANTI-SWAY BRACES ARE REQUIRED WHEN THE SPACE BETWEEN LATERALLY ADJACENT UNITS EXCEEDS 6", AS MEASURED FROM PALLET DUNNAGE TO PALLET DUNNAGE. NOTE: THE ANTI-SWAY BRACES, DEPICTED AS PIECE MARKED ② ON PAGE 14, MAY BE REPLACED WITH NAILED SIDE BLOCKING, SHOWN AS PIECE MARKED ② ON PAGE 4. REPLACE EACH ANTI-SWAY BRACE WITH ONE SET OF TWO DOUBLED 2" X 6" PIECES, IF DESIRED.
3. THE SIDE SPACER ASSEMBLIES, PIECE MARKED ④, ARE SHOWN ONLY TO DEPICT A TYPICAL INSTALLATION. SIDE SPACER ASSEMBLIES WILL BE USED WHEN A PALLET UNIT IS OMITTED. THEY MAY OR MAY NOT BE REQUIRED, DEPENDING ON THE QUANTITY OF PALLET UNITS TO BE SHIPPED.
4. A HEADER, PIECE MARKED ③, IS REQUIRED BETWEEN PALLET UNITS WHENEVER TWO NON-CHIMNEYED LONGITUDINALLY ADJACENT PALLET UNITS ARE ORIENTED PERPENDICULAR TO EACH OTHER. SEE THE HEADER NAILING CHARTS ON PAGE 5.
5. DEPENDING ON THE NUMBER OF UNITS BEING LOADED, EACH OF THE SIDE STRUTS, PIECES MARKED ⑦, 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. CAUTION: A RISER PIECE, PIECE MARKED ⑧, MUST BE POSITIONED UNDER EACH SPLICE JOINT. NOTE: IF DESIRED, THE STRUT BRACE PIECE(S), PIECE MARKED ⑩, MAY BE NAILED TO THE SPLICE PIECES IN LIEU OF USING ADDITIONAL STRUT BRACE RETAINING CLEATS, PIECE MARKED ⑭.
6. ALL LTL LOADS, REGARDLESS OF THEIR SIZE, REQUIRE ONE STRUT BRACE POSITIONED AT THE REAR OF THE TRAILER AND NAILED TO PIECE MARKED ⑨. IF THE SIDE STRUTS, PIECE MARKED ⑦, ARE LONGER THAN 7'-0", AN ADDITIONAL STRUT BRACE, PIECE MARKED ⑩, AND TWO STRUT BRACE RETAINING CLEATS, PIECE MARKED ⑭, AND TWO RISER PIECES MARKED ⑧, MUST BE APPLIED FOR EVERY 7'-0" OF SIDE STRUT LENGTH.
7. THE "K-BRACE" BLOCKING, SHOWN AS PIECES MARKED ⑤ THRU ⑬, IS ADEQUATE FOR RETAINING A MAXIMUM LTL LOAD OF 20,000 POUNDS.
8. 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. SEE THE "PROCEDURES FOR CONVENTIONAL VAN TRAILERS EQUIPPED WITH ROLL-UP TYPE DOORS" ON PAGE 23 FOR GUIDANCE. NOTE THAT THE NAILED-HEADER METHOD OF REAR BLOCKING MAY ALSO BE USED IN TRAILERS EQUIPPED WITH HINGED DOORS AND NAILABLE FLOORS, AND MAY BE USED IN LIEU OF PIECES MARKED ⑤ THRU ⑬ WHICH APPLY TO TRAILERS HAVING NON-NAILABLE FLOORS.
9. THE DEPICTED LOAD CAN BE ADJUSTED TO SUIT THE QUANTITY TO BE SHIPPED, OR TO SUIT THE WEIGHT OF THE UNIT BEING LOADED.



ISOMETRIC VIEW

SPECIAL NOTES:

1. A 7'-8" WIDE (INSIDE DIMENSION) CONVENTIONAL 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 A CORNER OF THE TRAILER. LTL BRACES SHOULD BE ALIGNED AS NEAR AS POSSIBLE WITH THE STRONG POINTS OF THE PALLET UNIT. IF THE TRAILER USED DOES NOT HAVE A SQUARE FRONT, THE TWO LTL BRACES LOCATED AGAINST THE FORWARD WALL MAY BE MOVED TO THE CENTER OF THE PALLET UNIT. 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 DETAIL ON PAGE 19.
3. MORE THAN ONE PALLET UNIT CAN BE SHIPPED, PROVIDING THE CAPACITY OF THE LTL BRACES IS NOT EXCEEDED. THE LOAD SHOULD BE FORMED IN ROWS, WITH THE UNITS POSITIONED AGAINST OPPOSITE SIDEWALLS. THE PROPER ANTI-SWAY BRACES, IF REQUIRED, WILL BE INSTALLED BETWEEN THE LATERALLY ADJACENT UNITS. SEE THE DETAIL ON PAGE 18.
4. EACH LTL BRACE AS APPLIED FOR LONGITUDINAL BRACING WILL SUPPORT 2,000 POUNDS OF LADING; HOWEVER, NOT LESS THAN TWO BRACES WILL BE USED AGAINST EACH PALLET UNIT ACROSS THE WIDTH OF THE TRAILER.



HEADER, 2" X 6" X 34" (DOUBLED) (1 REQD). ALIGN WITH THE PALLET SKIDS. NAIL THE FIRST PIECE TO THE TRAILER FLOOR W/3-10d NAILS. LAMINATE THE SECOND PIECE TO THE FIRST W/3-10d NAILS. SEE SPECIAL NOTE 4 BELOW.

