

LOADING AND BRACING (TL AND LTL) IN VAN TRAILERS[⊕] OF PALLETIZED PROPELLING CHARGES PACKED IN CYLINDRICAL METAL CONTAINERS


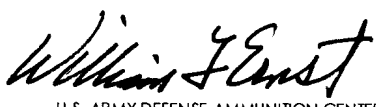

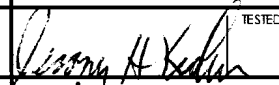
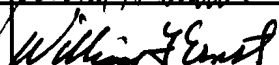
PA106 SERIES CONTAINERS

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⊕ CAUTION: THE LOADING PROCEDURES SHOWN HEREIN ARE ONLY APPLICABLE TO HIGHWAY MOVEMENTS, NOT TRAILER-ON FLATCAR (TOFC) MOVEMENTS.

U.S. ARMY MATERIEL COMMAND DRAWING

APPROVED, U.S. ARMY INDUSTRIAL OPERATIONS COMMAND 	ENGINEER	BASIC		DO NOT SCALE			
		REV.	MICHAEL SARDONE	WEBSITE: HTTP://WWW.DAC.ARMY.MIL			
	TECHNICIAN	BASIC	PATTY BRIGHT	JUNE 1988			
	REV.			REVISION NO. 1		JUNE 1998	
	DRAFTSMAN	BASIC	TOM SIMMONS	SEE THE REVISION LISTING ON PAGE 3			
		REV.		CLASS	DIVISION	DRAWING	FILE
APPROVED BY ORDER OF COMMANDING GENERAL, U.S. ARMY MATERIEL COMMAND 	TRANSPORTATION ENGINEERING DIVISION			19	48	4042C/22	11PM1000
	VALIDATION ENGINEERING DIVISION						
U.S. ARMY DEFENSE AMMUNITION CENTER 	LOGISTICS ENGINEERING OFFICE						

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 FOR THE PA106 SERIES PROPELLING CHARGE CONTAINER ASSEMBLED ON THE 40" X 48" 4-WAY ENTRY PALLET. SEE THE PICTORAL VIEWS ON PAGE 3 FOR SIZES AND WEIGHTS. SEE U.S. ARMY MATERIEL COMMAND DRAWING 19-48-4042A/23-20PM1001 FOR UNITIZATION PROCEDURES FOR THE PA106 SERIES CONTAINERS.
- 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 FOR THE TRANSPORT OF THE DESIGNATED ITEM IS THE RESPONSIBILITY OF THE ORIGINATING CARRIER AND THE SHIPPER. ONLY VEHICLES IN ACCORDANCE WITH THE REQUIREMENTS OF THE APPLICABLE REGULATORY DOCUMENTS WILL BE SELECTED FOR USE.
- 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 THROUGH 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 43,000 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.
- H. OTHER TYPES OF LADING ITEMS MAY BE LOADED INTO TRAILERS WHICH ARE PARTIALLY LOADED WITH PALLET UNITS OF PROPELLING CHARGES, 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.

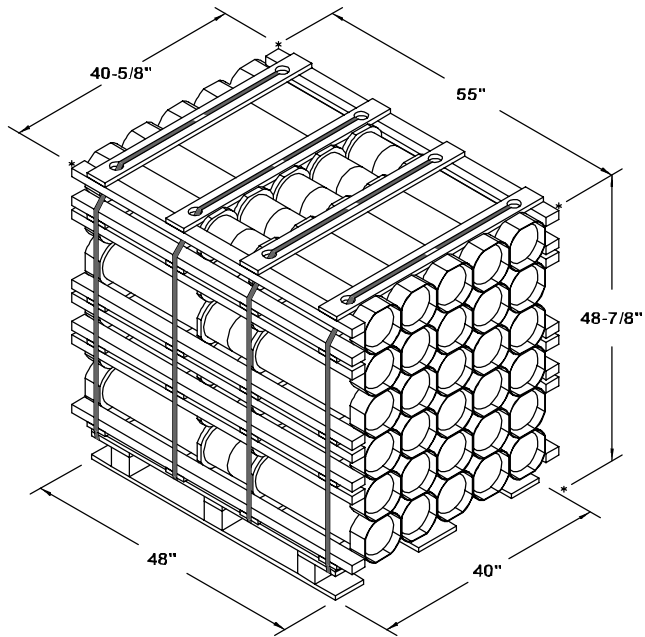
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MATERIAL SPECIFICATIONS

- 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.
- WIRE, CARBON STEEL - : ASTM A853; ANNEALED AT FINISH, BLACK OXIDE FINISH, .0800" DIA, GRADE 1006 OR BETTER.
- STAPLE, STRAP - - - - : COMMERCIAL GRADE.

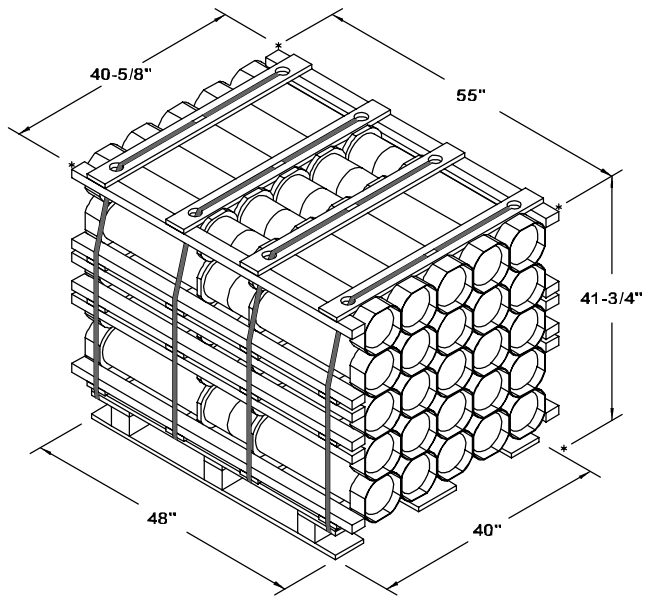
- J. ALL LOADS ARE SHOWN IN TRAILERS HAVING ROUNDED CORNERS AT THE FORWARD END. IF THE CONVENTIONAL VAN TRAILER BEING USED IS EQUIPPED WITH A SQUARE FRONT OR WITH AN INSTALLED BULKHEAD, OMIT THE FORWARD BLOCKING ASSEMBLY, PIECE MARKED ①, AND POSITION THE PALLET UNITS DIRECTLY AGAINST THE FORWARD PORTION OF THE TRAILER.
- 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 29 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 WHENEVER 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 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.
- O. PORTIONS OF THE TRAILERS, SUCH AS SIDEWALLS, ENDWALLS, AND ROOFS, HAVE NOT BEEN SHOWN IN THE LOAD VIEWS FOR CLARITY PURPOSES.
- P. 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.
- Q. PALLET UNITS WHICH DO NOT CONTAIN A FULL QUANTITY OF ITEMS CAN BE TRANSPORTED. SEE THE "SHIPMENT OF A PARTIAL PALLET UNIT" DETAILS ON PAGE 21. FOR "SHIPMENT OF LEFT-OVER CONTAINERS" SEE THE DETAILS ON PAGE 22.
- R. THESE PROCEDURES CAN ALSO BE UTILIZED FOR THE SHIPMENT OF PALLET UNITS OF PA106 SERIES CONTAINERS WHEN THEY ARE LOADED WITH AN ITEM OTHER THAN THE SPECIFIED PROPELLING CHARGES, 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. EITHER OF THE PALLET UNITS DEPICTED ON PAGE 3 MAY BE LOADED AS A MIXED LOAD IN THE SAME TRAILER. FOR MIXED-HEIGHT LOADS, POSITION ALL PALLET UNITS OF ONE HEIGHT IN ONE LAYER, WITH THE TALLER UNITS IN THE BOTTOM LAYER. IF FULL LAYERS OF ONE HEIGHT UNIT ARE NOT POSSIBLE FOR THE QUANTITY OF EACH SIZE TO BE SHIPPED, THE TALLER UNITS WILL BE LOADED IN THE FORWARD PORTION OF THE BOTTOM LAYER, AND THE SHORTER UNITS IN THE REAR PORTION.



6-LAYER PALLET UNIT

CONTAINER - - - - - 60 EACH @ 33 LBS (APPROX)
 CUBE - - - - - 63.2 CUBIC FEET (APPROX)
 GROSS WEIGHT - - - - - 2,006 POUNDS (APPROX)



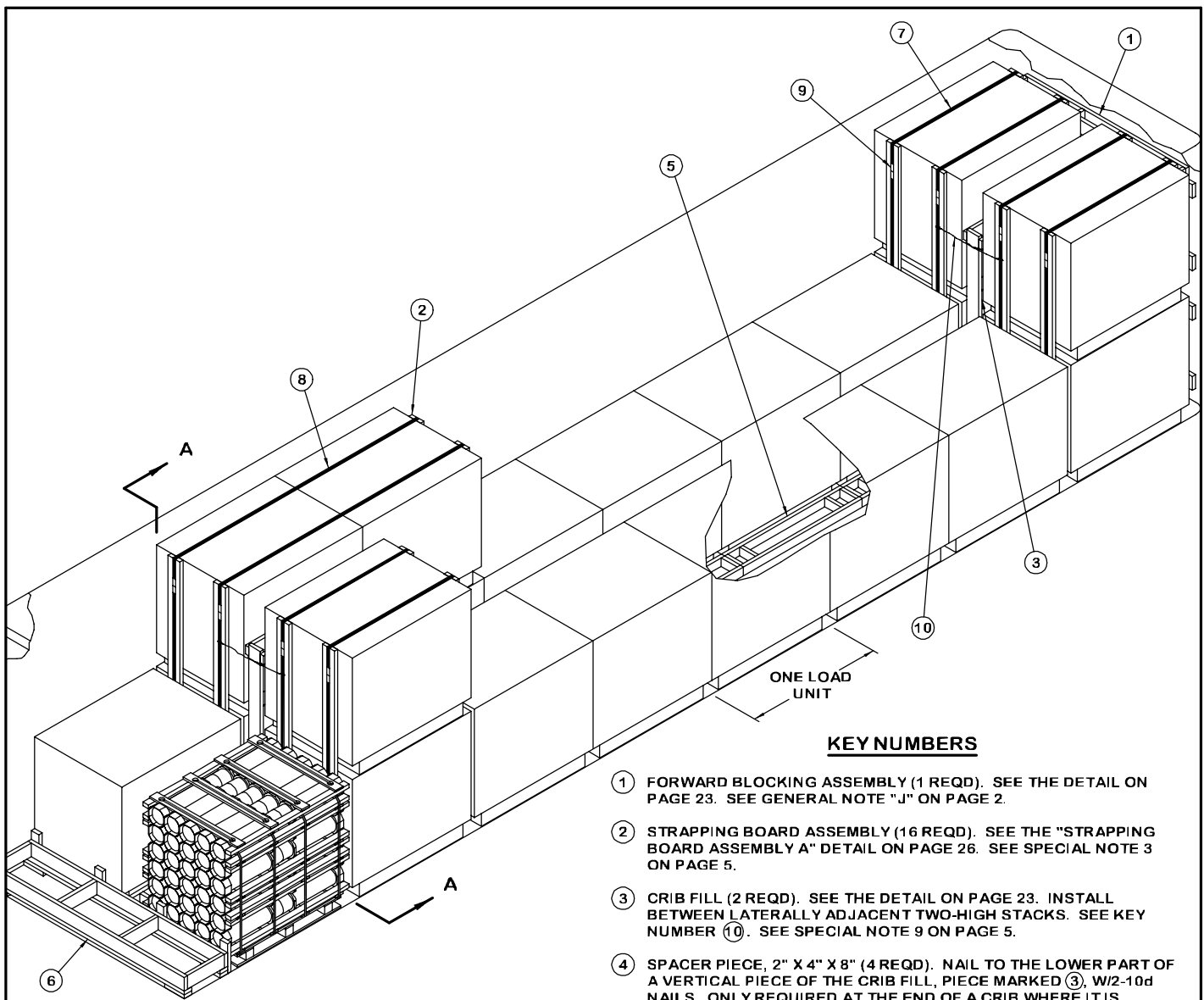
5-LAYER PALLET UNIT

CONTAINER - - - - - 50 EACH @ 33 LBS (APPROX)
 CUBE - - - - - 54.0 CUBIC FEET (APPROX)
 GROSS WEIGHT - - - - - 1,672 POUNDS (APPROX)

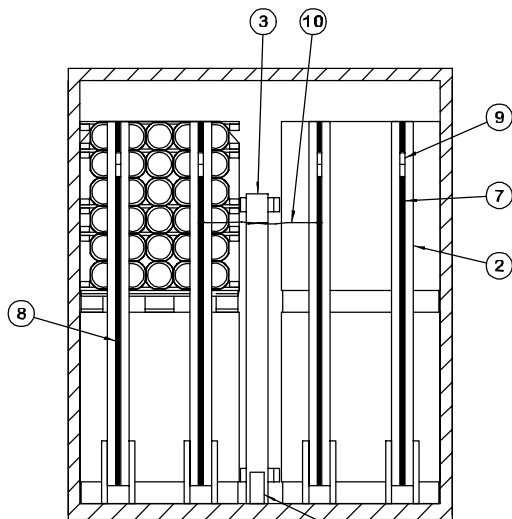
REVISION

REVISION NO. 1 DATED JUNE 1998, CONSISTS OF:

1. CHANGING WEIGHT OF 6-LAYER PALLET UNIT TO 2,006 POUNDS.
2. INCLUDING LOAD DRAWINGS FOR 5-LAYER PALLET UNITS.
3. INCLUDING LOAD DRAWINGS OF LONGER AND WIDER TRAILERS.
4. INCLUDING CHIMNEY PATTERN LOADS FOR BOTH PALLET UNITS.
5. INCORPORATING NAILED-HEADER METHOD INTO LOAD DRAWINGS.
6. REMOVING LOADS IN TRAILERS EQUIPPED WITH MECHANICAL BRACING DEVICES.
7. REMOVING MOST TOP-OF-LOAD ANTI-SWAY BRACES FROM LOAD DRAWINGS.
8. REMOVING TYGARD METHOD OF LOAD RESTRAINT.
9. UPDATING GENERAL NOTES AND DRAWING FORMAT.



ISOMETRIC VIEW



SECTION A-A

PIECE MARKED ① OMITTED FOR CLARITY PURPOSES.

KEY NUMBERS

- ① FORWARD BLOCKING ASSEMBLY (1 REQD). SEE THE DETAIL ON PAGE 23. SEE GENERAL NOTE "J" ON PAGE 2.
- ② STRAPPING BOARD ASSEMBLY (16 REQD). SEE THE "STRAPPING BOARD ASSEMBLY A" DETAIL ON PAGE 26. SEE SPECIAL NOTE 3 ON PAGE 5.
- ③ CRIB FILL (2 REQD). SEE THE DETAIL ON PAGE 23. INSTALL BETWEEN LATERALLY ADJACENT TWO-HIGH STACKS. SEE KEY NUMBER ⑩. SEE SPECIAL NOTE 9 ON PAGE 5.
- ④ SPACER PIECE, 2" X 4" X 8" (4 REQD). NAIL TO THE LOWER PART OF A VERTICAL PIECE OF THE CRIB FILL, PIECE MARKED ③, W/2-10d NAILS. ONLY REQUIRED AT THE END OF A CRIB WHERE IT IS NECESSARY TO COMPENSATE FOR THE THICKNESS OF A STRAPPING BOARD ASSEMBLY WHEN USING ANTI-SWAY BRACE "A", PIECE MARKED ⑤.
- ⑤ ANTI-SWAY BRACE (6 REQD). SEE THE "ANTI-SWAY BRACE A" DETAIL ON PAGE 24. INSTALL BETWEEN LATERALLY ADJACENT ONE-HIGH PALLET UNITS. SEE SPECIAL NOTES 2 AND 4 ON PAGE 5.
- ⑥ REAR BLOCKING ASSEMBLY (1 REQD). SEE THE "REAR BLOCKING ASSEMBLY A" DETAIL ON PAGE 25. SEE SPECIAL NOTE 5 ON PAGE 5.
- ⑦ STACK UNITIZING STRAP, 1-1/4" X .035" OR .031" X 27'-0" LONG STEEL STRAPPING (6 REQD). INSTALL SO AS TO CIRCLE TWO PALLET UNITS. SEE SPECIAL NOTE 6 ON PAGE 5. STAPLE TO A STRAPPING BOARD ASSEMBLY, PIECE MARKED ②, W/1 STAPLE.
- ⑧ BUNDLING STRAP, 1-1/4" X .035" OR .031" X 36'-6" LONG STEEL STRAPPING (2 REQD). INSTALL SO AS TO ENCIRCLE TWO PALLET UNITS IN THE SECOND LAYER AND TWO PALLET UNITS DIRECTLY BELOW AS SHOWN. SEE SPECIAL NOTE 8 ON PAGE 5. STAPLE TO A STRAPPING BOARD ASSEMBLY, PIECE MARKED ②, W/1 STAPLE.
- ⑨ SEAL FOR 1-1/4" STRAPPING (16 REQD, 2 PER STRAP). DOUBLE CRIMP EACH SEAL. SEE GENERAL NOTE "K" ON PAGE 2.
- ⑩ TIE WIRE, .0800" DIA. WIRE 72" LONG (2 REQD). INSTALL TO FORM A COMPLETE LOOP AROUND A VERTICAL PIECE OF A CRIB FILL ASSEMBLY JUST BELOW THE TOP HORIZONTAL PIECES WITH THE CENTER PORTION OF THE WIRE AND TWIST. TIE EACH END TO THE ADJACENT STACK UNITIZING STRAP AND/OR BUNDLING STRAP, PIECES MARKED ⑦ AND ⑧. SECURE TIE WIRE TO THE CRIB FILL ASSEMBLY WITH A PARTIALLY DRIVEN 10d NAIL BENT OVER THE WIRE, OR WITH A STRAP STAPLE.

(SPECIAL NOTES CONTINUED)

- 10. REFER TO PAGE 21 FOR GUIDANCE IN THE SHIPMENT OF PARTIAL PALLET UNITS.
- 11. LEFTOVER CONTAINERS IN AN AMOUNT NOT TO EXCEED NINE MAY BE SECURED TO THE TOP OF A FULL PALLET UNIT FOR SHIPMENT. REFER TO THE "PROCEDURES FOR SHIPMENT OF LEFTOVER CONTAINERS" ON PAGE 22 FOR GUIDANCE.
- 12. FOR SHIPMENT OF LESS THAN FULL LOADS, REFER TO PAGES 18 THROUGH 20.
- 13. TRAILERS EQUIPPED WITH ROLL-UP TYPE DOORS MAY BE USED. HOWEVER, SPECIAL REAR BLOCKING MUST BE INSTALLED. SEE THE NAILED-HEADER METHOD AS DEPICTED IN THE LOAD ON PAGES 14 AND 15. NOTE THAT THE SPECIAL REAR BLOCKING FOR TRAILERS EQUIPPED WITH ROLL-UP TYPE DOORS MAY ALSO BE USED IN CONVENTIONAL VAN TRAILERS EQUIPPED WITH HINGED DOORS.