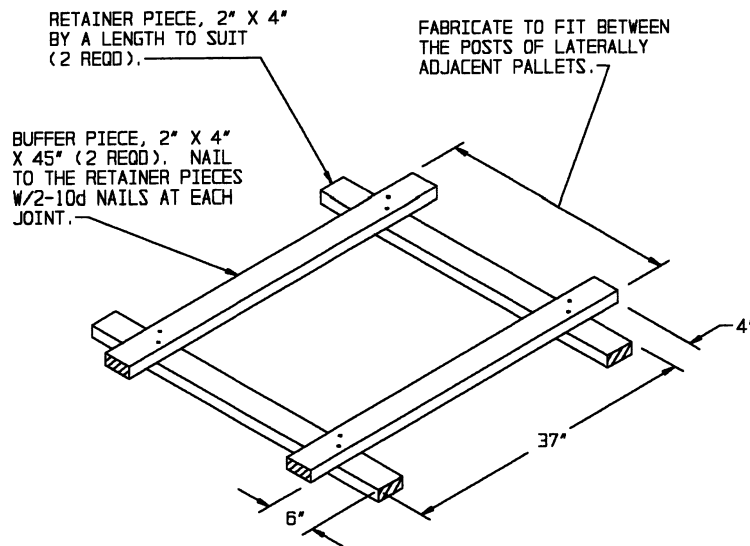
ISOMETRIC VIEW

SIDE BLOCKING, 2" X 6" X 53" (DOUBLED) (2 REQD). NAIL THE FIRST PIECE TO THE TRAILER FLOOR W/4-10d NAILS. LAMINATE THE SECOND PIECE TO THE FIRST W/4-10d NAILS.

FORWARD END OF TRAILER.

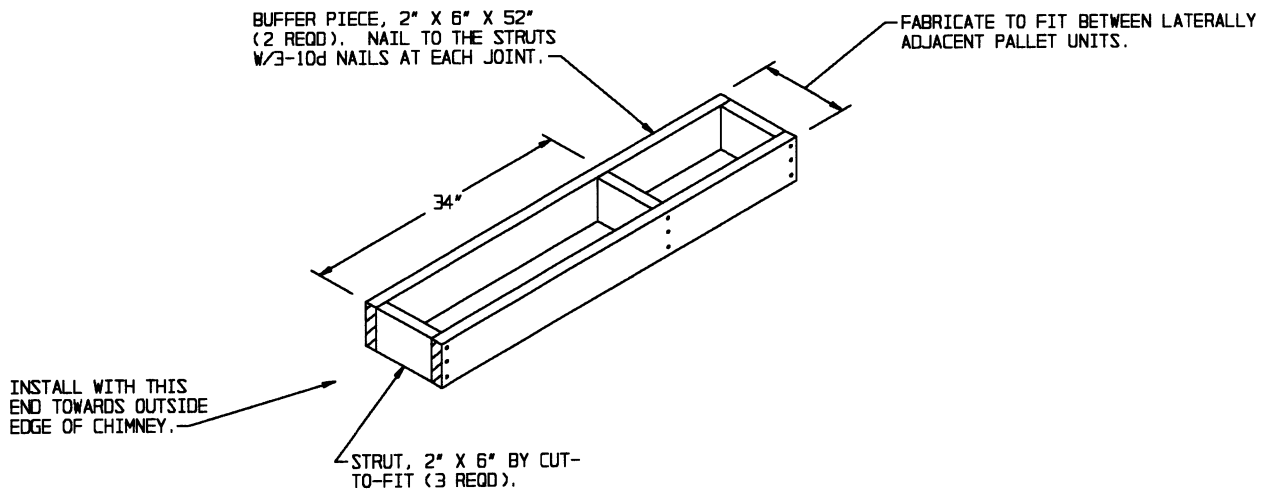
SPECIAL NOTES:

1. A 7'-8" WIDE (INSIDE DIMENSION) CONVENTIONAL 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 A CORNER OF THE TRAILER. A COMBINATION OF LTL BRACES AND NAILED BLOCKING MAY BE USED, IF DESIRED. SEE PAGE 16 FOR DETAILS OF THE LTL BRACE. 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 DETAIL ON PAGE 19.
3. MORE THAN ONE PALLET UNIT CAN BE SHIPPED, PROVIDING THE CAPACITY OF THE HEADER IS NOT EXCEEDED. THE LOAD SHOULD BE FORMED IN ROWS, WITH THE UNITS POSITIONED AGAINST OPPOSITE SIDEWALLS. THE PROPER ANTI-SWAY BRACES, IF REQUIRED, WILL BE INSTALLED BETWEEN THE Laterally ADJACENT UNITS. SEE THE DETAIL ON PAGE 18.
4. THE HEADER AS APPLIED ABOVE FOR LONGITUDINAL BRACING WILL SUPPORT 7,500 POUNDS OF LADING; A TRAILER WIDTH HEADER WILL SUPPORT UP TO A FULL TRAILER LOAD OF PALLET UNITS. SEE THE "REAR HEADER NAILING CHART" ON PAGE 5.



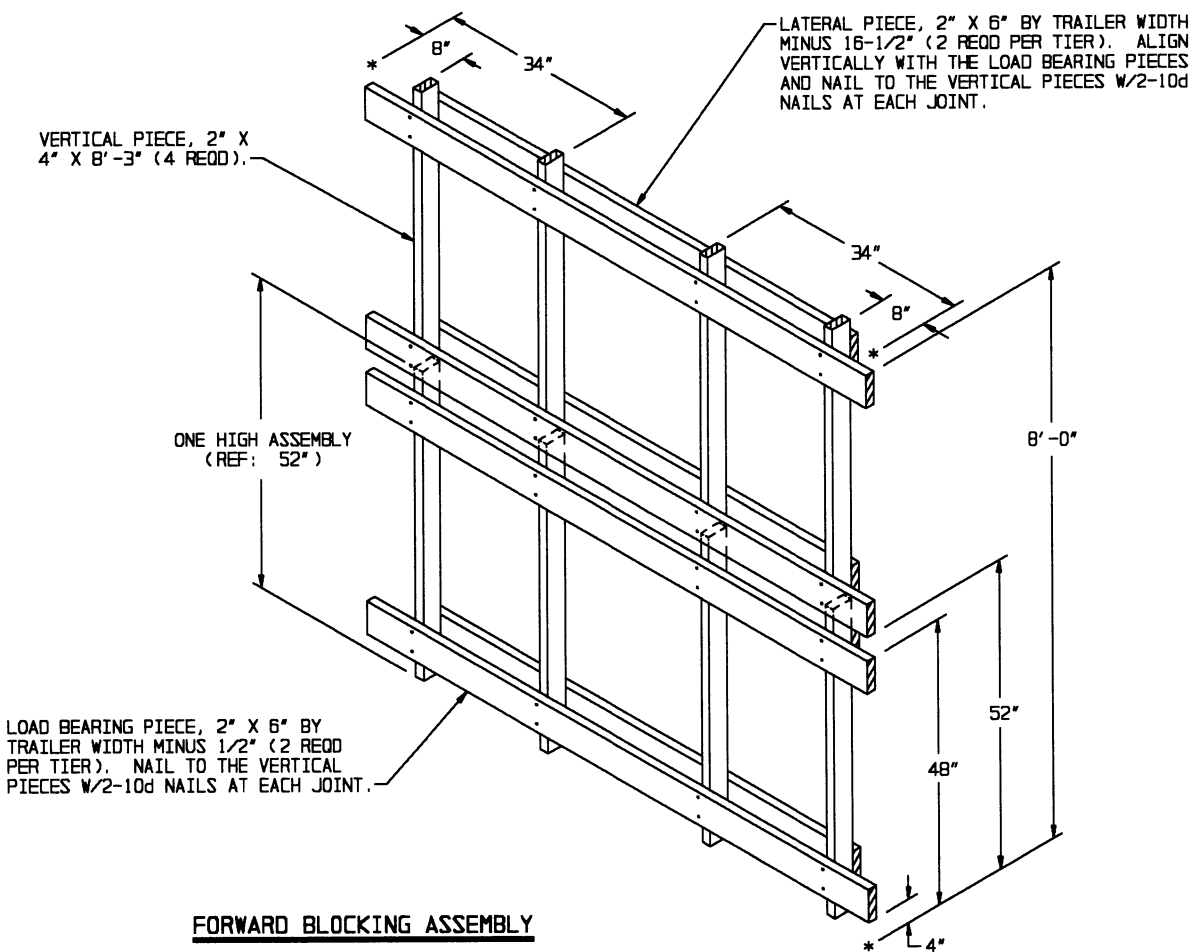
ANTI-SWAY BRACE A

IF DESIRED, THE ANTI-SWAY BRACE CAN BE PARTIALLY PRE-ASSEMBLED; 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.



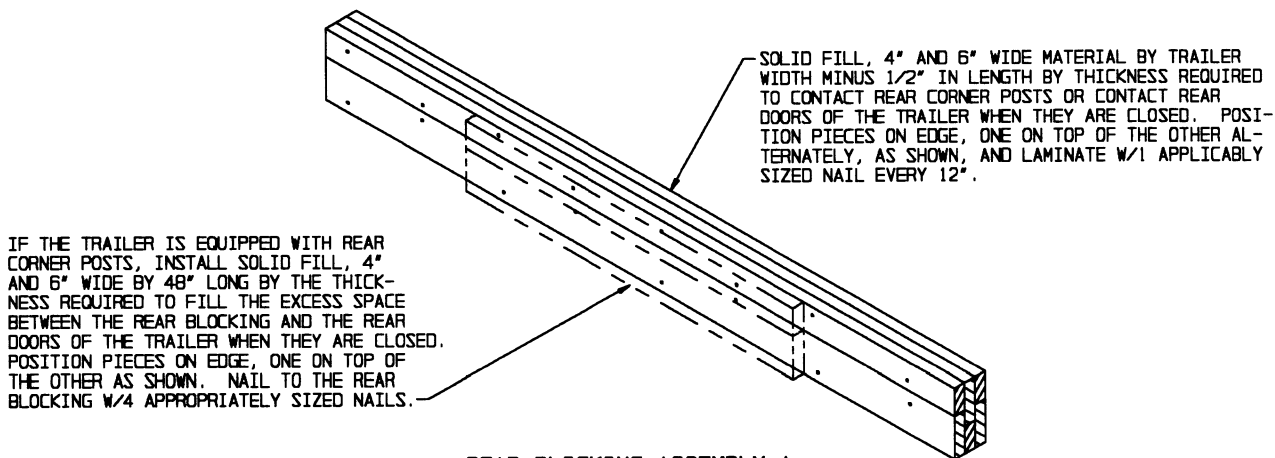
ANTI-SWAY BRACE B

INSTALL SO THAT THE STRUTS ARE IN LINE WITH THE EDGES OF THE CHIMNEYED PALLET UNITS.