SPECIAL NOTES:

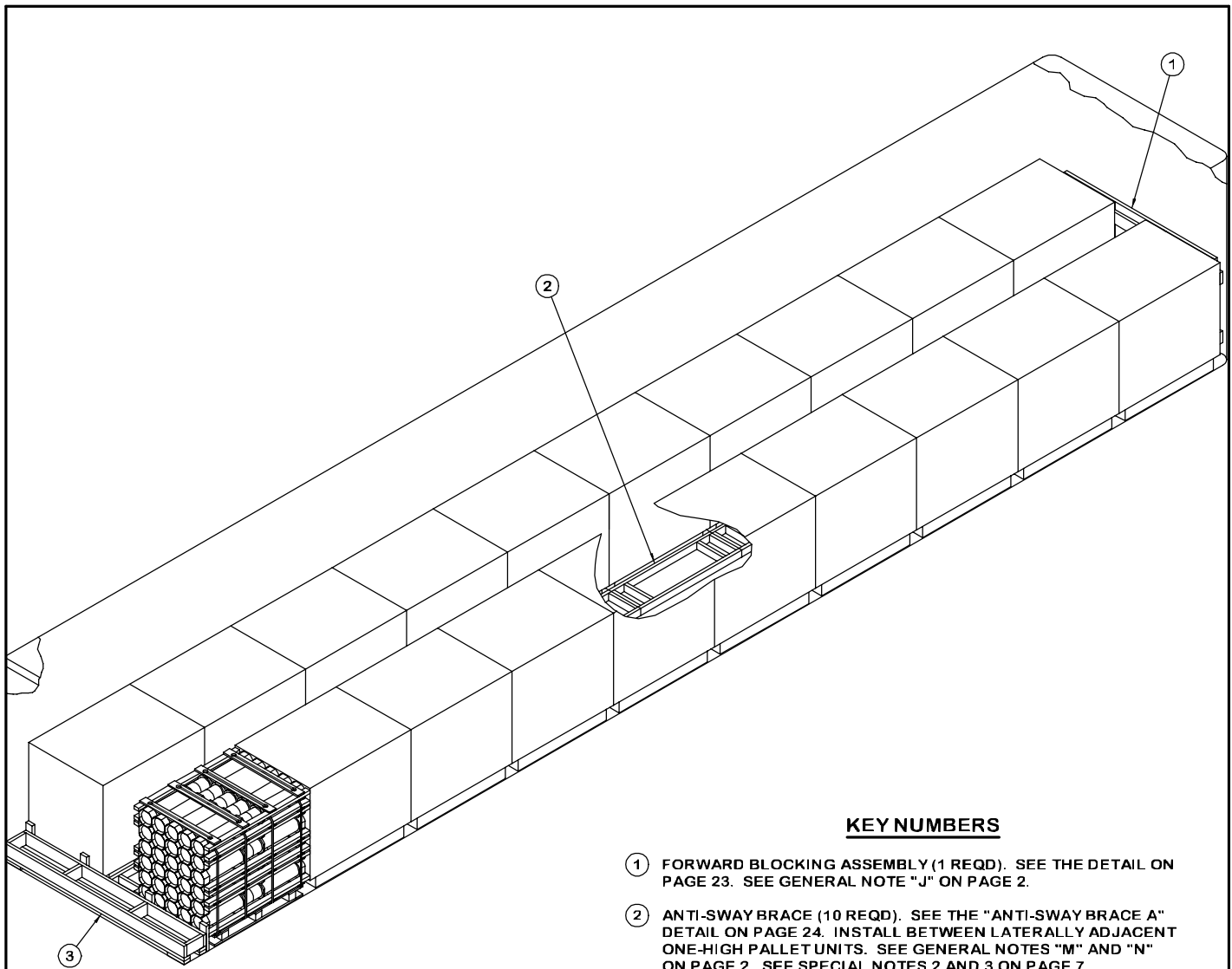
- 1. A 21-UNIT LOAD IS SHOWN IN A 40'-0" LONG BY 7'-7" WIDE (INSIDE DIMENSION) HIGH-VOLUME VAN TRAILER. SEE THE LOADS ON PAGES 6 AND 8 FOR LOADS IN TRAILERS OF OTHER DIMENSIONS. IF THE TRAILER BEING LOADED DOES NOT HAVE A DOOR OPENING HEIGHT OF AT LEAST 8'-3" IT WILL BE NECESSARY TO LIMIT THE REAR MOST LOAD UNIT TO ONE PALLET UNIT IN HEIGHT. SEE SPECIAL NOTE 9.
- 2. IF THE SPACE BETWEEN THE ROWS OF PALLET UNITS PERMITS, AND IF DESIRED, ANTI-SWAY BRACE "B", AS DETAILED ON PAGE 24, MAY BE USED IN LIEU OF PIECE MARKED (3). THE SPACER PIECES, PIECE MARKED (5), WILL THEN NOT BE REQUIRED. ANTI-SWAY BRACE "B" MAY ALSO BE USED IN LIEU OF PIECE MARKED (4).
- 3. FOR EASE OF INSTALLATION, A STRAPPING BOARD ASSEMBLY "B" MAY BE USED IN LIEU OF EACH PAIR OF STRAPPING BOARD ASSEMBLIES, PIECE MARKED (2). SEE THE "STRAPPING BOARD ASSEMBLY B" DETAIL ON PAGE 26.
- 4. IN LIEU OF USING ANTI-SWAY BRACE "A", PIECE MARKED (4) (OR THE ALTERNATIVE ANTI-SWAY BRACE "B"), BETWEEN LATERALLY ADJACENT PALLET UNITS IN THE ONE-HIGH PORTION OF THE LOAD, CRIB FILL ASSEMBLIES MAY BE USED.
- 5. IF THE VOID AT THE REAR OF THE LOAD BETWEEN THE PALLET UNITS AND THE REAR DOORS MEASURES 1-1/2" OR LESS, REAR BLOCKING IS NOT REQUIRED. IF THE VOID AT THE REAR OF THE LOAD IS GREATER THAN 1-1/2" BUT LESS THAN 9", USE "REAR BLOCKING ASSEMBLY C", AS DETAILED ON PAGE 26. IF THE VOID AT THE REAR OF THE LOAD IS 9" OR GREATER, USE THE "REAR BLOCKING ASSEMBLY A", PIECE MARKED (6) ON PAGE 4. SEE SPECIAL NOTE 13.
- 6. A PALLET UNIT AT EACH END OF THE SECOND LAYER PORTION OF THE LOAD MUST BE UNITIZED TO A PALLET UNIT IN THE FIRST LAYER, UNLESS THE STACKED UNITS ARE AGAINST THE FRONT WALL OF A SQUARE-FRONT TRAILER, AGAINST THE FORWARD BLOCKING ASSEMBLY, OR AT THE VERY REAR OF THE LOAD. THE UNITIZING STRAPS, PIECE MARKED (7), AND THE STRAPPING BOARD ASSEMBLIES, PIECE MARKED (2), MUST BE INSTALLED PRIOR TO FINAL POSITIONING OF THE STACK.
- 7. IF ONLY ONE UNIT IS TO BE LOADED IN THE SECOND LAYER OF EITHER ROW IT MUST NOT BE POSITIONED ON THE REAR MOST PALLET UNIT IN THE FIRST LAYER. PROVIDE LONGITUDINAL BRACING BY INSTALLING STRAPPING BOARD ASSEMBLIES AND UNITIZING STRAPS, PIECES MARKED (2) AND (7). PROVIDE LATERAL BRACING BY INSTALLING A "TOP-OF-LOAD ANTI-SWAY BRACE", AS DETAILED ON PAGE 24 AND SHOWN IN THE LOAD ON PAGE 10 AS PIECE MARKED (7). WIRE TIE AS SHOWN BY THE "TIE WIRE APPLICATION DETAIL" ON PAGE 24.
- 8. IF A STACK IN THE LOAD UNIT AT THE REAR OF THE LOAD IS MORE THAN ONE UNIT HIGH, BUNDLING STRAPS, SHOWN AS PIECE MARKED (8), MUST BE INSTALLED SO AS TO ENCIRCLE THE REAR-MOST TWO STACKS AND TWO PAIR OF STRAPPING BOARD ASSEMBLIES, PIECE MARKED (2), IN EACH APPLICABLE ROW.
- 9. IF A TRAILER WHICH IS WIDER THAN 7'-8-1/2" IS FURNISHED FOR LOADING, THE ANTI-SWAY BRACE "B", AS DETAILED ON PAGE 24, WILL BE USED IN LIEU OF THE CRIB FILL, PIECE MARKED (3), AND IF DESIRED ALSO IN LIEU OF THE ANTI-SWAY BRACE "A", PIECE MARKED (4). IF ANTI-SWAY BRACE "B" IS USED, THEN THE SPACER PIECES, PIECE MARKED (5), WILL THEN NOT BE REQUIRED.

(CONTINUED AT LEFT)

BILL OF MATERIAL		
LUMBER	LINEAR FEET	BOARD FEET
2" X 2"	43	15
2" X 4"	162	108
2" X 6"	227	227
NAILS	NO. REQD	POUNDS
10d (3")	364	5-3/4
1-1/4" STEEL STRAPPING - - 235' REQD - - - 33-3/4 LBS		
SEAL FOR 1-1/4" STRAPPING - 16 REQD - - - 3/4 LB		
.0800" DIA. WIRE - - - - 12' REQD - - - - - NIL		
STAPLE - - - - - 16 REQD - - - - - NIL		

LOAD AS SHOWN

ITEM	QUANTITY	WEIGHT (APPROX)
PALLET UNIT - - - - -	21 - - - - -	42, 126 LBS
DUNNAGE - - - - -	- - - - -	741 LBS
TOTAL WEIGHT - - - - -		42, 867 LBS (APPROX)



ISOMETRIC VIEW

KEY NUMBERS

- ① FORWARD BLOCKING ASSEMBLY (1 REQD). SEE THE DETAIL ON PAGE 23. SEE GENERAL NOTE "J" ON PAGE 2.
- ② ANTI-SWAY BRACE (10 REQD). SEE THE "ANTI-SWAY BRACE A" DETAIL ON PAGE 24. INSTALL BETWEEN LATERALLY ADJACENT ONE-HIGH PALLET UNITS. SEE GENERAL NOTES "M" AND "N" ON PAGE 2. SEE SPECIAL NOTES 2 AND 3 ON PAGE 7.
- ③ REAR BLOCKING ASSEMBLY (1 REQD). SEE THE "REAR BLOCKING ASSEMBLY A" DETAIL ON PAGE 25. SEE SPECIAL NOTE 4 ON PAGE 7.

SPECIAL NOTES:

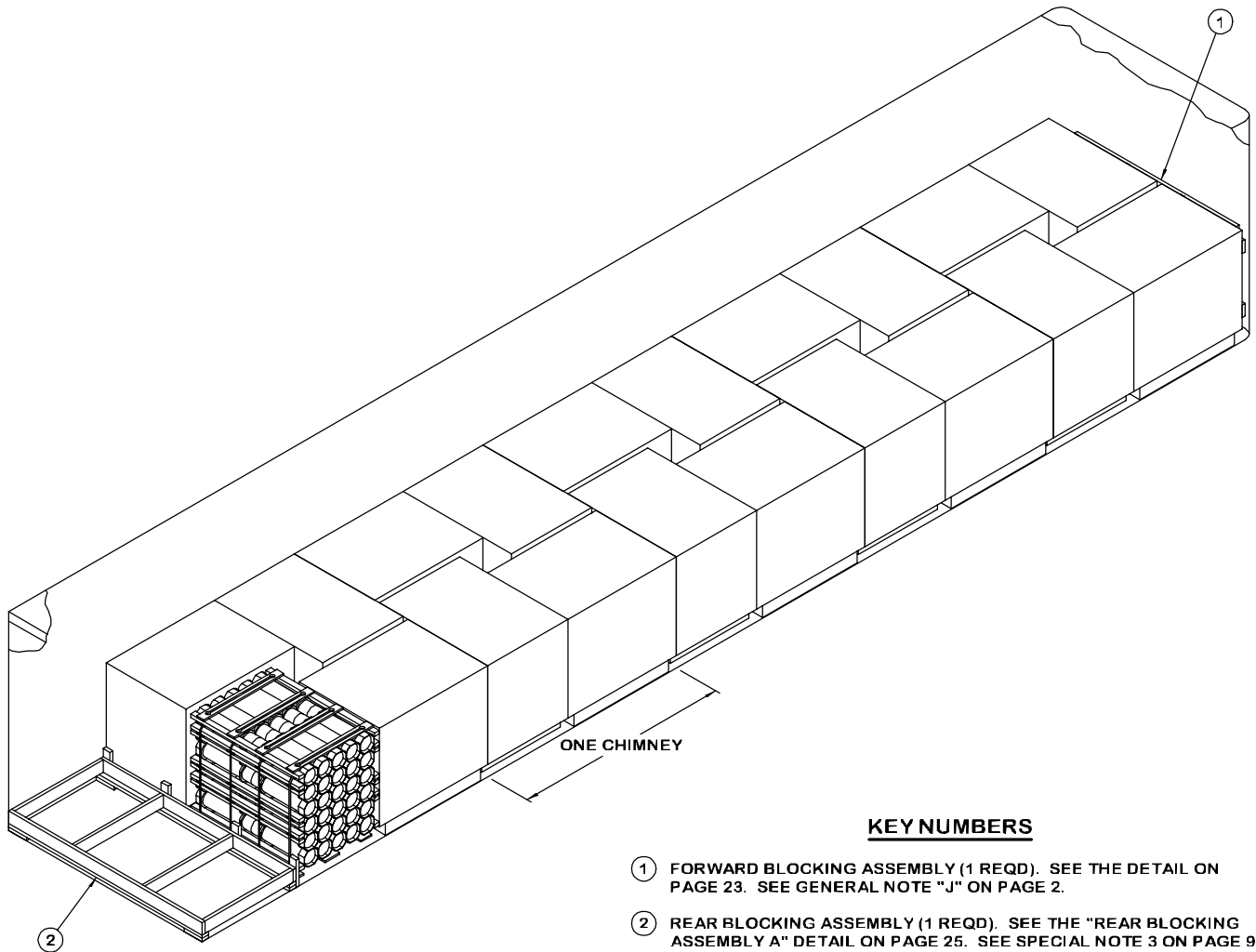
1. A 20-UNIT LOAD IS SHOWN IN A 48'-0" LONG BY 8'-2" WIDE (INSIDE DIMENSION) CONVENTIONAL VAN TRAILER. TRAILERS OF OTHER WIDTHS CAN BE USED. IF THE TRAILER BEING LOADED DOES NOT HAVE A DOOR OPENING HEIGHT OF AT LEAST 8'-3" IT WILL BE NECESSARY TO LIMIT THE REARMOST LOAD UNIT TO ONE PALLET UNIT IN HEIGHT.
2. IF DESIRED, ANTI-SWAY BRACE "B", AS DETAILED ON PAGE 24, MAY BE USED IN LIEU OF ANTI-SWAY BRACE "A", PIECE MARKED ②.
3. IN LIEU OF USING ANTI-SWAY BRACE "A", PIECE MARKED ② (OR THE ALTERNATIVE ANTI-SWAY BRACE "B"), BETWEEN LATERALLY ADJACENT PALLET UNITS IN THE ONE-HIGH PORTION OF THE LOAD, CRIB FILL ASSEMBLIES MAY BE USED.
4. IF THE VOID AT THE REAR OF THE LOAD BETWEEN THE PALLET UNITS AND THE REAR DOORS MEASURES 1-1/2" OR LESS, REAR BLOCKING IS NOT REQUIRED. IF THE VOID AT THE REAR OF THE LOAD IS GREATER THAN 1-1/2" BUT LESS THAN 9", USE "REAR BLOCKING ASSEMBLY C", AS DETAILED ON PAGE 26. IF THE VOID AT THE REAR OF THE LOAD IS 9" OR GREATER, USE THE "REAR BLOCKING ASSEMBLY A", PIECE MARKED ③ ON PAGE 6. SEE SPECIAL NOTE 11.
5. A PALLET UNIT AT EACH END OF THE SECOND LAYER PORTION OF THE LOAD MUST BE UNITIZED TO A PALLET UNIT IN THE FIRST LAYER, UNLESS THE STACKED UNITS ARE AGAINST THE FRONT WALL OF A SQUARE-FRONT TRAILER, AGAINST THE FORWARD BLOCKING ASSEMBLY, OR AT THE VERY REAR OF THE LOAD. UNITIZING STRAPS, PIECE MARKED ⑦ ON PAGE 4, AND STRAPPING BOARD ASSEMBLIES, PIECE MARKED ② ON PAGE 4, MUST BE INSTALLED PRIOR TO FINAL POSITIONING OF THE STACK.
6. IF ONLY ONE UNIT IS TO BE LOADED IN THE SECOND LAYER OF EITHER ROW IT MUST NOT BE POSITIONED ON THE REARMOST PALLET UNIT IN THE FIRST LAYER. PROVIDE LONGITUDINAL BRACING BY INSTALLING STRAPPING BOARD ASSEMBLIES AND UNITIZING STRAPS, PIECES MARKED ② AND ⑦ ON PAGE 4. PROVIDE LATERAL BRACING BY INSTALLING A "TOP-OF-LOAD ANTI-SWAY BRACE", AS DETAILED ON PAGE 24 AND SHOWN IN THE LOAD ON PAGE 10 AS PIECE MARKED ⑦. WIRE TIE AS SHOWN BY THE "TIE WIRE APPLICATION DETAIL" ON PAGE 24.
7. IF A STACK IN THE LOAD UNIT AT THE REAR OF THE LOAD IS MORE THAN ONE UNIT HIGH, BUNDLING STRAPS, SHOWN AS PIECE MARKED ⑧ ON PAGE 4, MUST BE INSTALLED SO AS TO ENCIRCLE THE REARMOST TWO STACKS AND TWO PAIR OF STRAPPING BOARD ASSEMBLIES, PIECE MARKED ② ON PAGE 4, IN EACH APPLICABLE ROW.
8. REFER TO PAGE 21 FOR GUIDANCE IN THE SHIPMENT OF PARTIAL PALLET UNITS.
9. LEFTOVER CONTAINERS IN AN AMOUNT NOT TO EXCEED NINE MAY BE SECURED TO THE TOP OF A FULL PALLET UNIT FOR SHIPMENT. REFER TO THE "PROCEDURES FOR SHIPMENT OF LEFTOVER CONTAINERS" ON PAGE 22 FOR GUIDANCE.
10. FOR SHIPMENT OF LESS THAN FULL LOADS, REFER TO PAGES 18 THROUGH 20.
11. TRAILERS EQUIPPED WITH ROLL-UP TYPE DOORS MAY BE USED. HOWEVER, SPECIAL REAR BLOCKING MUST BE INSTALLED. SEE THE NAILED-HEADER METHOD AS DEPICTED IN THE LOAD ON PAGES 14 AND 15. NOTE THAT THE SPECIAL REAR BLOCKING FOR TRAILERS EQUIPPED WITH ROLL-UP TYPE DOORS MAY ALSO BE USED IN CONVENTIONAL VAN TRAILERS EQUIPPED WITH HINGED DOORS.

BILL OF MATERIAL

LUMBER	LINEAR FEET	BOARD FEET
2" x 4" 2" x 6"	179 50	120 50
NAILS	NO. REQD	POUNDS
10d (3")	266	4-1/4

LOAD AS SHOWN

ITEM	QUANTITY	WEIGHT (APPROX)
PALLET UNIT - - - - -	20 - - - - -	40, 120 LBS
DUNNAGE - - - - -	- - - - -	345 LBS
TOTAL WEIGHT - - - - -		40, 465 LBS (APPROX)



ISOMETRIC VIEW

KEY NUMBERS

- ① FORWARD BLOCKING ASSEMBLY (1 REQD). SEE THE DETAIL ON PAGE 23. SEE GENERAL NOTE "J" ON PAGE 2.
- ② REAR BLOCKING ASSEMBLY (1 REQD). SEE THE "REAR BLOCKING ASSEMBLY A" DETAIL ON PAGE 25. SEE SPECIAL NOTE 3 ON PAGE 9.