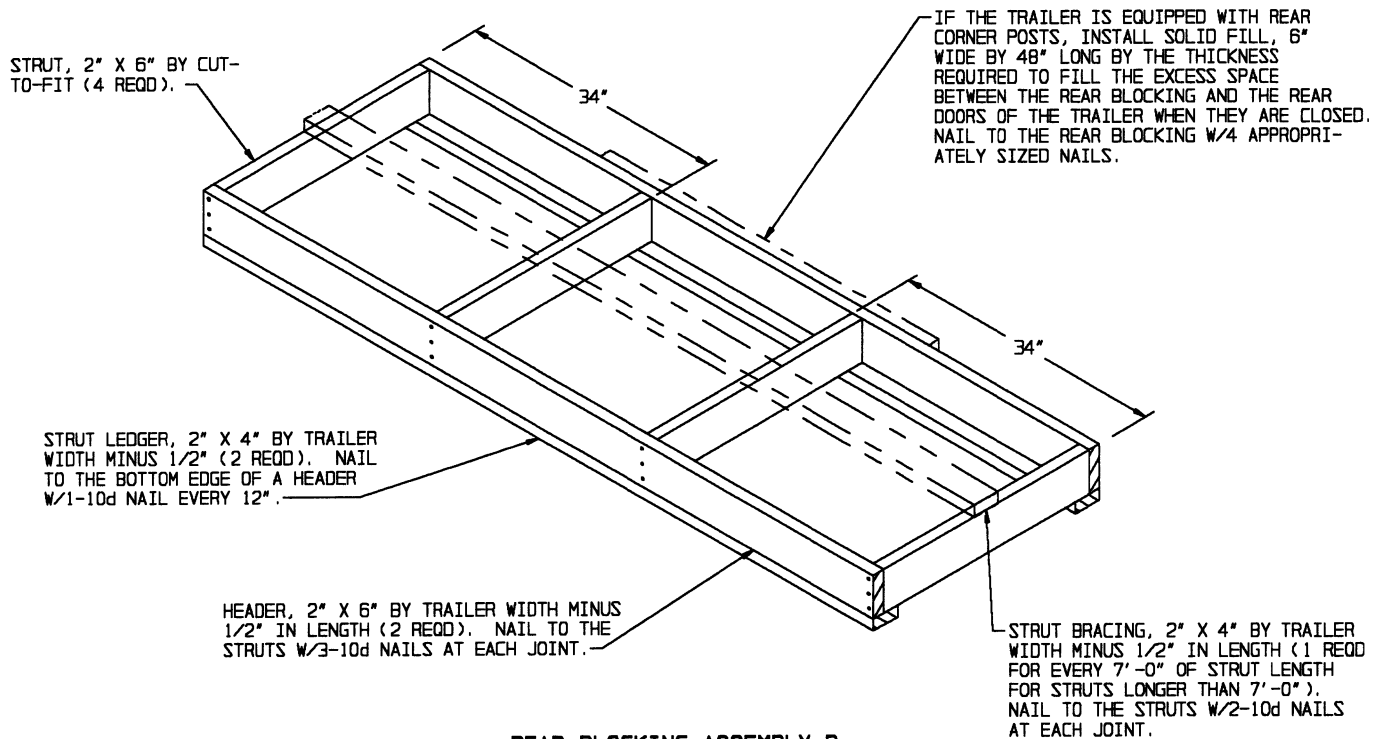
FORWARD BLOCKING ASSEMBLY

THE ASSEMBLY AS DEPICTED ABOVE IS APPLICABLE FOR A TWO-TIER LOAD. FOR A ONE-TIER LOAD, ELIMINATE THE TOP TWO LATERAL PIECES AND THE TOP TWO LOAD BEARING PIECES AND SHORTEN THE VERTICAL PIECES TO 52", AS DEPICTED ABOVE. THIS ASSEMBLY IS DESIGNED FOR USE AT THE FRONT END OF A TRAILER HAVING ROUNDED CORNERS, AND IS APPLICABLE FOR A CORNER RADIUS OF NOT MORE THAN 6-1/2". IF THE RADIUS IS FROM 6-1/2" TO 8", 2" X 6" VERTICAL PIECES WILL BE USED IN LIEU OF THE 2" X 4" PIECES. IF THE TRAILER TO BE LOADED HAS LARGE-ANGLED CORNERS AT THE FORWARD END, REFER TO PAGE 24 FOR GUIDANCE.



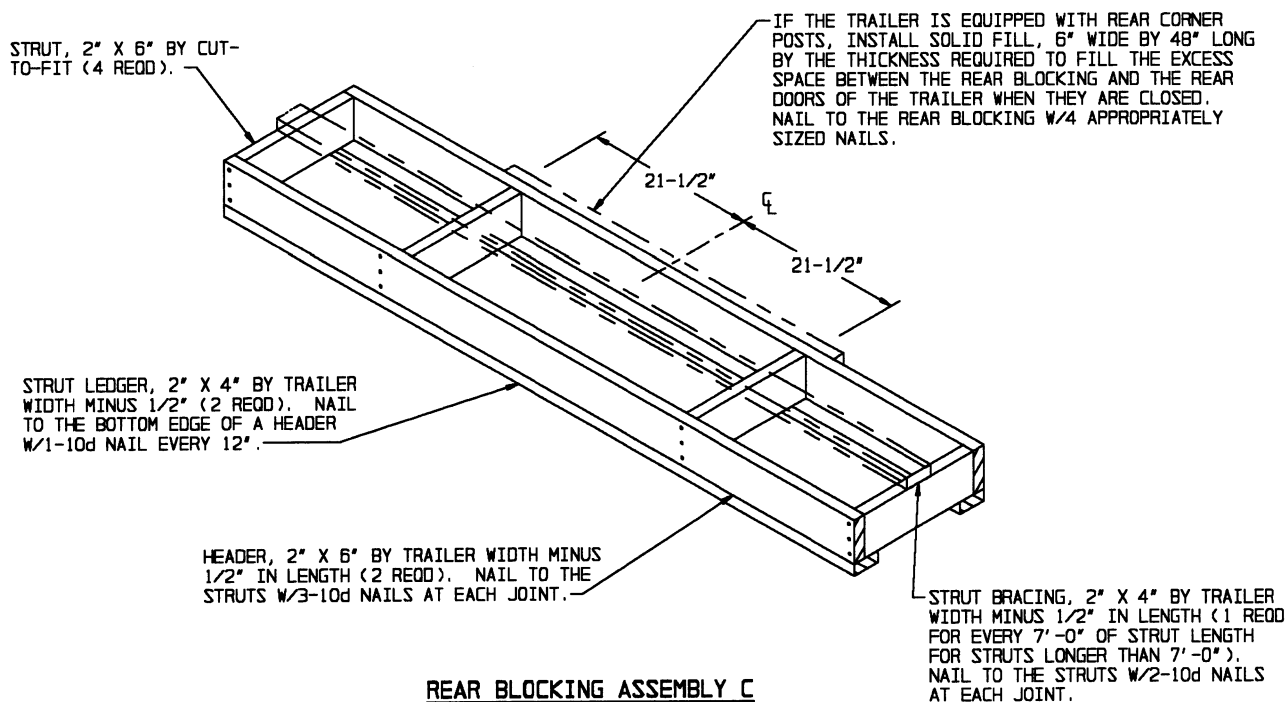
REAR BLOCKING ASSEMBLY A

THIS REAR BLOCKING ASSEMBLY IS DESIGNED FOR USE AT THE REAR OF A LOAD WHEN THE SPACE BETWEEN THE LADING AND THE TRAILER DOORS IS GREATER THAN 1-1/2" OR LESS THAN 9".



REAR BLOCKING ASSEMBLY B

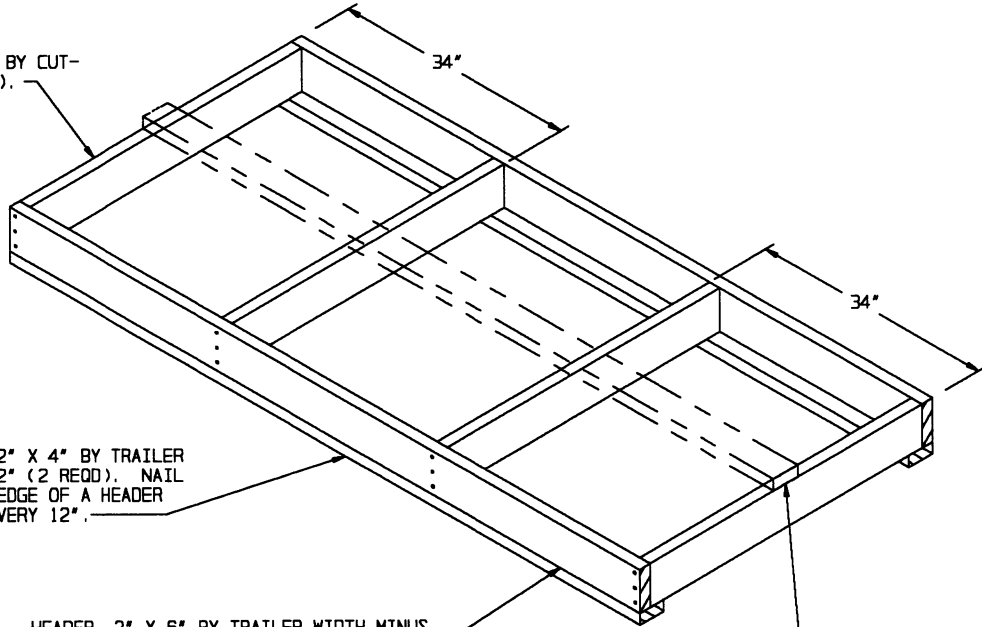
THIS ASSEMBLY IS DESIGNED FOR USE AT THE REAR OF A LOAD WHEN THE SPACE BETWEEN THE LADING AND THE TRAILER DOOR IS MORE THAN 9" AND TWO ROWS OF PALLET UNITS ARE LOADED ADJACENT TO THE TRAILER DOORS. NOTE THAT THE ABOVE VIEW IS ROTATED 180° FROM THE POSITION IN WHICH IT WILL BE INSTALLED.



REAR BLOCKING ASSEMBLY C

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 ONE ROW OF PALLET UNITS IS LOADED ADJACENT TO THE TRAILER DOORS. NOTE THAT THE ABOVE VIEW IS ROTATED 180° FROM THE POSITION IN WHICH IT WILL BE INSTALLED.

STRUT, 2" X 6" BY CUT-TO-FIT (4 REQD).



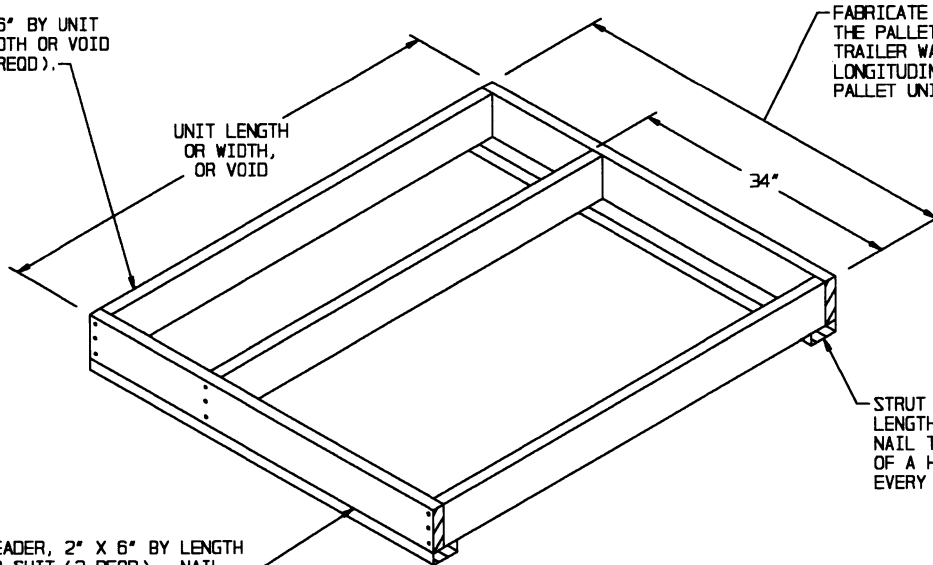
STRUT LEDGER, 2" X 4" BY TRAILER WIDTH MINUS 1/2" (2 REQD). NAIL TO THE BOTTOM EDGE OF A HEADER W/1-10d NAIL EVERY 12".