SPECIAL NOTES:

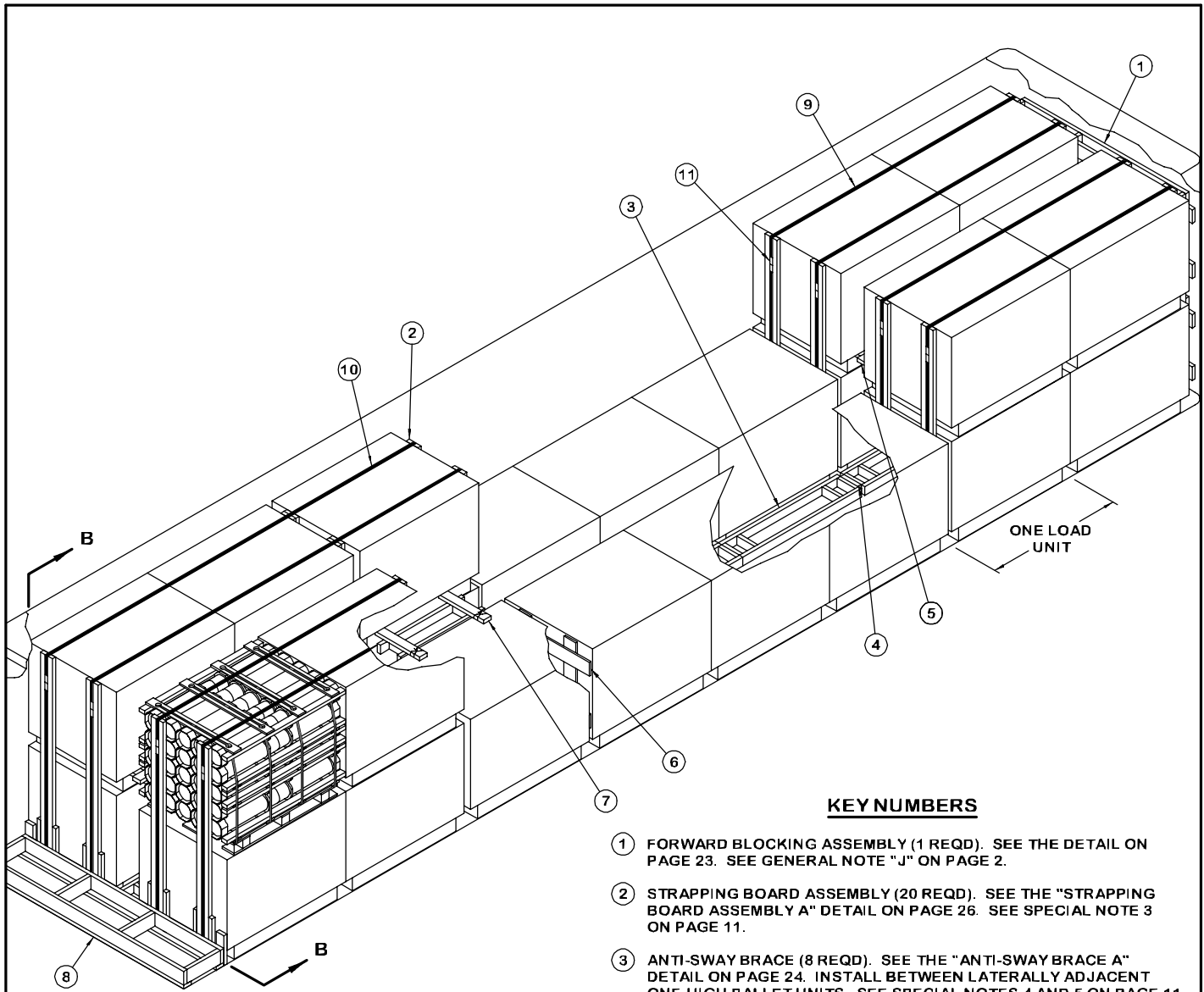
1. A 20-UNIT LOAD (CHIMNEY PATTERN) IS SHOWN IN A 45'-0" LONG BY 8'-0" WIDE (INSIDE DIMENSION) CONVENTIONAL VAN TRAILER. TRAILERS OF OTHER WIDTHS CAN BE USED. IF THE TRAILER BEING LOADED DOES NOT HAVE A DOOR OPENING HEIGHT OF AT LEAST 8'-3" IT WILL BE NECESSARY TO LIMIT THE REAR MOST LOAD UNIT TO ONE PALLET UNIT IN HEIGHT.
2. THE PALLET UNIT SHOWN IN THE LOAD ON PAGE 8 IS THE 6-LAYER UNIT HAVING OVERALL DIMENSIONS OF 40-5/8" LONG BY 55" WIDE BY 48-7/8" HIGH AND WEIGHING APPROXIMATELY 2,006 POUNDS.
3. IF THE VOID AT THE REAR OF THE LOAD BETWEEN THE PALLET UNITS AND THE REAR DOORS MEASURES 1-1/2" OR LESS, REAR BLOCKING IS NOT REQUIRED. IF THE VOID AT THE REAR OF THE LOAD IS GREATER THAN 1-1/2" BUT LESS THAN 9", USE "REAR BLOCKING ASSEMBLY C", AS DETAILED ON PAGE 26. IF THE VOID AT THE REAR OF THE LOAD IS 9" OR GREATER, USE THE "REAR BLOCKING ASSEMBLY A", PIECE MARKED ② ON PAGE 8. SEE SPECIAL NOTE 10.
4. A PALLET UNIT AT EACH END OF THE SECOND LAYER PORTION OF THE LOAD MUST BE UNITIZED TO A PALLET UNIT IN THE FIRST LAYER, UNLESS THE STACKED UNITS ARE AGAINST THE FRONT WALL OF A SQUARE-FRONT TRAILER, AGAINST THE FORWARD BLOCKING ASSEMBLY, OR AT THE VERY REAR OF THE LOAD. UNITIZING STRAPS, PIECE MARKED ⑦ ON PAGE 4, AND STRAPPING BOARD ASSEMBLIES, PIECE MARKED ② ON PAGE 4, MUST BE INSTALLED PRIOR TO FINAL POSITIONING OF THE STACK.
5. IF ONLY ONE UNIT IS TO BE LOADED IN THE SECOND LAYER OF EITHER ROW IT MUST NOT BE POSITIONED ON THE REAR MOST PALLET UNIT IN THE FIRST LAYER. POSITION THE UNIT CROSSWISE. PROVIDE LONGITUDINAL BRACING BY INSTALLING 24'-6" LONG UNITIZING STRAPS, PIECE MARKED ⑦ ON PAGE 4.
6. IF A STACK IN THE LOAD UNIT AT THE REAR OF THE LOAD IS MORE THAN ONE UNIT HIGH, 34'-0" LONG BUNDLING STRAPS, SHOWN AS PIECE MARKED ⑧ ON PAGE 4, MUST BE INSTALLED SO AS TO ENCIRCLE THE REAR MOST TWO STACKS AND TWO STRAPPING BOARD ASSEMBLIES, PIECE MARKED ② ON PAGE 4, IN EACH APPLICABLE ROW.
7. REFER TO PAGE 21 FOR GUIDANCE IN THE SHIPMENT OF PARTIAL PALLET UNITS.
8. LEFTOVER CONTAINERS IN AN AMOUNT NOT TO EXCEED NINE MAY BE SECURED TO THE TOP OF A FULL PALLET UNIT FOR SHIPMENT. REFER TO THE "PROCEDURES FOR SHIPMENT OF LEFTOVER CONTAINERS" ON PAGE 22 FOR GUIDANCE.
9. FOR SHIPMENT OF LESS THAN FULL LOADS, REFER TO PAGES 18 THROUGH 20.
10. TRAILERS EQUIPPED WITH ROLL-UP TYPE DOORS MAY BE USED. HOWEVER, SPECIAL REAR BLOCKING MUST BE INSTALLED. SEE THE NAILED-HEADER METHOD AS DEPICTED IN THE LOAD ON PAGES 14 AND 15. NOTE THAT THE SPECIAL REAR BLOCKING FOR TRAILERS EQUIPPED WITH ROLL-UP TYPE DOORS MAY ALSO BE USED IN CONVENTIONAL VAN TRAILERS EQUIPPED WITH HINGED DOORS.

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

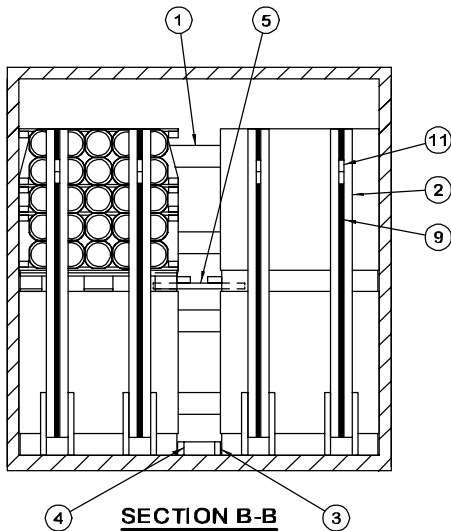
LOAD AS SHOWN

ITEM	QUANTITY	WEIGHT (APPROX)
PALLET UNIT - - - - -	20 - - - - -	40,120 LBS
DUNNAGE - - - - -	- - - - -	178 LBS
TOTAL WEIGHT - - - - -		40,298 LBS (APPROX)

**(6-LAYER UNIT) 20-UNIT LOAD (CHIMNEY PATTERN) IN A 45'-0" LONG
BY 8'-0" WIDE CONVENTIONAL VAN TYPE TRAILER**



ISOMETRIC VIEW



SECTION B-B

KEY NUMBERS

- ① FORWARD BLOCKING ASSEMBLY (1 REQD). SEE THE DETAIL ON PAGE 23. SEE GENERAL NOTE "J" ON PAGE 2.
- ② STRAPPING BOARD ASSEMBLY (20 REQD). SEE THE "STRAPPING BOARD ASSEMBLY A" DETAIL ON PAGE 26. SEE SPECIAL NOTE 3 ON PAGE 11.
- ③ ANTI-SWAY BRACE (8 REQD). SEE THE "ANTI-SWAY BRACE A" DETAIL ON PAGE 24. INSTALL BETWEEN LATERALLY ADJACENT ONE-HIGH PALLET UNITS. SEE SPECIAL NOTES 4 AND 5 ON PAGE 11.
- ④ SPACER PIECE, 2" X 4" X 8" (6 REQD). NAIL TO THE STRUT OF PIECE MARKED ③ W/2-10d NAILS. ONLY REQUIRED WHEN USING ANTI-SWAY BRACE "A", PIECE MARKED ③.
- ⑤ ANTI-SWAY BRACE (4 REQD). SEE THE "ANTI-SWAY BRACE B" DETAIL ON PAGE 24. INSTALL BETWEEN LATERALLY ADJACENT PALLET UNITS IN THE SECOND LAYER.
- ⑥ SEPARATOR GATE (2 REQD). SEE THE DETAIL ON PAGE 24. INSTALL WITH THE VERTICAL PIECES AGAINST THE ALREADY LOADED PALLET UNIT. SEE SPECIAL NOTE 6 ON PAGE 11.
- ⑦ TOP-OF-LOAD ANTI-SWAY BRACE (1 REQD). SEE THE "TOP-OF-LOAD ANTI-SWAY BRACE" DETAIL ON PAGE 24. SEE SPECIAL NOTE 6 ON PAGE 11.
- ⑧ REAR BLOCKING ASSEMBLY (1 REQD). SEE THE "REAR BLOCKING ASSEMBLY B" DETAIL ON PAGE 25. SEE SPECIAL NOTE 7 ON PAGE 11.
- ⑨ BUNDLING STRAP, 1-1/4" X .035" OR .031" X 34'-6" LONG STEEL STRAPPING (8 REQD). INSTALL SO AS TO ENCIRCLE TWO PALLET UNITS IN THE SECOND LAYER AND TWO PALLET UNITS DIRECTLY BELOW AS SHOWN. SEE SPECIAL NOTE 10 ON PAGE 11. STAPLE TO A STRAPPING BOARD ASSEMBLY, PIECE MARKED ②, W/1 STAPLE.
- ⑩ STACK UNITIZING STRAP, 1-1/4" X .035" OR .031" X 25'-0" LONG STEEL STRAPPING (2 REQD). INSTALL SO AS TO CIRCLE TWO PALLET UNITS. SEE SPECIAL NOTE 8 ON PAGE 11. STAPLE TO A STRAPPING BOARD ASSEMBLY, PIECE MARKED ②, W/1 STAPLE.
- ⑪ SEAL FOR 1-1/4" STRAPPING (20 REQD, 2 PER STRAP). DOUBLE CRIMP EACH SEAL. SEE GENERAL NOTE "K" ON PAGE 2.

(SPECIAL NOTES CONTINUED)

10. IF A STACK IN THE LOAD UNIT AT THE REAR OF THE LOAD IS MORE THAN ONE UNIT HIGH, BUNDLING STRAPS, SHOWN AS PIECE MARKED ⑨, MUST BE INSTALLED SO AS TO ENCIRCLE THE REAR-MOST TWO STACKS AND TWO PAIR OF STRAPPING BOARD ASSEMBLIES, PIECE MARKED ②, IN EACH APPLICABLE ROW.
11. REFER TO PAGE 21 FOR GUIDANCE IN THE SHIPMENT OF PARTIAL PALLET UNITS.
12. LEFTOVER CONTAINERS IN AN AMOUNT NOT TO EXCEED NINE MAY BE SECURED TO THE TOP OF A FULL PALLET UNIT FOR SHIPMENT. REFER TO THE "PROCEDURES FOR SHIPMENT OF LEFTOVER CONTAINERS" ON PAGE 22 FOR GUIDANCE.
13. FOR SHIPMENT OF LESS THAN FULL LOADS, REFER TO PAGES 18 THROUGH 20.
14. TRAILERS EQUIPPED WITH ROLL-UP TYPE DOORS MAY BE USED. HOWEVER, SPECIAL REAR BLOCKING MUST BE INSTALLED. SEE THE NAILED-HEADER METHOD AS DEPICTED IN THE LOAD ON PAGES 14 AND 15. NOTE THAT THE SPECIAL REAR BLOCKING FOR TRAILERS EQUIPPED WITH ROLL-UP TYPE DOORS MAY ALSO BE USED IN CONVENTIONAL VAN TRAILERS EQUIPPED WITH HINGED DOORS.

SPECIAL NOTES:

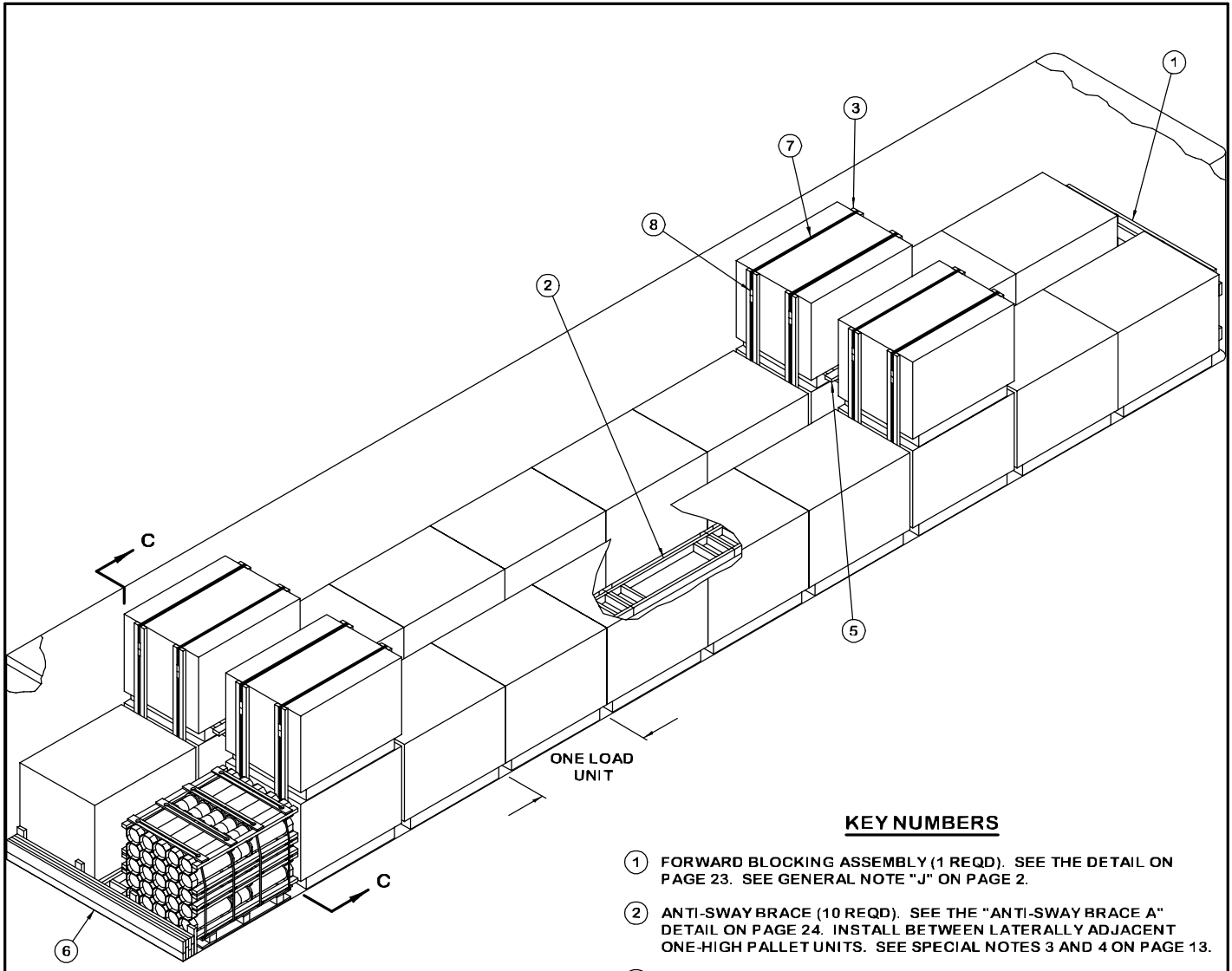
1. A 25-UNIT LOAD IS SHOWN IN A 40'-0" LONG BY 7'-8" WIDE (INSIDE DIMENSION) CONVENTIONAL VAN TRAILER. SEE THE LOADS ON PAGES 12 AND 14 FOR LOADS IN TRAILERS OF OTHER DIMENSIONS.
2. THE PALLET UNIT SHOWN IN THE LOAD ON PAGE 10 IS THE 5-LAYER UNIT HAVING OVERALL DIMENSIONS OF 40-5/8" LONG BY 55" WIDE BY 41-3/4" HIGH AND WEIGHING APPROXIMATELY 1,672 POUNDS.
3. FOR EASE OF INSTALLATION, A STRAPPING BOARD ASSEMBLY "B" MAY BE USED IN LIEU OF EACH PAIR OF STRAPPING BOARD ASSEMBLIES, PIECE MARKED ②. SEE THE "STRAPPING BOARD ASSEMBLY B" DETAIL ON PAGE 26.
4. IF THE SPACE BETWEEN THE ROWS OF PALLET UNITS PERMITS, AND IF DESIRED, ANTI-SWAY BRACE "B", PIECE MARKED ⑤, MAY BE USED IN LIEU OF PIECE MARKED ③. THE SPACER PIECES, PIECE MARKED ④, WILL THEN NOT BE REQUIRED.
5. IN LIEU OF USING ANTI-SWAY BRACE "A", PIECE MARKED ③ (OR THE ALTERNATIVE ANTI-SWAY BRACE "B"), BETWEEN LATERALLY ADJACENT PALLET UNITS IN THE ONE-HIGH PORTION OF THE LOAD, CRIB FILL ASSEMBLIES MAY BE USED.
6. THE SEPARATOR GATE, PIECE MARKED ⑥, IS ONLY REQUIRED TO FILL THE VOID BETWEEN PALLET UNITS IN AN ODD NUMBERED LOAD AS SHOWN. IF A PALLET UNIT IS ADDED, FOUR STRAPPING BOARDS, PIECE MARKED ②, WILL BE USED IN PLACE OF THE SEPARATOR GATES AND TWO STACK UNITIZING STRAPS, PIECE MARKED ⑩, WILL BE ADDED. IF A PALLET UNIT IS OMITTED, THE SEPARATOR GATES, FOUR STRAPPING BOARD ASSEMBLIES, THE TOP-OF-LOAD ANTI-SWAY BRACE, PIECE MARKED ⑦, AND THE TWO STACK UNITIZING STRAPS WILL ALSO BE OMITTED.
7. IF THE VOID AT THE REAR OF THE LOAD BETWEEN THE PALLET UNITS AND THE REAR DOORS MEASURES 1-1/2" OR LESS, REAR BLOCKING IS NOT REQUIRED. IF THE VOID AT THE REAR OF THE LOAD IS GREATER THAN 1-1/2" BUT LESS THAN 9", USE "REAR BLOCKING ASSEMBLY C", AS DETAILED ON PAGE 26. IF THE VOID AT THE REAR OF THE LOAD IS 9" OR GREATER, USE THE "REAR BLOCKING ASSEMBLY B", PIECE MARKED ⑧ ON PAGE 10. SEE SPECIAL NOTE 14.
8. A PALLET UNIT AT EACH END OF THE SECOND LAYER PORTION OF THE LOAD MUST BE UNITIZED TO A PALLET UNIT IN THE FIRST LAYER, UNLESS THE STACKED UNITS ARE AGAINST THE FRONT WALL OF A SQUARE-FRONT TRAILER, AGAINST THE FORWARD BLOCKING ASSEMBLY, OR AT THE VERY REAR OF THE LOAD. THE UNITIZING STRAPS, PIECE MARKED ⑩, AND THE STRAPPING BOARD ASSEMBLIES, PIECE MARKED ②, MUST BE INSTALLED PRIOR TO FINAL POSITIONING OF THE STACK.
9. IF ONLY ONE UNIT IS TO BE LOADED IN THE SECOND LAYER OF EITHER ROW IT MUST NOT BE POSITIONED ON THE REARMOST PALLET UNIT IN THE FIRST LAYER. PROVIDE LONGITUDINAL BRACING BY INSTALLING STRAPPING BOARD ASSEMBLIES AND UNITIZING STRAPS, PIECES MARKED ② AND ⑩. PROVIDE LATERAL BRACING BY INSTALLING A "TOP-OF-LOAD ANTI-SWAY BRACE", PIECE MARKED ⑦. WIRE TIE AS SHOWN BY THE "TIE WIRE APPLICATION DETAIL" ON PAGE 24.

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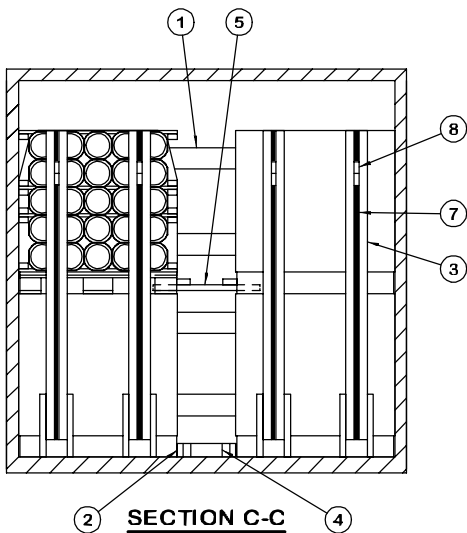
BILL OF MATERIAL		
LUMBER	LINEAR FEET	BOARD FEET
1" X 6"	28	14
2" X 2"	54	18
2" X 4"	184	123
2" X 6"	207	207
NAILS	NO. REQD	POUNDS
6d (2")	24	1/4
10d (3")	422	6-1/2
1-1/4" STEEL STRAPPING - - 326' REQD - - - 46-3/4 LBS		
SEAL FOR 1-1/4" STRAPPING - 20 REQD - - - - 1 LB		
.0800" DIA. WIRE - - - - - 6' REQD - - - - - NIL		
STAPLE - - - - - 20 REQD - - - - - NIL		

LOAD AS SHOWN

ITEM	QUANTITY	WEIGHT (APPROX)
PALLET UNIT	25	41,800 LBS
DUNNAGE		751 LBS
TOTAL WEIGHT		42,551 LBS (APPROX)



ISOMETRIC VIEW



KEY NUMBERS

- ① FORWARD BLOCKING ASSEMBLY (1 REQD). SEE THE DETAIL ON PAGE 23. SEE GENERAL NOTE "J" ON PAGE 2.
- ② ANTI-SWAY BRACE (10 REQD). SEE THE "ANTI-SWAY BRACE A" DETAIL ON PAGE 24. INSTALL BETWEEN LATERALLY ADJACENT ONE-HIGH PALLET UNITS. SEE SPECIAL NOTES 3 AND 4 ON PAGE 13.
- ③ STRAPPING BOARD ASSEMBLY (16 REQD). SEE THE "STRAPPING BOARD ASSEMBLY A" DETAIL ON PAGE 26. SEE SPECIAL NOTE 5 ON PAGE 13.
- ④ SPACER PIECE, 2" X 4" X 8" (4 REQD). NAIL TO THE STRUT OF PIECE MARKED ② W/2-10d NAILS. ONLY REQUIRED WHEN USING ANTI-SWAY BRACE "A", PIECE MARKED ②.
- ⑤ ANTI-SWAY BRACE (2 REQD). SEE THE "ANTI-SWAY BRACE B" DETAIL ON PAGE 24. INSTALL BETWEEN LATERALLY ADJACENT PALLET UNITS IN THE SECOND LAYER.
- ⑥ REAR BLOCKING ASSEMBLY (1 REQD). SEE THE "REAR BLOCKING ASSEMBLY C" DETAIL ON PAGE 26. SEE SPECIAL NOTE 6 ON PAGE 13.
- ⑦ STACK UNITIZING STRAP, 1-1/4" X .035" OR .031" X 25'-0" LONG STEEL STRAPPING (8 REQD). INSTALL SO AS TO CIRCLE TWO PALLET UNITS. SEE SPECIAL NOTE 8 ON PAGE 13. STAPLE TO A STRAPPING BOARD ASSEMBLY, PIECE MARKED ③, W/1 STAPLE.
- ⑧ SEAL FOR 1-1/4" STRAPPING (16 REQD, 2 PER STRAP). DOUBLE CRIMP EACH SEAL. SEE GENERAL NOTE "K" ON PAGE 2.

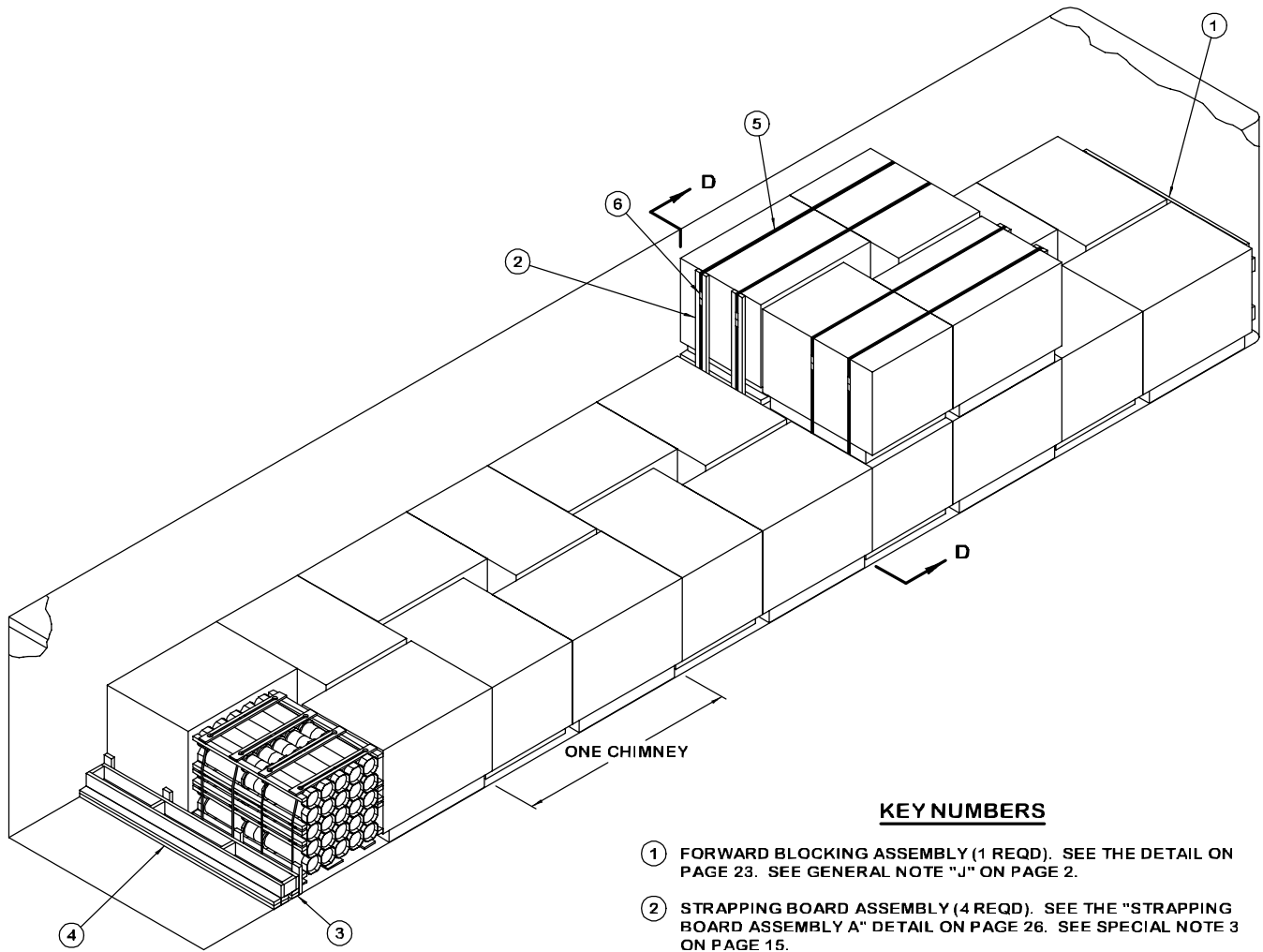
SPECIAL NOTES:

1. A 24-UNIT LOAD IS SHOWN IN A 48'-0" LONG BY 8'-0" WIDE (INSIDE DIMENSION) CONVENTIONAL VAN TRAILER. TRAILERS OF OTHER WIDTHS CAN BE USED.
2. THE PALLET UNIT SHOWN IN THE LOAD ON PAGE 12 IS THE 5-LAYER UNIT HAVING OVERALL DIMENSIONS OF 40-5/8" LONG BY 55" WIDE BY 41-3/4" HIGH AND WEIGHING APPROXIMATELY 1,672 POUNDS.
3. IF DESIRED, ANTI-SWAY BRACE "B", AS DETAILED ON PAGE 24, MAY BE USED IN LIEU OF ANTI-SWAY BRACE "A", PIECE MARKED ②.
4. IN LIEU OF USING ANTI-SWAY BRACE "A", PIECE MARKED ② (OR THE ALTERNATIVE ANTI-SWAY BRACE "B"), BETWEEN LATERALLY ADJACENT PALLET UNITS IN THE ONE-HIGH PORTION OF THE LOAD, CRIB FILL ASSEMBLIES MAY BE USED.
5. FOR EASE OF INSTALLATION, A STRAPPING BOARD ASSEMBLY "B" MAY BE USED IN LIEU OF EACH PAIR OF STRAPPING BOARD ASSEMBLIES, PIECE MARKED ②. SEE THE "STRAPPING BOARD ASSEMBLY B" DETAIL ON PAGE 26.
6. IF THE VOID AT THE REAR OF THE LOAD BETWEEN THE PALLET UNITS AND THE REAR DOORS MEASURES 1-1/2" OR LESS, REAR BLOCKING IS NOT REQUIRED. IF THE VOID AT THE REAR OF THE LOAD IS GREATER THAN 1-1/2" BUT LESS THAN 9", USE "REAR BLOCKING ASSEMBLY C", PIECE MARKED ⑥ ON PAGE 12. IF THE VOID AT THE REAR OF THE LOAD IS 9" OR GREATER, USE THE "REAR BLOCKING ASSEMBLY A", AS DETAILED ON PAGE 24. SEE SPECIAL NOTE 13.
7. A PALLET UNIT AT EACH END OF THE SECOND LAYER PORTION OF THE LOAD MUST BE UNITIZED TO A PALLET UNIT IN THE FIRST LAYER, UNLESS THE STACKED UNITS ARE AGAINST THE FRONT WALL OF A SQUARE-FRONT TRAILER, AGAINST THE FORWARD BLOCKING ASSEMBLY, OR AT THE VERY REAR OF THE LOAD. UNITIZING STRAPS, PIECE MARKED ⑦, AND STRAPPING BOARD ASSEMBLIES, PIECE MARKED ③, MUST BE INSTALLED PRIOR TO FINAL POSITIONING OF THE STACK.
8. IF ONLY ONE UNIT IS TO BE LOADED IN THE SECOND LAYER OF EITHER ROW IT MUST NOT BE POSITIONED ON THE REARMOST PALLET UNIT IN THE FIRST LAYER. PROVIDE LONGITUDINAL BRACING BY INSTALLING STRAPPING BOARD ASSEMBLIES AND UNITIZING STRAPS, PIECES MARKED ③ AND ⑦. PROVIDE LATERAL BRACING BY INSTALLING A "TOP-OF-LOAD ANTI-SWAY BRACE", AS DETAILED ON PAGE 24 AND SHOWN IN THE LOAD ON PAGE 10 AS PIECE MARKED ⑦. WIRE TIE AS SHOWN BY THE "TIE WIRE APPLICATION DETAIL" ON PAGE 24.
9. IF A STACK IN THE LOAD UNIT AT THE REAR OF THE LOAD IS MORE THAN ONE UNIT HIGH, BUNDLING STRAPS, SHOWN AS PIECE MARKED ⑨ ON PAGE 10, MUST BE INSTALLED SO AS TO ENCIRCLE THE REARMOST TWO STACKS AND TWO PAIR OF STRAPPING BOARD ASSEMBLIES, PIECE MARKED ③, IN EACH APPLICABLE ROW.
10. REFER TO PAGE 21 FOR GUIDANCE IN THE SHIPMENT OF PARTIAL PALLET UNITS.
11. LEFTOVER CONTAINERS IN AN AMOUNT NOT TO EXCEED NINE MAY BE SECURED TO THE TOP OF A FULL PALLET UNIT FOR SHIPMENT. REFER TO THE "PROCEDURES FOR SHIPMENT OF LEFTOVER CONTAINERS" ON PAGE 22 FOR GUIDANCE.
12. FOR SHIPMENT OF LESS THAN FULL LOADS, REFER TO PAGES 18 THROUGH 20.
13. TRAILERS EQUIPPED WITH ROLL-UP TYPE DOORS MAY BE USED. HOWEVER, SPECIAL REAR BLOCKING MUST BE INSTALLED. SEE THE NAILED-HEADER METHOD AS DEPICTED IN THE LOAD ON PAGES 14 AND 15. NOTE THAT THE SPECIAL REAR BLOCKING FOR TRAILERS EQUIPPED WITH ROLL-UP TYPE DOORS MAY ALSO BE USED IN CONVENTIONAL VAN TRAILERS EQUIPPED WITH HINGED DOORS.

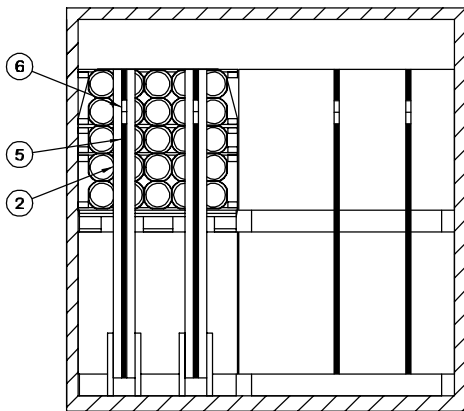
BILL OF MATERIAL		
LUMBER	LINEAR FEET	BOARD FEET
2" x 2"	43	15
2" x 4"	182	122
2" x 6"	151	151
NAILS	NO. REQD	POUNDS
10d (3")	380	6
1-1/4" STEEL STRAPPING - - 200' REQD - - - 28-3/4 LBS		
SEAL FOR 1-1/4" STRAPPING - 16 REQD - - - 3/4 LB		
STAPLE - - - - - 16 REQD - - - - - NIL		

LOAD AS SHOWN

ITEM	QUANTITY	WEIGHT (APPROX)
PALLET UNIT - - - - -	24 - - - - -	40,128 LBS
DUNNAGE - - - - -	- - - - -	612 LBS
TOTAL WEIGHT - - - - -		40,740 LBS (APPROX)



ISOMETRIC VIEW



SECTION D-D

KEY NUMBERS

- ① FORWARD BLOCKING ASSEMBLY (1 REQD). SEE THE DETAIL ON PAGE 23. SEE GENERAL NOTE "J" ON PAGE 2.
- ② STRAPPING BOARD ASSEMBLY (4 REQD). SEE THE "STRAPPING BOARD ASSEMBLY A" DETAIL ON PAGE 26. SEE SPECIAL NOTE 3 ON PAGE 15.
- ③ REAR BLOCKING ASSEMBLY (1 REQD). SEE THE "REAR BLOCKING ASSEMBLY A" DETAIL ON PAGE 25. SEE SPECIAL NOTE 4 ON PAGE 15.
- ④ REAR HEADER, 2" X 4" BY TRAILER WIDTH MINUS 1/2" IN LENGTH (DOUBLED) (1 REQD). POSITION AGAINST THE REAR BLOCKING ASSEMBLY, PIECE MARKED ③. NAIL THE FIRST PIECE TO THE TRAILER FLOOR W/17-10d NAILS. NAIL THE SECOND PIECE TO THE FIRST IN A LIKE MANNER AND TOENAIL TO THE REAR BLOCKING ASSEMBLY W/4-10d NAILS. FOR OTHER LOAD WEIGHTS, SEE THE NAILING CHART ON PAGE 15.
- ⑤ BUNDLING STRAP, 1-1/4" X .035" OR .031" X 31'-0" LONG STEEL STRAPPING (4 REQD). INSTALL SO AS TO ENCIRCLE TWO PALLET UNITS IN THE SECOND LAYER AND TWO PALLET UNITS DIRECTLY BELOW AS SHOWN. SEE SPECIAL NOTE 7 ON PAGE 15. STAPLE TO A STRAPPING BOARD ASSEMBLY, PIECE MARKED ②, W/1 STAPLE.
- ⑥ SEAL FOR 1-1/4" STRAPPING (8 REQD, 2 PER STRAP). DOUBLE CRIMP EACH SEAL. SEE GENERAL NOTE "K" ON PAGE 2.

(5-LAYER UNIT) 24-UNIT LOAD (CHIMNEY PATTERN) IN A 45'-0" LONG
BY 8'-0" WIDE CONVENTIONAL VAN TYPE TRAILER

SPECIAL NOTES:

1. A 24-UNIT LOAD (CHIMNEY PATTERN) IS SHOWN IN A 45'-0" LONG BY 8'-0" WIDE (INSIDE DIMENSION) HIGH-VOLUME VAN TRAILER. TRAILERS OF OTHER WIDTHS CAN BE USED.
2. THE PALLET UNIT SHOWN IN THE LOAD ON PAGE 14 IS THE 5-LAYER UNIT HAVING OVERALL DIMENSIONS OF 40-5/8" LONG BY 55" WIDE BY 41-3/4" HIGH AND WEIGHING APPROXIMATELY 1,672 POUNDS.
3. FOR EASE OF INSTALLATION, A STRAPPING BOARD ASSEMBLY "B" MAY BE USED IN LIEU OF EACH PAIR OF STRAPPING BOARD ASSEMBLIES, PIECE MARKED ②. SEE THE "STRAPPING BOARD ASSEMBLY B" DETAIL ON PAGE 26.
4. IF THE VOID AT THE REAR OF THE LOAD BETWEEN THE PALLET UNITS AND THE REAR DOORS MEASURES 1-1/2" OR LESS, REAR BLOCKING IS NOT REQUIRED. IF THE VOID AT THE REAR OF THE LOAD IS GREATER THAN 1-1/2" BUT LESS THAN 9", USE "REAR BLOCKING ASSEMBLY C", AS DETAILED ON PAGE 26. IF THE VOID AT THE REAR OF THE LOAD IS 9" OR GREATER, USE THE "REAR BLOCKING ASSEMBLY A", PIECE MARKED ③ ON PAGE 14. SEE SPECIAL NOTE 11.
5. A PALLET UNIT AT EACH END OF THE SECOND LAYER PORTION OF THE LOAD MUST BE UNITIZED TO A PALLET UNIT IN THE FIRST LAYER, UNLESS THE STACKED UNITS ARE AGAINST THE FRONT WALL OF A SQUARE-FRONT TRAILER, AGAINST THE FORWARD BLOCKING ASSEMBLY, OR AT THE VERY REAR OF THE LOAD. UNITIZING STRAPS, PIECE MARKED ⑦ ON PAGE 12, AND STRAPPING BOARD ASSEMBLIES, PIECE MARKED ②, MUST BE INSTALLED PRIOR TO FINAL POSITIONING OF THE STACK.
6. IF ONLY ONE UNIT IS TO BE LOADED IN THE SECOND LAYER OF EITHER ROW IT MUST NOT BE POSITIONED ON THE REARMOST PALLET UNIT IN THE FIRST LAYER. POSITION THE UNIT CROSSWISE. PROVIDE LONGITUDINAL BRACING BY INSTALLING 22'-6" LONG UNITIZING STRAPS, PIECE MARKED ⑦ ON PAGE 12.
7. IF A STACK IN THE LOAD UNIT AT THE REAR OF THE LOAD IS MORE THAN ONE UNIT HIGH, BUNDLING STRAPS, PIECE MARKED ⑤, MUST BE INSTALLED SO AS TO ENIRCLE THE REARMOST TWO STACKS AND TWO STRAPPING BOARD ASSEMBLIES, PIECE MARKED ②, IN EACH APPLICABLE ROW.
8. REFER TO PAGE 21 FOR GUIDANCE IN THE SHIPMENT OF PARTIAL PALLET UNITS.
9. LEFTOVER CONTAINERS IN AN AMOUNT NOT TO EXCEED NINE MAY BE SECURED TO THE TOP OF A FULL PALLET UNIT FOR SHIPMENT. REFER TO THE "PROCEDURES FOR SHIPMENT OF LEFTOVER CONTAINERS" ON PAGE 22 FOR GUIDANCE.
10. FOR SHIPMENT OF LESS THAN FULL LOADS, REFER TO PAGES 18 THROUGH 20.
11. TRAILERS EQUIPPED WITH ROLL-UP TYPE DOORS MAY BE USED. HOWEVER, SPECIAL REAR BLOCKING MUST BE INSTALLED. SEE THE NAILED-HEADER METHOD AS DEPICTED IN THE LOAD ON PAGES 14 AND 15. NOTE THAT THE SPECIAL REAR BLOCKING FOR TRAILERS EQUIPPED WITH ROLL-UP TYPE DOORS MAY ALSO BE USED IN CONVENTIONAL VAN TRAILERS EQUIPPED WITH HINGED DOORS.