HEADER, 2" X 6" BY TRAILER WIDTH MINUS 1/2" IN LENGTH (2 REQD). NAIL TO THE STRUTS W/3-10d NAILS AT EACH JOINT.

STRUT BRACING, 2" X 4" BY TRAILER WIDTH MINUS 1/2" IN LENGTH (1 REQD FOR EVERY 7'-0" OF STRUT LENGTH FOR STRUTS LONGER THAN 7'-0"). NAIL TO THE STRUTS W/2-10d NAILS AT EACH JOINT.

SPACER ASSEMBLY A

STRUT, 2" X 6" BY UNIT LENGTH OR WIDTH OR VOID MINUS 3" (3 REQD).



UNIT LENGTH OR WIDTH, OR VOID

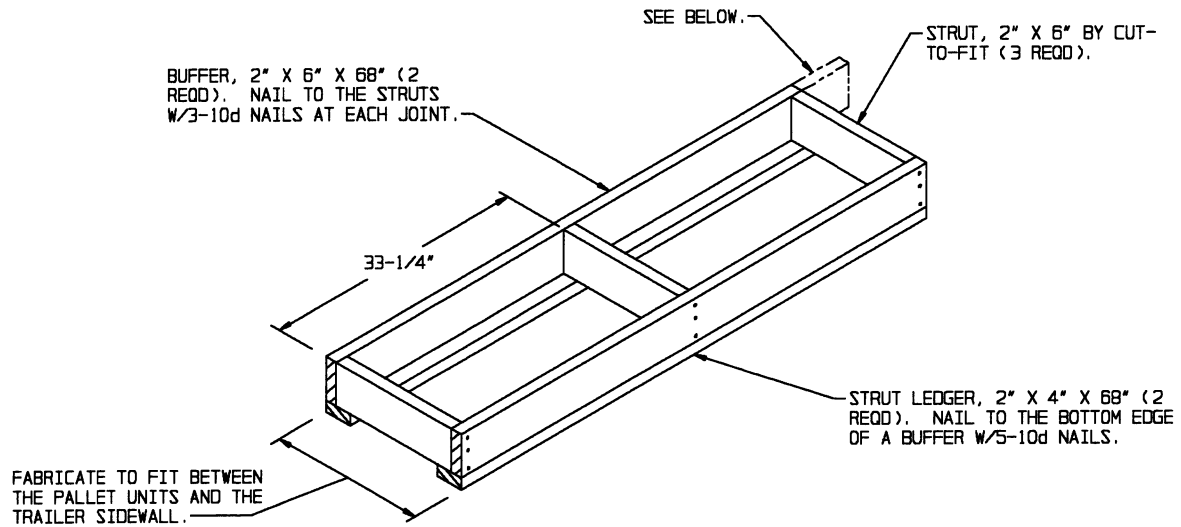
FABRICATE TO FIT BETWEEN THE PALLET UNIT AND THE TRAILER WALL OR BETWEEN LONGITUDINALLY ADJACENT PALLET UNITS.

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

HEADER, 2" X 6" BY LENGTH TO SUIT (2 REQD). NAIL TO THE STRUTS W/3-10d NAILS AT EACH JOINT.

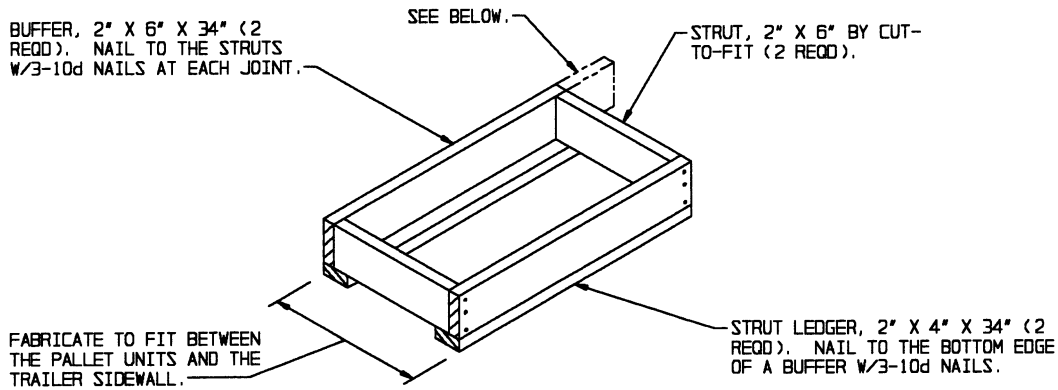
SPACER ASSEMBLY B

THIS ASSEMBLY MUST BE CONSTRUCTED AND INSTALLED SUCH THAT THE STRUTS ARE IN ALIGNMENT WITH THE EDGES OF THE PALLET UNITS.



SIDE SPACER ASSEMBLY A

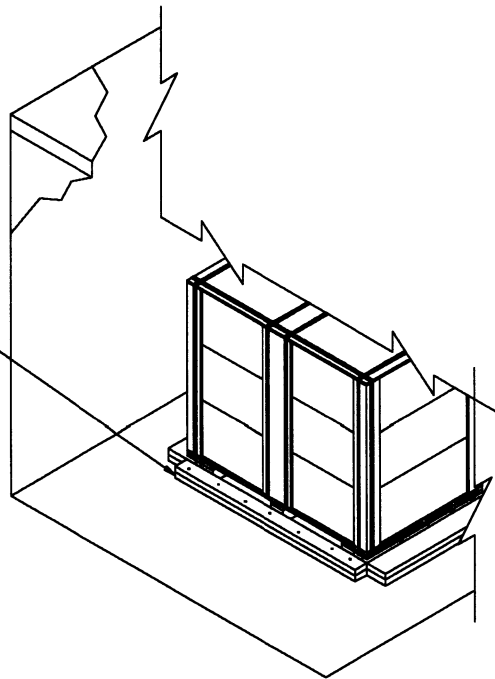
THIS ASSEMBLY IS TWO PALLET UNITS LONG. IF THE TRAILER BEING LOADED HAS ROUNDED CORNERS, AND THE ASSEMBLY IS TO BE USED ADJACENT TO THE FORWARD WALL, LENGTHEN ONE END OF ONE BUFFER PIECE BY 7", AS DEPICTED ABOVE.