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

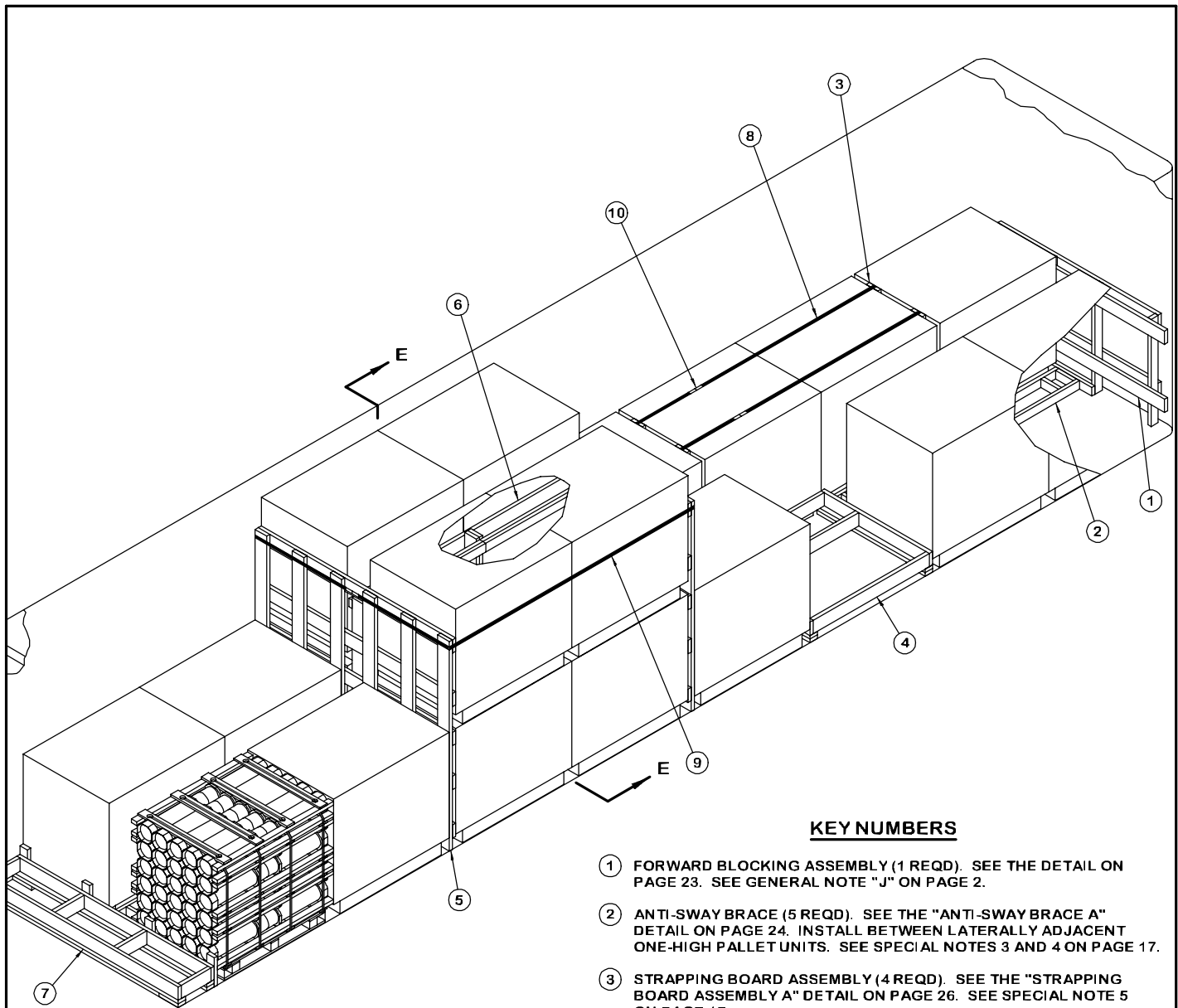
* HEADERS AT THE REAR OF A FULL LOAD OR AT THE REAR END OF A DIVIDED LOAD WILL BE DOUBLED 2" X 4" MATERIAL. THE NUMBER OF NAILS INDICATED ABOVE REFERS TO THE NUMBER OF NAILS USED IN EACH LAMINATION OF A HEADER, FOR EXAMPLE 8 NAILS MEANS THE FIRST BOARD IS NAILED TO THE TRAILER FLOOR W/8-10d NAILS, AND 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 2"	11	4
2" X 4"	54	36
2" X 6"	74	74
NAILS	NO. REQD	POUNDS
10d (3")	120	2
1-1/4" STEEL STRAPPING	124' REQD	17-3/4 LBS
SEAL FOR 1-1/4" STRAPPING	8 REQD	1/2 LB
STAPLE	4 REQD	NIL

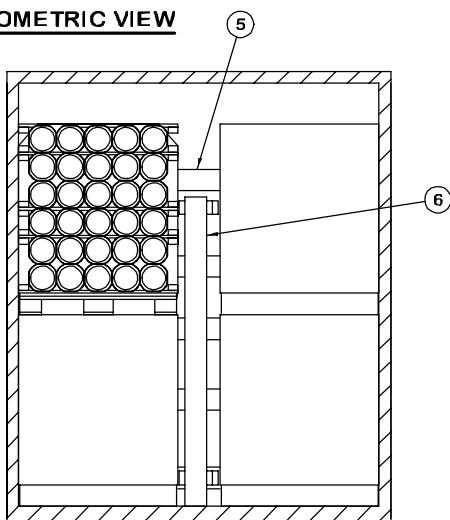
LOAD AS SHOWN

ITEM	QUANTITY	WEIGHT (APPROX)
PALLET UNIT	24	40,128 LBS
DUNNAGE		249 LBS
TOTAL WEIGHT		40,377 LBS (APPROX)

(5-LAYER UNIT) 24-UNIT LOAD (CHIMNEY PATTERN) IN A 45'-0" LONG BY 8'-0" WIDE CONVENTIONAL VAN TYPE TRAILER



ISOMETRIC VIEW



SECTION E-E

KEY NUMBERS

- ① FORWARD BLOCKING ASSEMBLY (1 REQD). SEE THE DETAIL ON PAGE 23. SEE GENERAL NOTE "J" ON PAGE 2.
- ② ANTI-SWAY BRACE (5 REQD). SEE THE "ANTI-SWAY BRACE A" DETAIL ON PAGE 24. INSTALL BETWEEN LATERALLY ADJACENT ONE-HIGH PALLET UNITS. SEE SPECIAL NOTES 3 AND 4 ON PAGE 17.
- ③ STRAPPING BOARD ASSEMBLY (4 REQD). SEE THE "STRAPPING BOARD ASSEMBLY A" DETAIL ON PAGE 26. SEE SPECIAL NOTE 5 ON PAGE 17.
- ④ SPACER ASSEMBLY (4 REQD). SEE THE "SPACER ASSEMBLY A" DETAIL ON PAGE 27. NAIL TO THE ANTI-SWAY BRACE, PIECE MARKED ②, W/2-10d NAILS. SEE SPECIAL NOTE 6 ON PAGE 17.
- ⑤ BULKHEAD GATE (2 REQD). SEE THE DETAIL ON PAGE 27.
- ⑥ CRIB FILL (2 REQD). SEE THE DETAIL ON PAGE 23. INSTALL BETWEEN LATERALLY ADJACENT TWO-HIGH STACKS. SEE SPECIAL NOTE 3 ON PAGE 17.
- ⑦ REAR BLOCKING ASSEMBLY (1 REQD). SEE THE "REAR BLOCKING ASSEMBLY A" DETAIL ON PAGE 25. SEE SPECIAL NOTE 7 ON PAGE 17.
- ⑧ BUNDLING STRAP, 1-1/4" X .035" OR .031" X 28'-0" LONG STEEL STRAPPING (2 REQD). INSTALL SO AS TO ENCIRCLE TWO ONE-HIGH PALLET UNITS. STAPLE TO A STRAPPING BOARD ASSEMBLY, PIECE MARKED ③, W/1 STAPLE. SEE SPECIAL NOTE 8 ON PAGE 17.
- ⑨ BUNDLING STRAP, 1-1/4" X .035" OR .031" X 36'-6" LONG STEEL STRAPPING (2 REQD). INSTALL SO AS TO ENCIRCLE THE TOP UNITS OF THE TWO-HIGH STACKS AND THE BULKHEAD GATES, PIECES MARKED ⑤. STAPLE TO EACH BULKHEAD GATE W/4 STAPLES. SEE SPECIAL NOTE 9 ON PAGE 17.
- ⑩ SEAL FOR 1-1/4" STRAPPING (6 REQD, 2 PER STRAP). DOUBLE CRIMP EACH SEAL. SEE GENERAL NOTE "K" ON PAGE 2.

SPECIAL NOTES:

1. A TYPICAL 19-UNIT LOAD IS SHOWN IN A 40'-0" LONG BY 7'-8" WIDE (INSIDE DIMENSION) HI-VOLUME VAN TRAILER. TRAILERS OF OTHER DIMENSIONS MAY BE USED.
2. THE PALLET UNIT SHOWN IN THE LOAD ON PAGE 16 IS THE 6-LAYER UNIT HAVING OVERALL DIMENSIONS OF 40-5/8" LONG BY 55" WIDE BY 48-7/8" HIGH AND WEIGHING APPROXIMATELY 2,006 POUNDS. THE DEPICTED PROCEDURE IS ALSO APPLICABLE FOR THE 5-LAYER UNIT SHOWN ON PAGE 3.
3. IF A TRAILER WIDER THAN 7'-8-1/2" IS FURNISHED FOR LOADING, THE ANTI-SWAY BRACE "B" AS DETAILED ON PAGE 24 MAY BE USED IN LIEU OF THE CRIB FILL, PIECE MARKED (6), AND MAY ALSO BE USED IN LIEU OF THE ANTI-SWAY BRACE "A", PIECE MARKED (2).
4. IN LIEU OF USING THE ANTI-SWAY BRACE "A", PIECE MARKED (2) (OR THE ALTERNATIVE ANTI-SWAY BRACE "B"), BETWEEN LATERALLY ADJACENT PALLET UNITS IN THE ONE-HIGH PORTION OF THE LOAD, CRIB FILL ASSEMBLIES MAY BE USED.
5. FOR EASE OF INSTALLATION, A STRAPPING BOARD ASSEMBLY "B" MAY BE USED IN LIEU OF EACH PAIR OF STRAPPING BOARD ASSEMBLIES, PIECE MARKED (3). SEE THE "STRAPPING BOARD ASSEMBLY B" DETAIL ON PAGE 26.
6. THE SPACER ASSEMBLY SHOWN IN THE LOAD VIEW AS PIECE MARKED (4) IS ONLY SHOWN TO DEPICT A TYPICAL INSTALLATION. IF A PALLET UNIT IS LOADED IN PLACE OF THE SPACER ASSEMBLY, THE BUNDLING STRAPS, PIECE MARKED (8), WILL NOT BE REQUIRED. NOTE THAT A SPACER ASSEMBLY MUST BE POSITIONED WHERE THERE WILL BE A PALLET UNIT AT EACH END; A SPACER ASSEMBLY MUST NOT BE POSITIONED ADJACENT TO A FORWARD BLOCKING ASSEMBLY, PIECE MARKED (1), OR ADJACENT TO A BULKHEAD GATE, PIECE MARKED (5).
7. IF THE VOID AT THE REAR OF THE LOAD BETWEEN THE PALLET UNITS AND THE REAR DOORS MEASURES 1'-1/2" OR LESS, REAR BLOCKING IS NOT REQUIRED. IF THE VOID AT THE REAR OF THE LOAD IS GREATER THAN 1'-1/2" BUT LESS THAN 9", USE "REAR BLOCKING ASSEMBLY C" AS DETAILED ON PAGE 26. IF THE VOID AT THE REAR OF THE LOAD IS 9" OR GREATER, USE THE "REAR BLOCKING ASSEMBLY B", PIECE MARKED (7) ON PAGE 16. SEE SPECIAL NOTE 12.
8. A PALLET UNIT THAT DOES NOT HAVE A PALLET UNIT DIRECTLY OPPOSITE MUST BE SECURED BY INSTALLING BUNDLING STRAPS, SHOWN AS PIECE MARKED (8) IN THE LOAD ON PAGE 16, AROUND THAT PALLET UNIT AND THE PALLET UNIT IMMEDIATELY ADJACENT. A PALLET UNIT WILL NOT BE OMITTED FROM THE SECOND LAYER PORTION OF THE LOAD.
9. WHEN ONLY ONE BUNDLING STRAP, PIECE MARKED (9), IS APPLIED, THE SECOND LAYER PORTION OF THE LOAD IS LIMITED TO NOT MORE THAN FOUR 6-LAYER UNITS OR FOUR 5-LAYER UNITS. IF AN ADDITIONAL BUNDLING STRAP IS APPLIED AROUND THE SECOND LAYER PORTION OF THE LOAD, NOT MORE THAN EIGHT 6-LAYER UNITS OR TEN 5-LAYER UNITS MAY BE LOADED IN THE SECOND LAYER.
10. REFER TO PAGE 21 FOR GUIDANCE IN THE SHIPMENT OF PARTIAL PALLET UNITS.
11. LEFTOVER CONTAINERS IN AN AMOUNT NOT TO EXCEED NINE MAY BE SECURED TO THE TOP OF A FULL PALLET UNIT FOR SHIPMENT. REFER TO THE "PROCEDURES FOR SHIPMENT OF LEFTOVER CONTAINERS" ON PAGE 22 FOR GUIDANCE.
12. TRAILERS EQUIPPED WITH ROLL-UP TYPE DOORS MAY BE USED. HOWEVER, SPECIAL REAR BLOCKING MUST BE INSTALLED. SEE THE NAILED-HEADER METHOD AS DEPICTED IN THE LOAD ON PAGES 14 AND 15. NOTE THAT THE SPECIAL REAR BLOCKING FOR TRAILERS EQUIPPED WITH ROLL-UP TYPE DOORS MAY ALSO BE USED IN CONVENTIONAL VAN TRAILERS EQUIPPED WITH HINGED DOORS

BILL OF MATERIAL

LUMBER	LINEAR FEET	BOARD FEET
2" X 2"	11	4
2" X 4"	147	98
2" X 6"	274	274
NAILS	NO. REQD	POUNDS
10d (3")	472	7-1/2
1-1/4" STEEL STRAPPING - - 93' REQD - - - 13-1/4 LBS		
SEAL FOR 1-1/4" STRAPPING - 6 REQD - - - 1/2 LB		
STAPLE - - - - - 12 REQD - - - - - NIL		

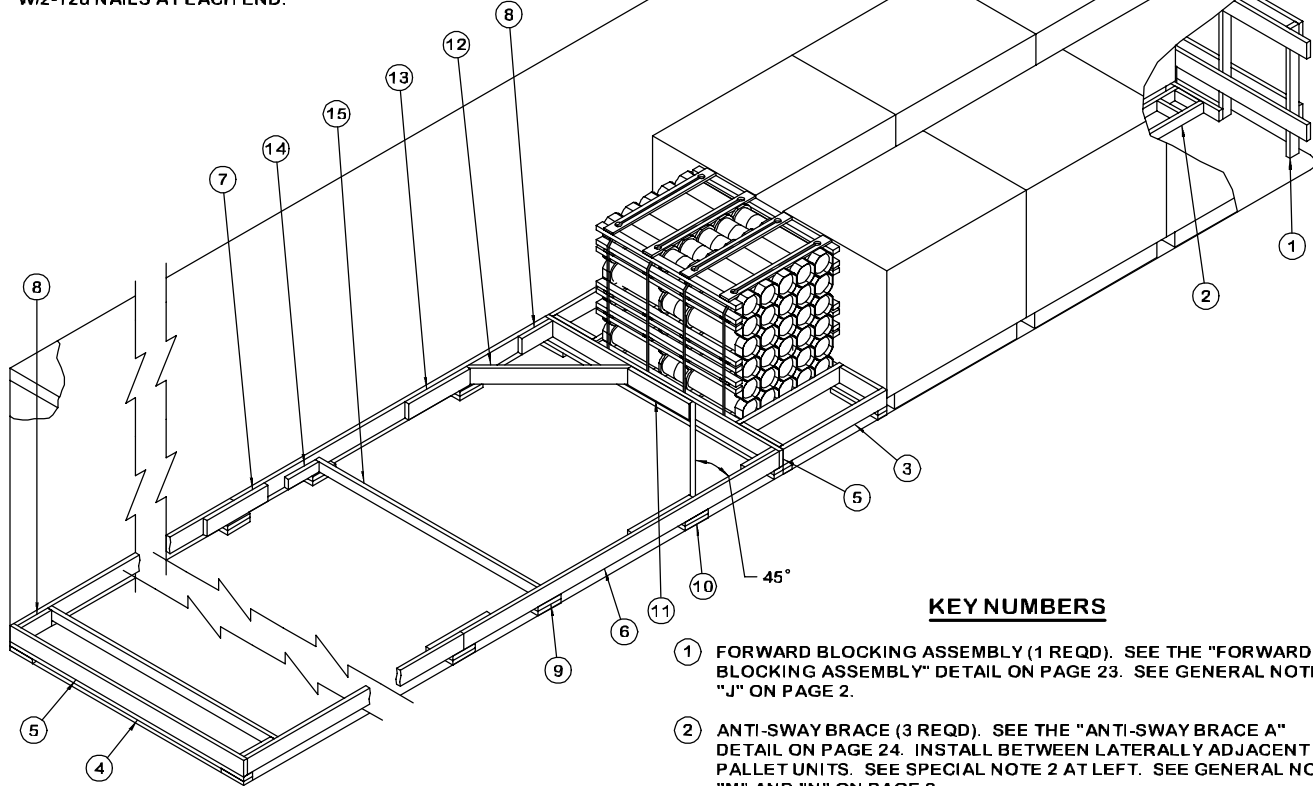
LOAD AS SHOWN

ITEM	QUANTITY	WEIGHT (APPROX)
PALLET UNIT - - - - -	19 - - - - -	38, 114 LBS
DUNNAGE - - - - -	- - - - -	774 LBS
TOTAL WEIGHT - - - - -		38, 888 LBS (APPROX)

**ALTERNATIVE LOADING PROCEDURE FOR ALL UNITS
19-UNIT LOAD IN A 40'-0" LONG BY 7'-8" WIDE HIGH-VOLUME VAN TRAILER**

(KEY NUMBERS CONTINUED)

- ⑬ SIDE CLEAT, 2" X 6" X 24" (2 REQD). POSITION AGAINST END OF DIAGONAL BRACE, PIECE MARKED ⑫, AND NAIL TO A SIDE STRUT, PIECE MARKED ⑥, W/8-10d NAILS.
- ⑭ STRUT BRACE RETAINING CLEAT, 2" X 4" X 12" (AS REQD). NAIL TO A SIDE STRUT, PIECE MARKED ⑥, W/3-10d NAILS.
- ⑮ STRUT BRACE, 2" X 4" BY TRAILER WIDTH MINUS 3" (CUT-TO-FIT) (MINIMUM OF ONE REQD). INSTALL ONE AT THE REAR OF THE TRAILER AS SHOWN. ONE ADDITIONAL PIECE IS REQUIRED FOR EVERY 7'0" OF STRUT LENGTH. NAIL TO THE POCKET CLEATS, PIECE MARKED ⑧, AND/OR TO THE STRUT BRACE RETAINING CLEATS, PIECES MARKED ⑭, W/2-12d NAILS AT EACH END.



ISOMETRIC VIEW

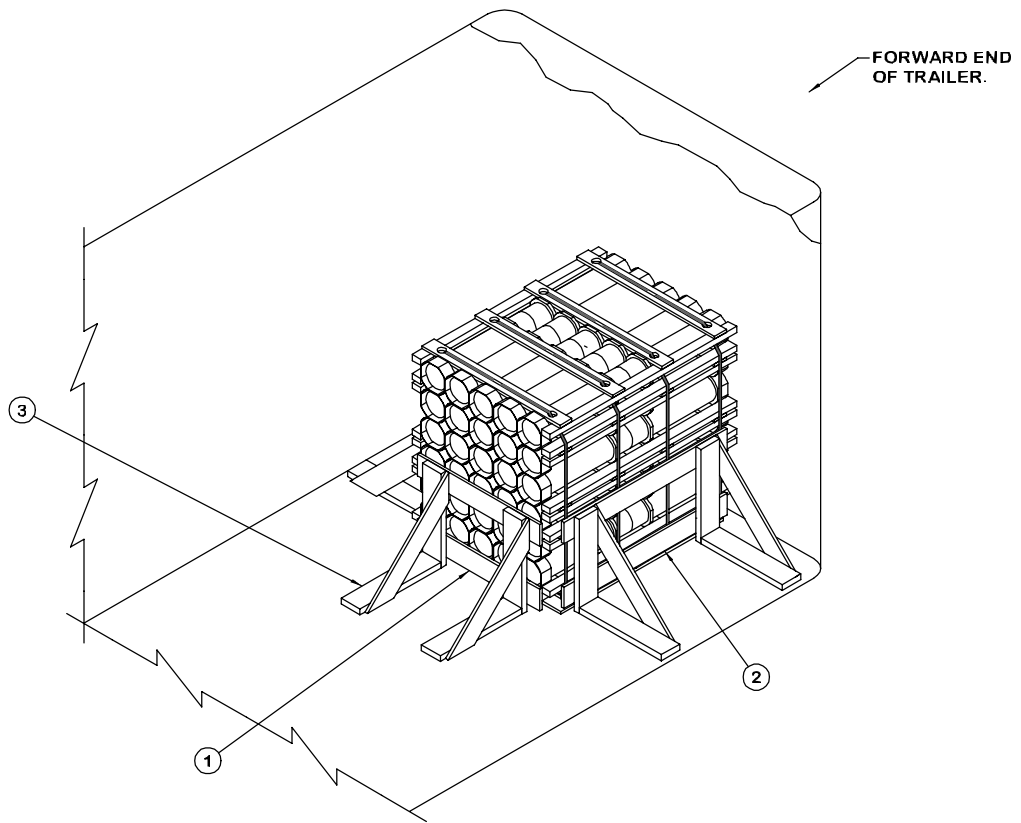
KEY NUMBERS

- ① FORWARD BLOCKING ASSEMBLY (1 REQD). SEE THE "FORWARD BLOCKING ASSEMBLY" DETAIL ON PAGE 23. SEE GENERAL NOTE "J" ON PAGE 2.
- ② ANTI-SWAY BRACE (3 REQD). SEE THE "ANTI-SWAY BRACE A" DETAIL ON PAGE 24. INSTALL BETWEEN LATERALLY ADJACENT PALLET UNITS. SEE SPECIAL NOTE 2 AT LEFT. SEE GENERAL NOTES "M" AND "N" ON PAGE 2.
- ③ SIDE BLOCKING ASSEMBLY (2 REQD). SEE THE DETAIL ON PAGE 26.
- ④ RISER, 2" X 4" BY TRAILER WIDTH MINUS 1/2" IN LENGTH (2 REQD). NAIL TO BOTTOM EDGE OF HEADER, PIECE MARKED ⑤, W/1-10d NAIL EVERY 12".
- ⑤ HEADER, 2" X 6" BY TRAILER WIDTH MINUS 1/2" IN LENGTH (2 REQD). SEE SPECIAL NOTE 4 AT LEFT.
- ⑥ SIDE STRUT, 2" X 6" BY CUT-TO-FIT BETWEEN HEADERS, PIECE MARKED ⑤.
- ⑦ SPLICE PIECE, 2" X 6" X 24" (2 REQD). CENTER ON JOINT OF PIECES MARKED ⑥ AND NAIL W/4-10d NAILS AT EACH END.
- ⑧ POCKET CLEAT, 2" X 6" X 12" (4 REQD). NAIL TO A SIDE STRUT, PIECE MARKED ⑥, W/3-10d NAILS. TOENAIL TO THE ADJACENT HEADER, PIECE MARKED ⑤, W/3-12d NAILS.
- ⑨ FILLER PIECE, 2" X 4" X 9" (AS REQD). POSITION SO AS TO BE CENTERED UNDER THE JOINT OF THE STRUT BRACE AND THE STRUT BRACE RETAINING CLEAT, PIECES MARKED ⑭ AND ⑮. NAIL TO A SIDE STRUT, PIECE MARKED ⑥, W/2-10d NAILS.
- ⑩ RISER PIECE, 2" X 4" X 9" (AS REQD). NAIL TO THE BOTTOM EDGE OF THE RISER, PIECE MARKED ④, AND/OR TO A FILLER PIECE, PIECE MARKED ⑨, W/2-10d NAILS.
- ⑪ CENTER CLEAT, 2" X 6" X 24" (1 REQD). NAIL TO HEADER, PIECE MARKED ⑤, W/6-10d NAILS.
- ⑫ DIAGONAL PIECE, 2" X 4" 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 ⑥, W/2-16d NAILS AT EACH END.

SPECIAL NOTES:

- 1. A 7-UNIT LOAD IS SHOWN IN A 7'-8" WIDE (INSIDE DIMENSION) CONVENTIONAL VAN TRAILER. TRAILERS OF OTHER WIDTHS CAN BE USED. SEE SPECIAL NOTES 4 AND 5.
- 2. CRIB FILL OR ANTI-SWAY BRACES SHOWN AS PIECE MARKED ②, WILL BE POSITIONED BETWEEN ALL LATERALLY ADJACENT PALLET UNITS.
- 3. THE K-BRACE BLOCKING SHOWN AS PIECES MARKED ④ THRU ⑮ IS ADEQUATE FOR RETAINING A MAXIMUM OF 20,000 POUNDS.
- 4. TRAILERS EQUIPPED WITH ROLL-UP TYPE DOORS MAY BE USED. HOWEVER, SPECIAL REAR BLOCKING MUST BE INSTALLED. SEE THE NAILED-HEADER METHOD AS DEPICTED IN THE LOAD ON PAGES 14 AND 15. NOTE THAT THE SPECIAL REAR BLOCKING FOR TRAILERS EQUIPPED WITH ROLL-UP TYPE DOORS MAY ALSO BE USED IN CONVENTIONAL VAN TRAILERS EQUIPPED WITH HINGED DOORS.
- 5. IF DESIRED, IN TRAILERS EQUIPPED WITH NAILABLE FLOORS, THE NAILED-HEADER METHOD OF REAR BLOCKING MAY BE USED IN LIEU OF THE K-BRACE BLOCKING SHOWN AS PIECES MARKED ④ THRU ⑮. REFER TO PAGE 20 FOR GUIDANCE. WHEN THE NAILED-HEADER METHOD IS APPLIED FOR THE BRACING OF THE DEPICTED 7-UNIT LOAD OR ANY ODD NUMBERED QUANTITY, ONLY DOUBLED 2" X 4" PIECES ARE REQUIRED. WHEN SHIPPING AN EVEN NUMBERED QUANTITY, A REAR BLOCKING ASSEMBLY WILL BE REQUIRED, AS IN THE LOAD ON PAGE 14.

(CONTINUED ABOVE)



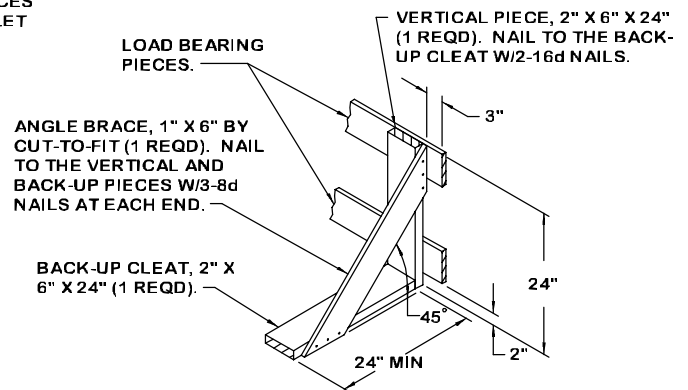
ISOMETRIC VIEW

SPECIAL NOTES:

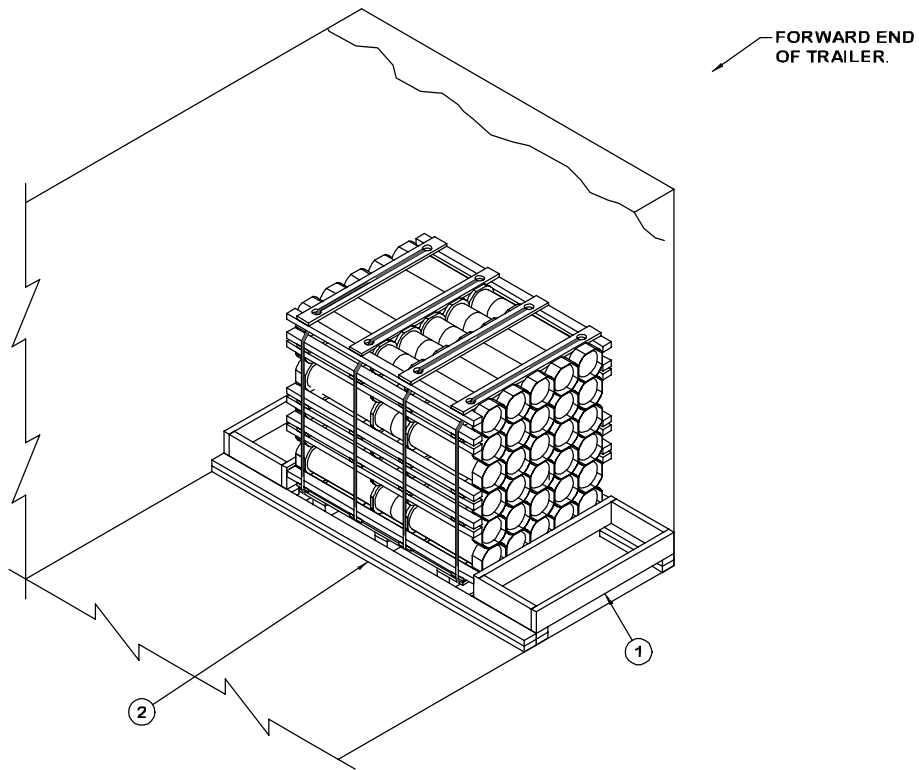
1. A 7'-8" WIDE (INSIDE DIMENSION) CONVENTIONAL VAN TRAILER WHICH HAS A NAILABLE FLOOR IS SHOWN. TRAILERS OF OTHER WIDTHS CAN BE USED.
2. THE POSITIONING OF A UNIT IS OPTIONAL. IF THE TRAILER BEING USED HAS A SQUARE FRONT, THE PALLET UNIT MAY BE LOCATED IN THE CORNER OF THE TRAILER.
3. EACH LTL BRACE AS APPLIED FOR LONGITUDINAL BRACING WILL SUPPORT 2,000 POUNDS OF LADING; HOWEVER, NOT LESS THAN TWO BRACES WILL BE USED AGAINST EACH PALLETIZED UNIT ACROSS THE WIDTH OF THE TRAILER.
4. MORE THAN ONE PALLET UNIT CAN BE SHIPPED PROVIDING THE CAPACITY OF THE LTL BRACES IS NOT EXCEEDED. THE LOAD SHOULD BE FORMED IN TWO ROWS, WITH THE UNITS POSITIONED AGAINST OPPOSITE SIDEWALLS. CRIB FILL OR ANTI-SWAY BRACES WILL BE INSTALLED BETWEEN THE LATERALLY ADJACENT PALLET UNITS.

KEY NUMBERS

- ① LOAD BEARING PIECE, 1" X 6" X 36" (2 REQD). LOCATE AT THE HEIGHTS AS SPECIFIED IN THE "LTL BRACE" DETAIL BELOW. NAIL TO THE LTL BRACES W/4-6d NAILS AT EACH JOINT. SEE GENERAL NOTES "M" AND "N" ON PAGE 2.
- ② LOAD BEARING PIECE, 1" X 6" X 48" (4 REQD). LOCATE AT THE HEIGHTS AS SPECIFIED IN THE "LTL BRACE" DETAIL BELOW. NAIL TO THE LTL BRACES W/4-6d NAILS AT EACH JOINT.
- ③ LTL BRACE (6 REQD). SEE THE "LTL BRACE" DETAIL BELOW. NAIL TO THE TRAILER FLOOR W/7-10d NAILS.



LTL BRACE



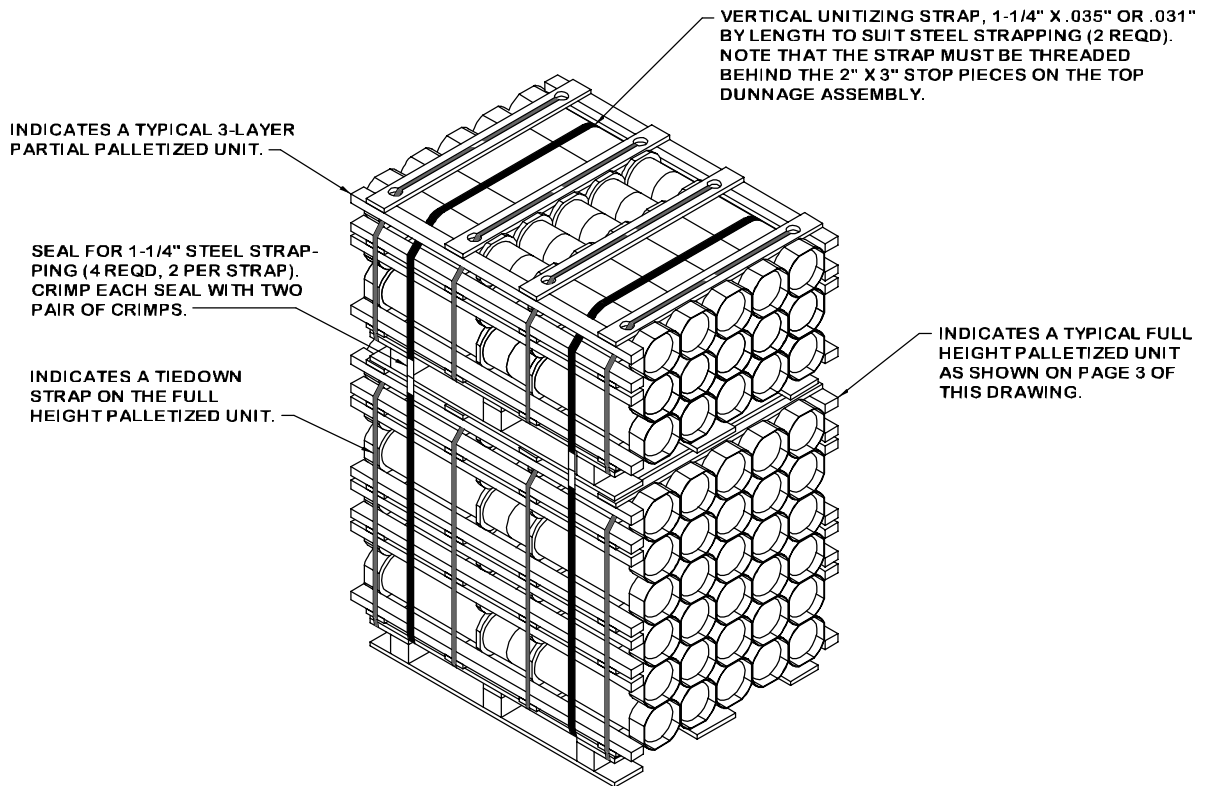
ISOMETRIC VIEW

SPECIAL NOTES:

1. A 1-UNIT LOAD IS SHOWN DEPICTING THE USE OF A NAILED HEADER IN A CONVENTIONAL TYPE VAN TRAILER EQUIPPED WITH NAILABLE FLOORS. TRAILERS WITH ALL METAL FLOORS CANNOT BE USED.
2. THE PALLET UNIT SHOWN IS THE 6-LAYER PALLET UNIT HAVING OVERALL DIMENSIONS OF 40-5/8" LONG BY 55" WIDE BY 48-7/8" HIGH AND WEIGHING APPROXIMATELY 2,006 POUNDS. THE PROCEDURES ARE ALSO APPLICABLE FOR THE 5-LAYER PALLET UNIT.
3. IF THE TRAILER BEING LOADED IS EQUIPPED WITH ROUNDED CORNERS, A FORWARD BLOCKING ASSEMBLY AS DETAILED ON PAGE 23 IS REQUIRED.
4. FOR AN EVEN NUMBER OF PALLET UNITS TO BE LOADED, THE LOAD SHOULD BE FORMED IN TWO ROWS WITH THE UNITS POSITIONED AGAINST OPPOSITE SIDEWALLS. CRIB FILL OR ANTI-SWAY BRACES WILL BE INSTALLED BETWEEN LATERALLY ADJACENT PALLET UNITS, AND A REAR BLOCKING ASSEMBLY WILL ALSO BE INSTALLED. FOR OTHER QUANTITY LTL LOADS USING THE NAILED HEADER METHOD, REFER TO THE NAILING CHARTS ON PAGE 15 FOR GUIDANCE.

KEY NUMBERS

- ① SIDE BLOCKING ASSEMBLY (2 REQD). SEE THE DETAIL ON PAGE 26.
- ② HEADER, 2" X 4" BY TRAILER WIDTH MINUS 1/2" IN LENGTH (DOUBLED), POSITION AGAINST THE PALLET UNIT AND THE SIDE BLOCKING ASSEMBLIES. NAIL THE FIRST PIECE TO THE TRAILER FLOOR W/6-10d NAILS. NAIL THE SECOND PIECE TO THE FIRST IN A LIKE MANNER.



**SECUREMENT OF A PARTIAL PALLET UNIT
POSITIONED ON A FULL HEIGHT PALLET UNIT**

SPECIAL NOTES:

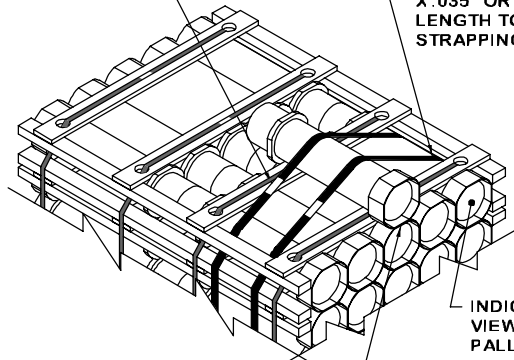
1. THE VIEW SHOWN ABOVE DEPICTS A PARTIAL 3-LAYER PALLET UNIT POSITIONED ON TOP OF A FULL-HEIGHT PALLET UNIT AND UNITIZED WITH TWO VERTICAL UNITIZING STRAPS. PLACEMENT WITHIN THE LOAD IS OPTIONAL, EXCEPT THAT IT WILL NOT BE POSITIONED WITHIN A GROUP WHICH IS BUNDLED TOGETHER OR WITHIN A STACK WHICH IS UNITIZED. THE PREFERRED LOCATION WOULD BE WITHIN A ONE-HIGH PORTION OF THE LOAD (NOT IN THE REAR LOAD UNIT) IF AVAILABLE, OR WITHIN THE TOP LAYER OF A LOAD IF THE TRAILER HEIGHT PERMITS.
2. SHIPMENTS OF PALLET UNITS SHOULD CONSIST OF FULL-HEIGHT AND FULL-LAYER UNITS TO THE MAXIMUM EXTENT POSSIBLE. HOWEVER, THE END OF A LOT, OR THE QUANTITY NEEDED TO FILL A REQUISITION MAY NECESSITATE THE SHIPMENT OF ONE OR MORE LESS-THAN-FULL PALLET UNITS WITHIN A LOAD.
3. FOR SHIPMENT OF ONE THROUGH NINE "LEFTOVER" CONTAINERS, SEE THE PROCEDURES ON PAGE 22 OF THIS DRAWING.

SPECIAL NOTES:

1. SHIPMENTS OF PROPELLING CHARGES SHOULD CONSIST OF FULL-HEIGHT AND FULL-LAYER UNITS TO THE MAXIMUM EXTENT POSSIBLE. HOWEVER, THE END OF A LOT, OR THE QUANTITY OF ITEMS NEEDED TO FILL A REQUISITION, MAY NECESSITATE THE SHIPMENT OF ONE OR MORE LEFTOVER CONTAINERS. LEFTOVER CONTAINERS ARE DESCRIBED AS A QUANTITY OF CONTAINERS WHICH IS INSUFFICIENT TO FORM A FULL-LAYERED PARTIAL UNIT FOR SECUREMENT AS SHOWN ON PAGE 21.
2. SHIPMENT OF LEFTOVER CONTAINERS IS APPLICABLE FOR CONUS AND OCONUS MOTOR CARRIER SHIPMENTS FROM DEPOT TO DEPOT OR FROM DEPOTS TO POSTS, CAMPS AND STATIONS, OR, UPON APPROVAL FROM HIGHER HEADQUARTERS, FOR SHIPMENTS FROM LOAD, ASSEMBLE, AND PACK PLANTS TO DEPOTS. CAUTION: A LOAD CONTAINING LEFTOVER CONTAINERS IS AN AMOUNT WHICH IS LESS THAN A FULL LAYER, AND SECURED TO THE TOP OF A FULL OR PARTIAL UNIT, MUST NOT BE DESTINED FOR SHIPMENT OVERSEAS BY WATER CARRIER.
3. THE PROCEDURES ON THIS PAGE ARE PRESENTED AS GUIDANCE IN THE SHIPMENT OF LEFTOVER CONTAINERS FOR SHIPMENT. THE VIEW AT THE TOP LEFT DEPICTS ONE LEFTOVER CONTAINER SECURED TO A FULL-HEIGHT PALLET UNIT. THE VIEWS BELOW DEPICT FOUR OR FIVE LEFTOVER CONTAINERS SECURED TO A FULL-HEIGHT PALLET UNIT. WHEN THREE THROUGH FIVE CONTAINERS ARE POSITIONED SIDE BY SIDE, STRAPPING BOARDS WILL BE NEEDED. LEFTOVER CONTAINERS MUST BE SECURED WITH A MINIMUM OF TWO PIECES OF STEEL STRAPPING. NOTE THAT THE UNITIZING STRAPS MUST BE THREADED BEHIND THE 2" X 3" PIECES OF THE INTERMEDIATE AND TOP DUNNAGE ASSEMBLIES.
4. THE PREFERRED LOCATION FOR THE POSITIONING OF A PALLET UNIT HAVING ONE OR MORE CONTAINERS STRAPPED TO THE TOP WOULD BE WITHIN THE ONE-HIGH PORTION OF THE LOAD; IT MUST NOT HAVE A PALLET UNIT STACKED ON TOP.
5. THE PROCEDURES ON THIS PAGE ARE APPLICABLE FOR THE SHIPMENT OF LEFTOVER CONTAINERS IN ANY OF THE LOADS DEPICTED HEREIN.