SIDE SPACER ASSEMBLY B

THIS ASSEMBLY IS ONE PALLET UNIT LONG. IF THE TRAILER BEING LOADED HAS ROUNDED CORNERS, AND THE ASSEMBLY IS TO BE USED ADJACENT TO THE FORWARD WALL, LENGTHEN ONE END OF ONE BUFFER PIECE BY 7", AS DEPICTED ABOVE.

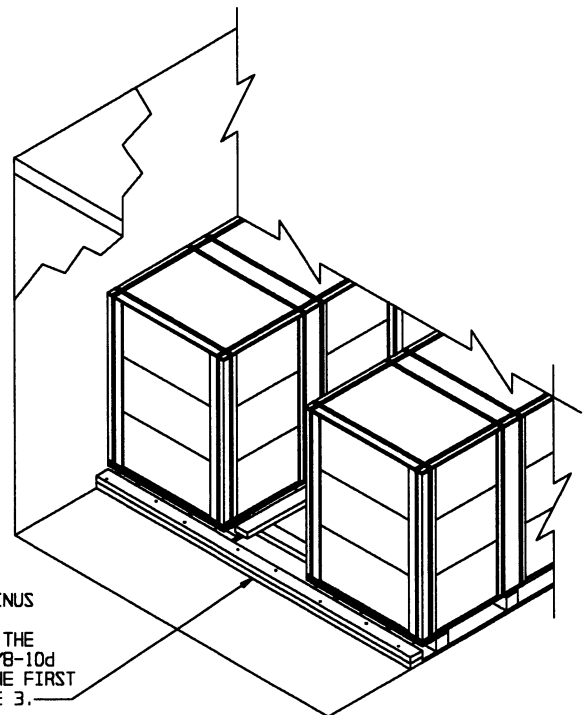
HEADER, 2" X 4" X 52" (DOUBLED)
(1 REQD), POSITION AGAINST
THE PALLET. NAIL THE FIRST
PIECE TO THE TRAILER FLOOR
W/7-10d NAILS. NAIL THE SECOND
PIECE TO THE FIRST IN A LIKE
MANNER. SEE SPECIAL NOTE 2.



METHOD A

SPECIAL NOTES:

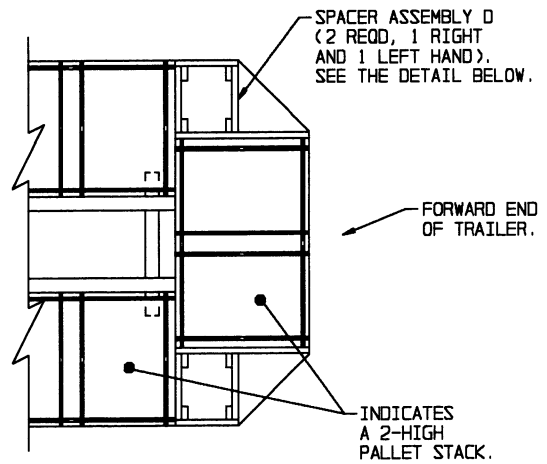
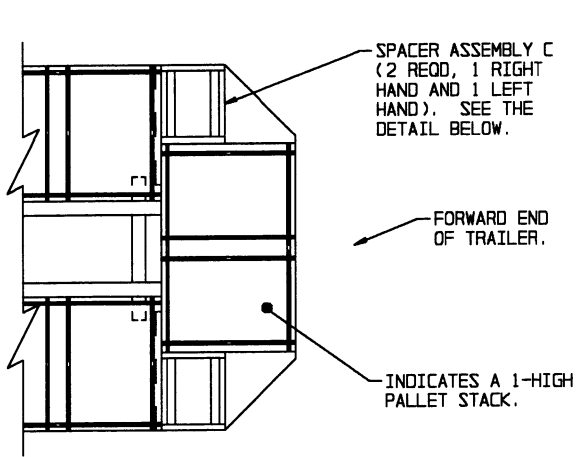
1. THE NAILED HEADER METHOD "A" REAR BLOCKING DEPICTED ABOVE IS APPLICABLE FOR PALLET UNITS WHICH ARE POSITIONED WITH THE PALLET WIDTH ACROSS THE WIDTH OF THE TRAILER. THE NAILED HEADER METHOD "B" REAR BLOCKING DEPICTED BELOW IS APPLICABLE FOR PALLET UNITS WHICH ARE POSITIONED WITH THE PALLET LENGTH ACROSS THE WIDTH OF THE TRAILER. BOTH PROCEDURES CAN ONLY BE USED IN THE TRAILERS HAVING A NAILABLE FLOOR AREA BETWEEN THE LADING AND THE METAL THRESHOLD, OR A THRESHOLD PLATE IF THE TRAILER IS SO EQUIPPED, OF AT LEAST SIX INCHES.
2. THE PROCEDURE DEPICTED AS METHOD "A" VIEW ABOVE IS ADEQUATE FOR THE RETENTION OF 17,500 POUNDS OF LADING. FOR LOADS OF GREATER OR LESS WEIGHT, SEE THE "REAR HEADER NAILING CHART" ON PAGE 5 TO DETERMINE THE QUANTITY OF NAILS REQUIRED.
3. THE PROCEDURE DEPICTED AS METHOD "B" VIEW BELOW IS ADEQUATE FOR THE RETENTION OF 20,000 POUNDS OF LADING. FOR LOADS OF GREATER OR LESS WEIGHT, SEE THE "REAR HEADER NAILING CHART" ON PAGE 5 TO DETERMINE THE QUANTITY OF NAILS REQUIRED.
4. EITHER NAILED HEADER METHOD, ALTHOUGH DESIGNED ESPECIALLY FOR TRAILERS HAVING ROLL-UP TYPE DOORS, MAY ALSO BE USED IN TRAILERS EQUIPPED WITH HINGED DOORS.