SEAL FOR 1-1/4" STRAP (2 REQD).
CRIMP EACH SEAL WITH TWO
PAIR OF NOTCHES.

UNITIZING STRAP, 1-1/4"
X .035" OR .031" BY
LENGTH TO SUIT STEEL
STRAPPING (2 REQD).



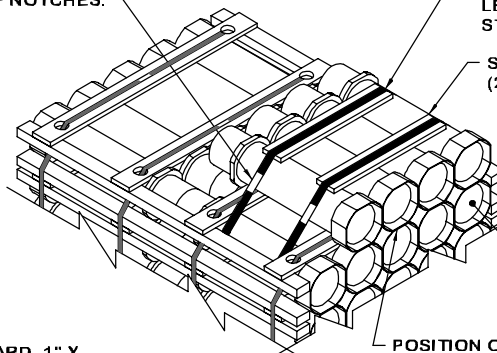
INDICATES A PARTIAL
VIEW OF A FULL
PALLET UNIT.

POSITION CONTAINER
DIRECTLY ABOVE THE
CONTAINER BELOW.

SECUREMENT OF ONE CONTAINER

SEAL FOR 1-1/4" STRAP (2 REQD).
CRIMP EACH SEAL WITH TWO
PAIR OF NOTCHES.

UNITIZING STRAP, 1-1/4"
X .035" OR .031" BY
LENGTH TO SUIT STEEL
STRAPPING (2 REQD).



STRAPPING BOARD, 1" X 4" X 22"
(2 REQD). SEE SPECIAL NOTE 3.

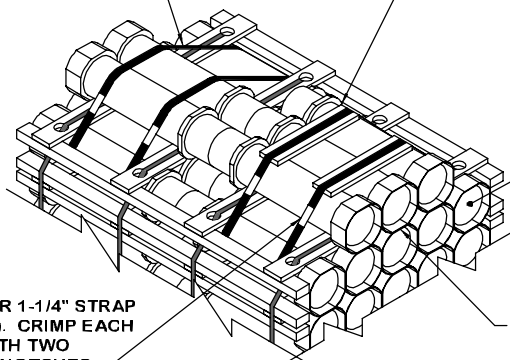
INDICATES A PARTIAL
VIEW OF A FULL
PALLET UNIT.

POSITION CONTAINER
DIRECTLY ABOVE THE
CONTAINER BELOW.

SECUREMENT OF FOUR CONTAINERS

UNITIZING STRAP, 1-1/4"
X .035" OR .031" BY
LENGTH TO SUIT STEEL
STRAPPING (4 REQD).

STRAPPING BOARD, 1" X
4" X 16" (2 REQD). SEE
SPECIAL NOTE 3.



INDICATES A PARTIAL
VIEW OF A FULL
PALLET UNIT.

POSITION CONTAINER
DIRECTLY ABOVE THE
CONTAINER BELOW.

SECUREMENT OF FIVE CONTAINERS

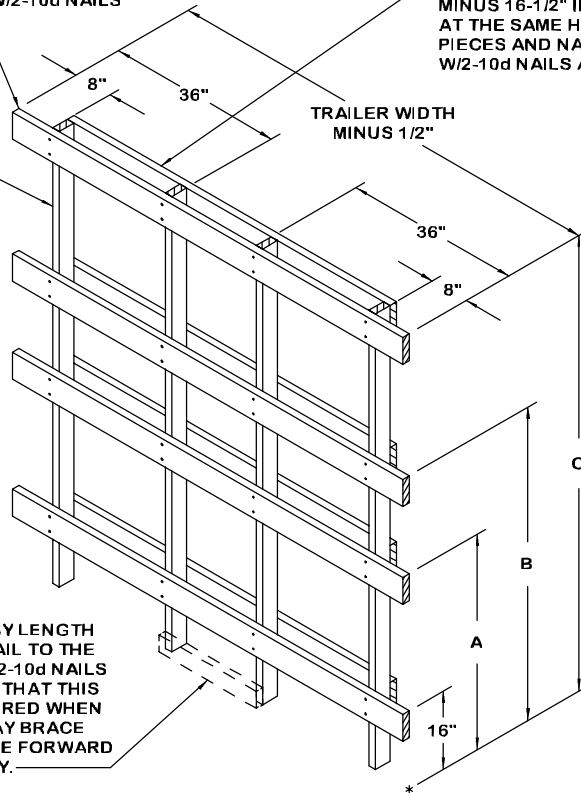
SEAL FOR 1-1/4" STRAP
(4 REQD). CRIMP EACH
SEAL WITH TWO
PAIR OF NOTCHES.

LOAD BEARING PIECE, 2" X 6" BY TRAILER WIDTH MINUS 1/2" IN LENGTH (4 REQD). NAIL TO THE VERTICAL PIECES W/2-10d NAILS AT EACH JOINT.

HORIZONTAL PIECE, 2" X 6" BY TRAILER WIDTH MINUS 16-1/2" IN LENGTH (4 REQD). POSITION AT THE SAME HEIGHTS AS THE LOAD BEARING PIECES AND NAIL TO THE VERTICAL PIECES W/2-10d NAILS AT EACH JOINT.

VERTICAL PIECE, 2" X 4" BY DIMENSION "C" (4 REQD).

TRAILER WIDTH MINUS 1/2"

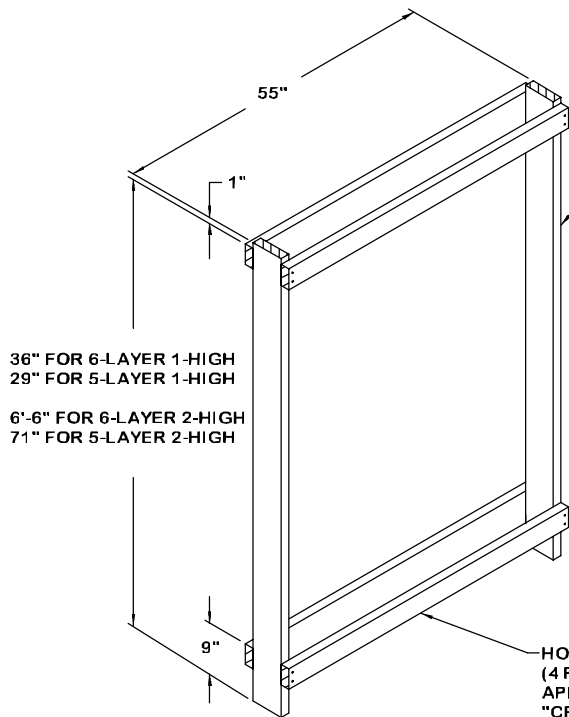


STOP PIECE, 2" X 4" BY LENGTH TO SUIT (1 REQD). NAIL TO THE VERTICAL PIECES W/2-10d NAILS AT EACH END. NOTE THAT THIS PIECE IS ONLY REQUIRED WHEN USING THE ANTI-SWAY BRACE "A" ADJACENT TO THE FORWARD BLOCKING ASSEMBLY.

FORWARD BLOCKING ASSEMBLY CHART			
PALLET UNIT TYPE	DIMENSION		
	A	B	C
6-LAYER UNIT	44"	64"	7'-9"
5-LAYER UNIT	37"	57"	6'-7"
6-L W/5-L ON TOP	44"	64"	7'-2"

FORWARD BLOCKING ASSEMBLY

THIS FORWARD BLOCKING 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 28 FOR GUIDANCE.



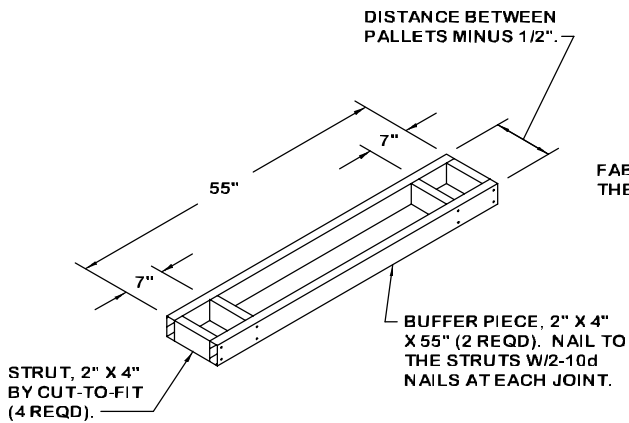
VERTICAL PIECE, 2" MATERIAL BY A WIDTH AS SPECIFIED IN "CRIB FILL CHART" AT RIGHT, BY A LENGTH TO SUIT (2 REQD).

CRIB FILL CHART							
TRAILER WIDTH							
7' - 6"		7' - 7"		7' - 8"		7' - 8-1/2"	
VERT	HORIZ	VERT	HORIZ	VERT	HORIZ	VERT	HORIZ
2" X 6"	1" & 2"	2" X 6"	2" & 2"	2" X 6"	2" & 2"	2" X 6"	2" & 2"

HORIZONTAL PIECE, 2" X 4" AND/OR 1" X 4" X 55" (4 REQD). NAIL TO THE VERTICAL PIECES W/2 APPLICABLY SIZED NAILS AT EACH END. SEE "CRIB FILL CHART" AT RIGHT.

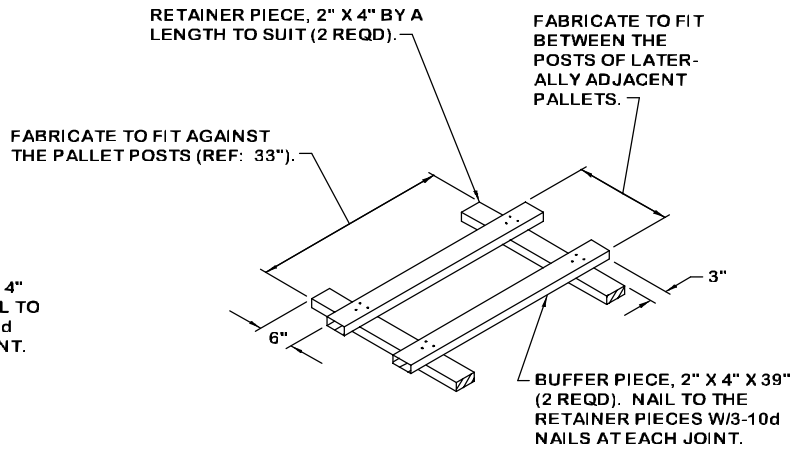
CRIB FILL

DETAILS



ANTI-SWAY BRACE A

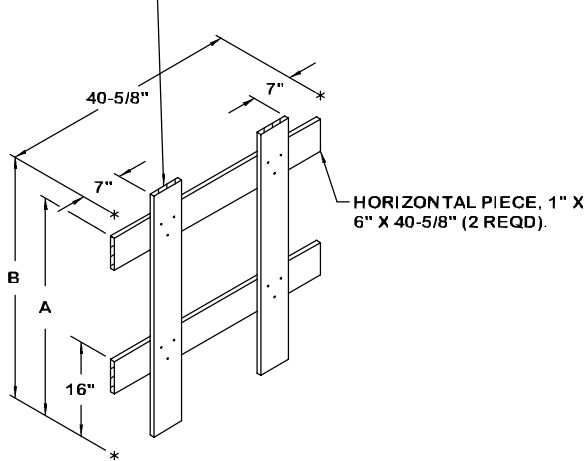
THIS ANTI-SWAY BRACE IS DESIGNED FOR USE ON THE FLOOR BETWEEN LATERALLY ADJACENT PALLET UNITS. NOTE THAT AN ASSEMBLY NEED NOT BE CONSTRUCTED FOR A TIGHT FIT; UP TO 1/2" SPACE IS PERMITTED.



ANTI-SWAY BRACE B

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 BE INSTALLED INTO THE FORKLIFT OPENING OF A LOADED PALLET PRIOR TO POSITIONING THE LATERALLY ADJACENT PALLET.

VERTICAL PIECE, 1" X 6" MATERIAL (2 REQD). NAIL TO THE HORIZONTAL PIECES W/3-6d NAILS AT EACH JOINT AND CLINCH.

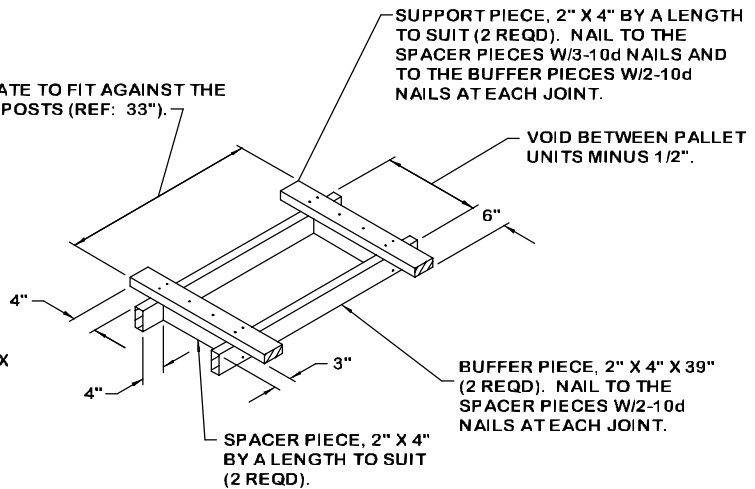


SEPARATOR GATE

THIS ASSEMBLY IS DESIGNED TO FILL THE SPACE IN AN ODD-NUMBERED LOAD AS SHOWN ON PAGE 10. INSTALL WITH THE VERTICAL PIECES TOWARD THE FRONT OF THE TRAILER.

SEPARATOR GATE CHART		
PALLET UNIT TYPE	DIMENSION	
	A	B
6-LAYER UNIT	44"	48"
5-LAYER UNIT	37"	41"

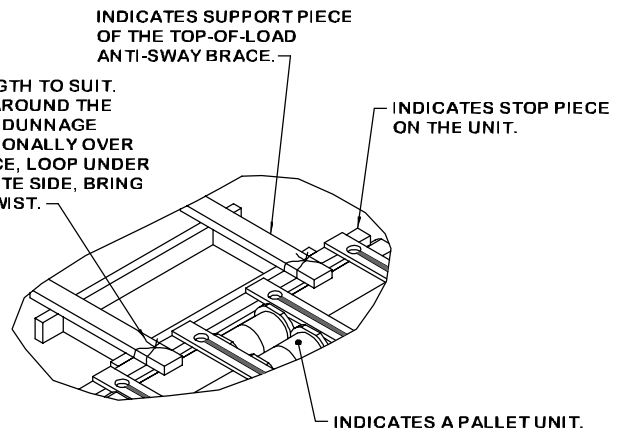
FABRICATE TO FIT AGAINST THE PALLET POSTS (REF: 33").



TOP-OF-LOAD ANTI-SWAY BRACE

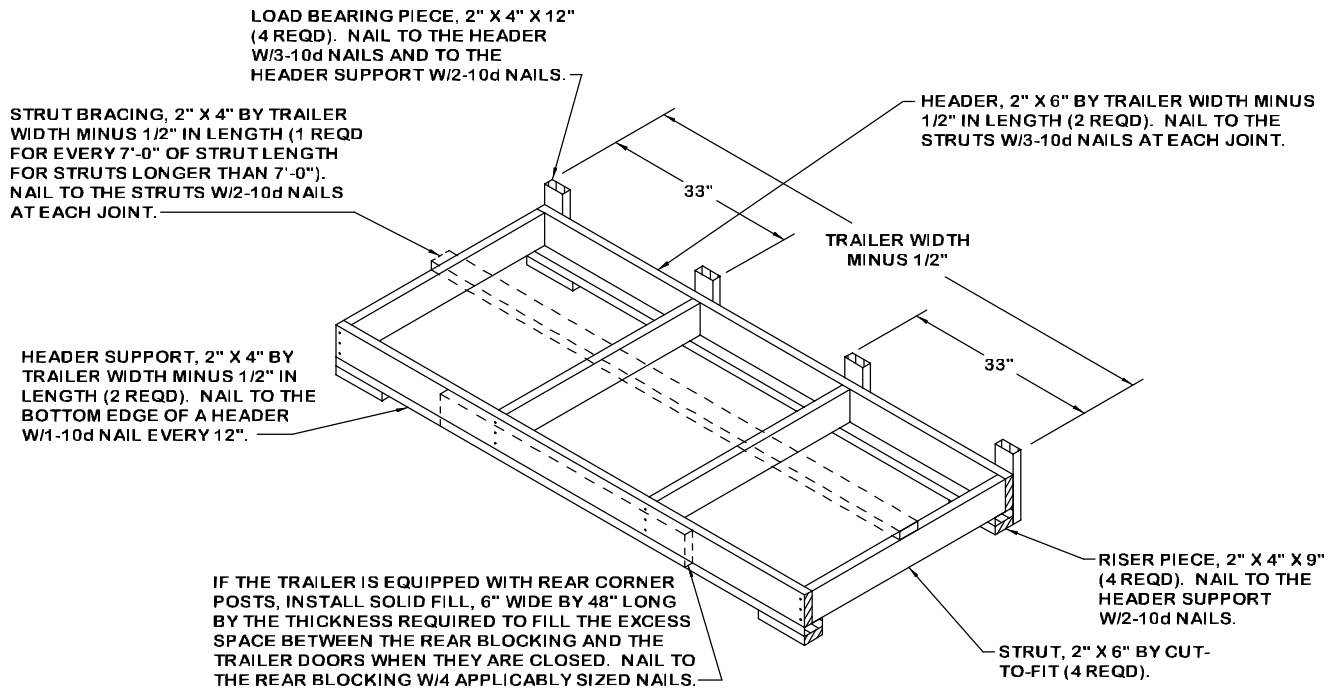
THIS ASSEMBLY IS DESIGNED FOR THE LATERAL BRACING OF A PALLET UNIT IN THE SECOND LAYER WHEN THERE IS NOT A PALLET UNIT DIRECTLY OPPOSITE IT AND TOP-OF-LOAD ANTI-SWAY BRACING IS REQUIRED.

.0800" DIA. WIRE BY LENGTH TO SUIT. EXTEND WIRE TO LOOP AROUND THE STOP PIECE ON THE TOP DUNNAGE ASSEMBLY. CROSS DIAGONALLY OVER TOP OF ANTI-SWAY BRACE, LOOP UNDER STOP PIECES ON OPPOSITE SIDE, BRING ENDS TOGETHER AND TWIST.



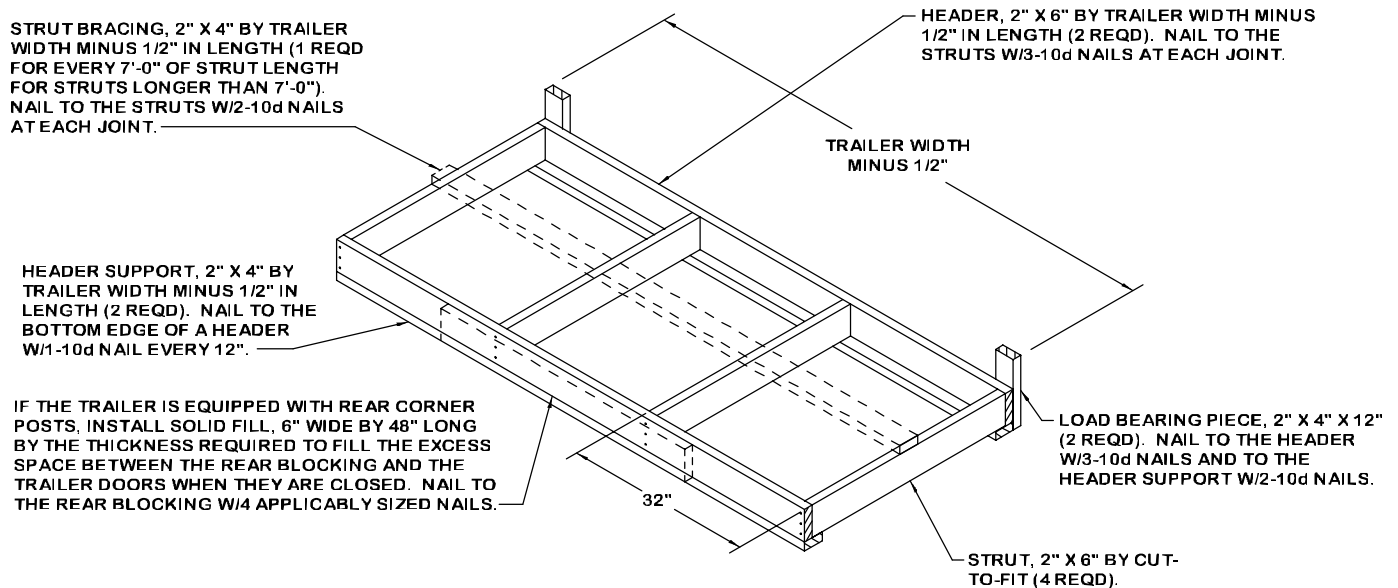
TIE WIRE APPLICATION

DETAILS



REAR BLOCKING ASSEMBLY A

THIS ASSEMBLY IS FOR USE AT THE REAR OF A LOAD IN A CONVENTIONAL VAN TRAILER WHEN THE REARMOST LOAD UNIT IS ONLY ONE UNIT IN HEIGHT AND THE EXCESS SPACE BETWEEN THE LADING AND THE TRAILER DOORS IS 9" OR GREATER.



REAR BLOCKING ASSEMBLY B

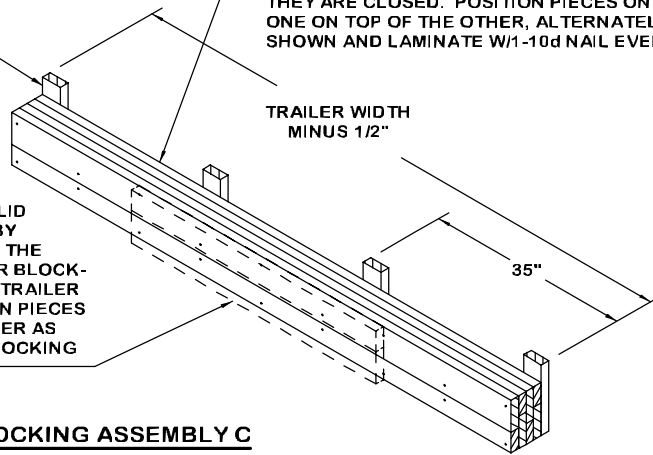
THIS ASSEMBLY IS FOR USE AT THE REAR OF A LOAD IN A CONVENTIONAL VAN TRAILER WHEN THE REARMOST LOAD UNIT IS STACKED TWO UNITS IN HEIGHT AND THE EXCESS SPACE BETWEEN THE LADING AND THE TRAILER DOORS IS 9" OR GREATER.

LOAD BEARING PIECE, 2" X 4" X 12"
(2 REQD IF REAR LOAD UNIT IS
STACKED, 4 REQD IF REAR LOAD
UNIT IS ONE-HIGH). NAIL TO THE
SOLID FILL W/5-10d NAILS.

SOLID FILL, 4" AND 6" WIDE MATERIAL BY TRAILER
WIDTH MINUS 1/2" IN LENGTH BY THE THICKNESS
REQUIRED TO CONTACT REAR CORNER POSTS OR
TO CONTACT REAR DOORS OF THE TRAILER WHEN
THEY ARE CLOSED. POSITION PIECES ON EDGE,
ONE ON TOP OF THE OTHER, ALTERNATELY AS
SHOWN AND LAMINATE W/1-10d NAIL EVERY 12".

TRAILER WIDTH
MINUS 1/2"

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 BLOCK-
ING AND THE REAR DOORS OF THE TRAILER
WHEN THEY ARE CLOSED. POSITION PIECES
ON EDGE, ONE ON TOP OF THE OTHER AS
SHOWN, AND NAIL TO THE REAR BLOCKING
W/4 APPLICABLY SIZED NAILS.



REAR BLOCKING ASSEMBLY C

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

40-5/8"

AS REQUIRED TO FILL THE VOID
BETWEEN PALLET UNIT AND
SIDEWALL OF TRAILER MINUS
1/2" (MAX).

STRUT SUPPORT, 2" X 4" BY
CUT-TO-FIT (2 REQD). NAIL TO
THE HEADER W/2-10d NAILS AT
EACH END AND TO THE STRUT
W/1-10d NAIL EVERY 6".

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

RISER, 2" X 4" X 6" (4 REQD). NAIL TO
A STRUT SUPPORT W/2-10d NAILS.

SIDE BLOCKING ASSEMBLY

THIS ASSEMBLY IS DESIGNED FOR USE AS LATERAL
BRACING IN THE LOAD ON PAGE 18.

LOAD
HEIGHT

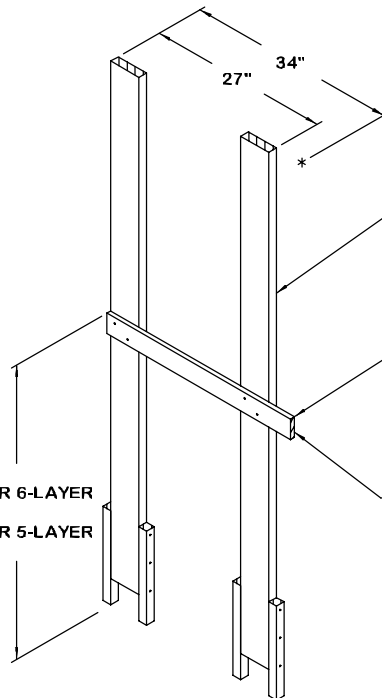
VERTICAL PIECE, 2" X 6" BY
LOAD HEIGHT MINUS 4-1/2"
(1 REQD).

SUPPORT LEG, 2" X 2" X 16"
(2 REQD). NAIL TO THE
VERTICAL PIECE W/3-10d
NAILS.

4-1/2"

16"

STRAPPING BOARD ASSEMBLY A



STRAPPING BOARD ASSEMBLY "A"
(2 REQD). SEE THE DETAIL AT LEFT.

TIE PIECE, 1" X 4" X 34" (1 REQD).
NAIL TO EACH STRAPPING BOARD
ASSEMBLY "A" W/2-6d NAILS.

POSITION WITH THIS END AGAINST
TRAILER SIDEWALL.

54" FOR 6-LAYER
47" FOR 5-LAYER

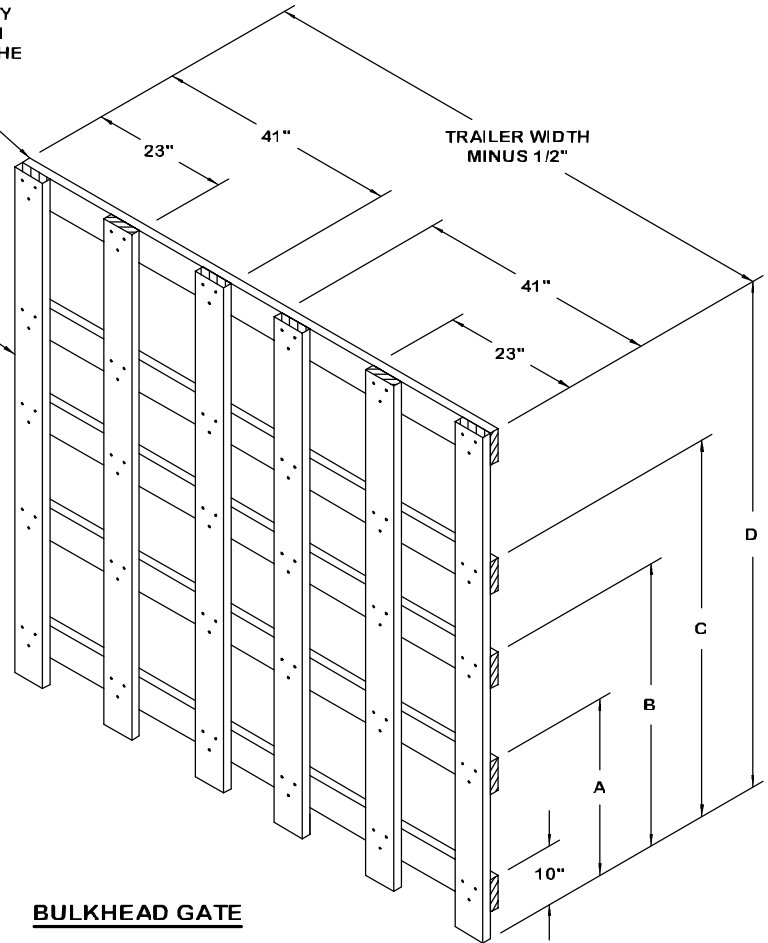
STRAPPING BOARD ASSEMBLY B

RIGHT HAND AND LEFT HAND ASSEMBLIES ARE REQUIRED.
THIS ASSEMBLY IS AN ALTERNATIVE FOR A PAIR OF
STRAPPING BOARD ASSEMBLIES "A".

DETAILS

HORIZONTAL PIECE, 2" X 6" BY TRAILER WIDTH MINUS 1/2" IN LENGTH (5 REQD). NAIL TO THE VERTICAL PIECES W/3-10d NAILS AT EACH JOINT.

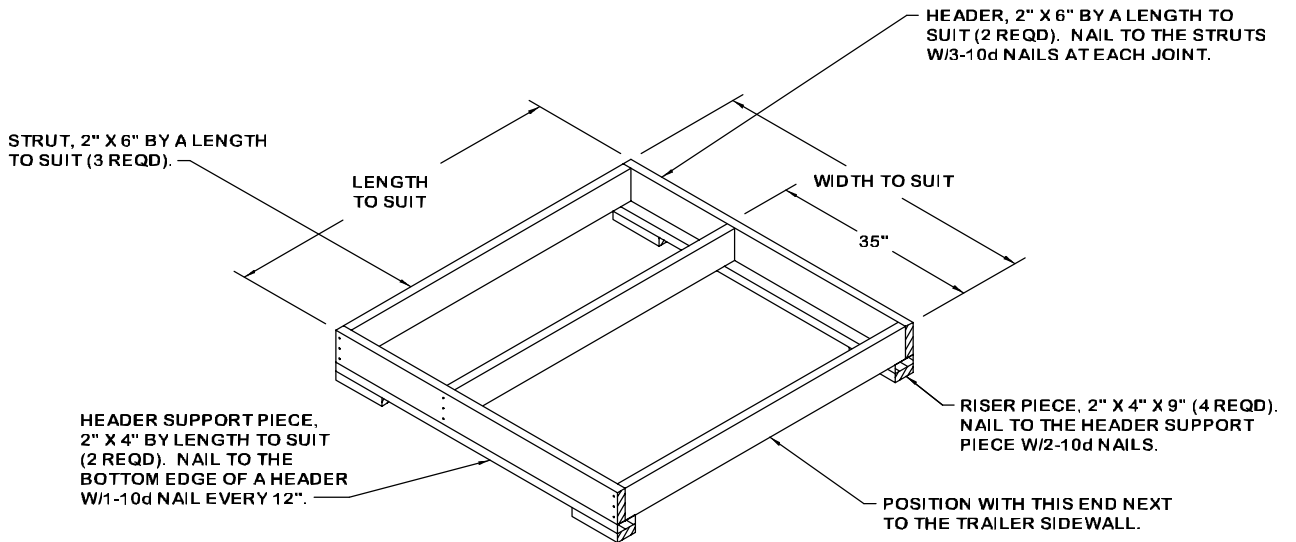
VERTICAL PIECE, 2" X 6" MATERIAL (6 REQD).



BULKHEAD GATE CHART				
PALLET UNIT TYPE	DIMENSTON			
	A	B	C	D
6-LAYER UNIT	30"	48"	64"	7'-2"
5-LAYER UNIT	23"	42"	57"	72"
6-L W/5-L ON TOP	30"	48"	64"	7'-2"

BULKHEAD GATE

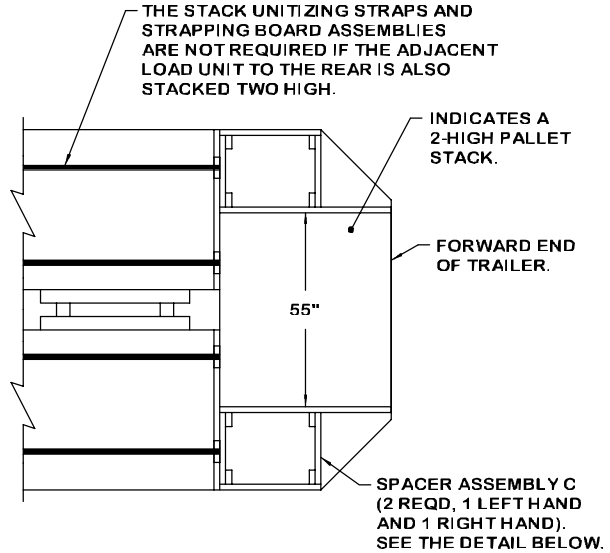
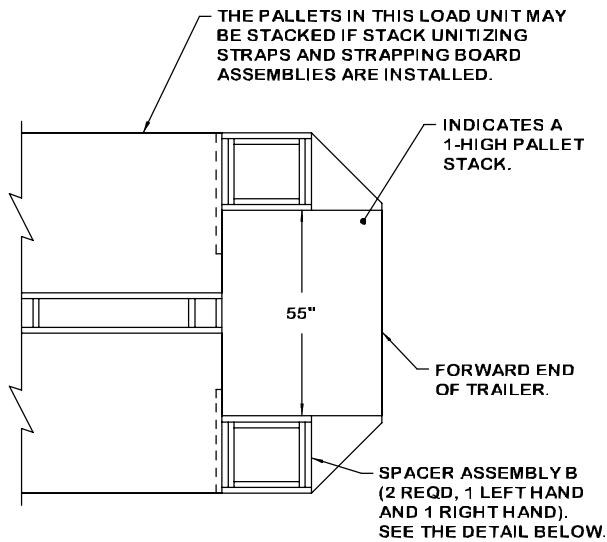
THIS GATE IS DESIGNED FOR USE IN THE ALTERNATIVE LOADING PROCEDURE LOAD ON PAGE 16.



SPACER ASSEMBLY A

THIS ASSEMBLY IS DESIGNED FOR USE IN THE PLACE OF A PALLET UNIT WHICH IS OMITTED FROM THE BOTTOM LAYER OF A LOAD IN A CONVENTIONAL VAN TRAILER, AS TYPICALLY SHOWN IN THE LOAD ON PAGE 16.

DETAILS



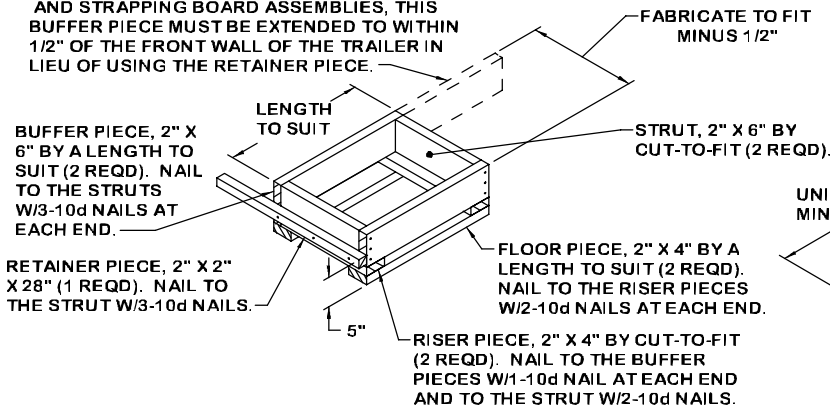
ALTERNATIVE FORWARD LOADING PATTERN A

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. THE 6-LAYER PALLET UNIT IS SHOWN. THE PROCEDURES ARE ALSO APPLICABLE FOR THE 5-LAYER PALLET UNIT DEPICTED ON PAGE 3.

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 PALLETS IN THE FRONT OF THE TRAILER IS ONLY ONE HIGH, TWO STACK UNITIZING STRAPS MUST BE INSTALLED AROUND THOSE PALLET UNITS IN THE FRONT STACK. THE 6-LAYER PALLET UNIT IS SHOWN. THE PROCEDURES ARE ALSO APPLICABLE FOR THE 5-LAYER PALLET UNIT DEPICTED ON PAGE 3.

IF THE LONGITUDINALLY ADJACENT LOAD UNIT IS STACKED AND SECURED WITH STRAPPING AND STRAPPING BOARD ASSEMBLIES, THIS BUFFER PIECE MUST BE EXTENDED TO WITHIN 1/2" OF THE FRONT WALL OF THE TRAILER IN LIEU OF USING THE RETAINER PIECE.

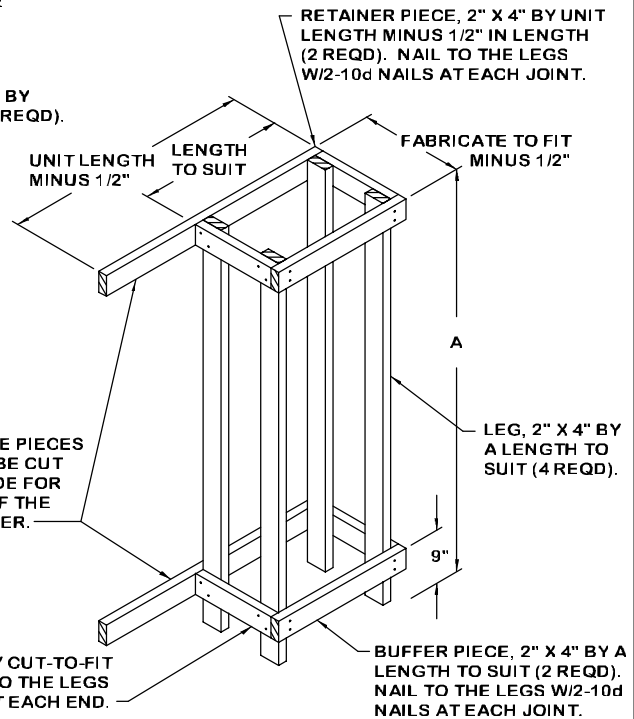


SPACER ASSEMBLY B

THIS ASSEMBLY IS DESIGNED FOR LATERAL BRACING OF A SINGLE PALLET UNIT WHICH IS TURNED 90° FROM THE NORMAL LOADING ORIENTATION AND POSITIONED IN THE FRONT OF AN ANGLED-CORNER CONVENTIONAL VAN TRAILER AS SHOWN IN THE "ALTERNATIVE FORWARD LOADING PATTERN A" VIEW ABOVE. RIGHT HAND AND LEFT HAND SPACER ASSEMBLIES ARE REQUIRED.

ENDS OF THESE PIECES MAY NEED TO BE CUT OFF TO PROVIDE FOR CLEARANCE OF THE ANGLED CORNER.

SPACER ASSEMBLY C CHART	
PALLET UNIT TYPE	DIM A
5-LAYER UNIT	71"
6-LAYER UNIT	6'-6"
6-L W/5-L ON TOP	6'-6"

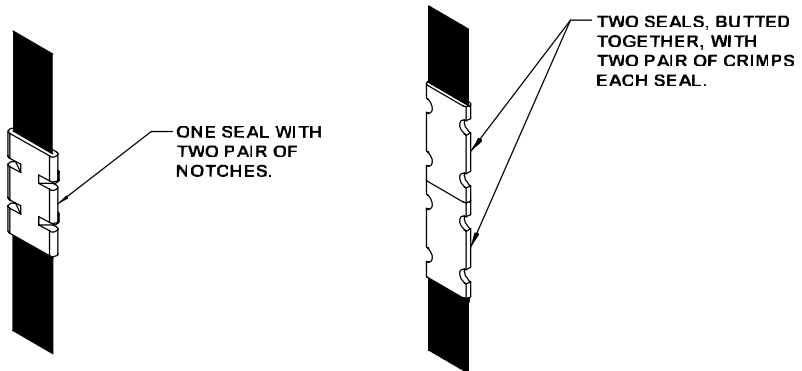


SPACER ASSEMBLY C

THIS ASSEMBLY IS DESIGNED FOR LATERAL BRACING OF A TWO-HIGH PALLET STACK WHICH IS TURNED 90° FROM THE NORMAL LOADING ORIENTATION AND POSITIONED 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.

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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