HEADER, 2" X 4" BY TRAILER WIDTH MINUS
1/2" IN LENGTH (DOUBLED) (1 REQD),
POSITION AGAINST THE PALLET. NAIL THE
FIRST PIECE TO THE TRAILER FLOOR W/8-10d
NAILS. NAIL THE SECOND PIECE TO THE FIRST
IN A LIKE MANNER. SEE SPECIAL NOTE 3.

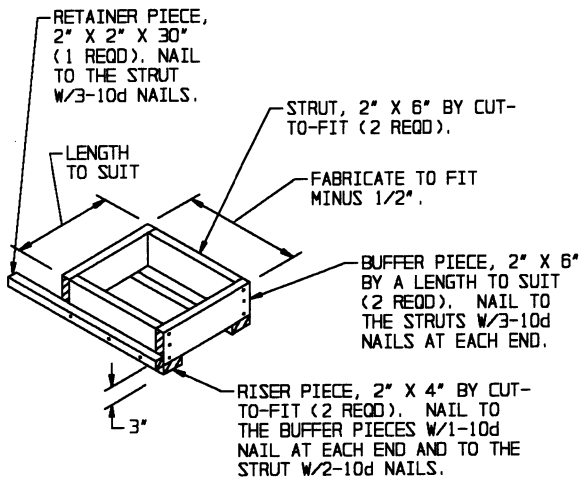
METHOD B

NAILED HEADER METHOD PROCEDURES FOR
CONVENTIONAL VAN TRAILERS EQUIPPED WITH ROLL-UP TYPE DOORS



ALTERNATIVE FORWARD LOADING PATTERN A

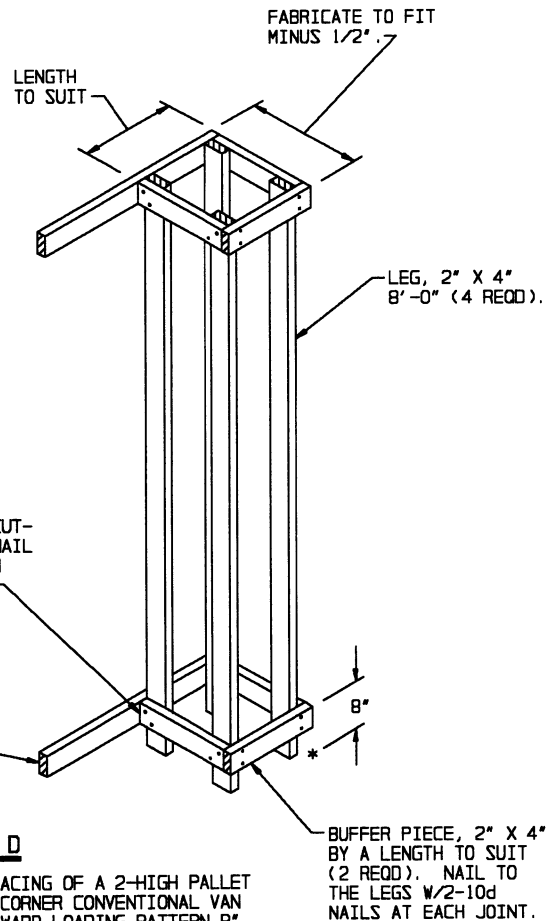
THIS PROCEDURE IS APPLICABLE TO THE LOADING OF ONE PALLET UNIT IN THE FORWARD END OF A CONVENTIONAL VAN TRAILER HAVING LARGE-ANGLED FRONT CORNERS (REF: 18°). THE PROCEDURES MAY ALSO BE USED IN TRAILERS HAVING SQUARE CORNERS, OR ROUNDED FRONT CORNERS, OR ANGLED CORNERS OF ANOTHER SIZE.



SPACER ASSEMBLY C

ALTERNATIVE FORWARD LOADING PATTERN B

THIS PROCEDURE IS APPLICABLE TO THE LOADING OF A STACK OF TWO PALLET UNITS IN THE FORWARD END OF A CONVENTIONAL VAN TRAILER HAVING LARGE-ANGLED FRONT CORNERS (REF: 18°). THE PROCEDURES MAY ALSO BE USED IN TRAILERS HAVING SQUARE CORNERS, OR ROUNDED FRONT CORNERS, OR ANGLED CORNERS OF ANOTHER SIZE. NOTE THAT IF THE LOAD UNIT BEHIND THE STACKED PALLET UNITS IN THE FRONT IS ONLY ONE HIGH, TWO UNITIZING STRAPS MUST BE INSTALLED AROUND THOSE PALLET UNITS IN THE FRONT STACK.



SPACER ASSEMBLY D

THIS ASSEMBLY IS DESIGNED FOR LATERAL BRACING OF A 2-HIGH PALLET STACK LOCATED IN THE FRONT OF AN ANGLED-CORNER CONVENTIONAL VAN TRAILER AS SHOWN IN THE "ALTERNATIVE FORWARD LOADING PATTERN B" VIEW ABOVE. NOTE THAT THIS VIEW DEPICTS THE ASSEMBLY POSITIONED 180° FROM THE POSITION IN WHICH IT WILL BE INSTALLED IN A LOAD. RIGHT HAND AND LEFT HAND SPACER ASSEMBLIES ARE REQUIRED.