LOADING AND BRACING (TL & LTL) IN VAN TRAILERS[®] OF VOLCANO MINE CANISTERS PACKED IN CYLINDRICAL METAL CONTAINERS

PA113 SERIES CONTAINERS

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[©] CAUTION: THE PROCEDURES SHOWN HEREIN ARE ONLY APPLICABLE FOR HIGHWAY MOVEMENTS, NOT FOR CONTAINER/TRAILER-ON-FLATCAR MOVEMENTS.

NOTE: THIS DRAWING SUPERSEDES AMC DRAWING 19-48-4213/12A-11PM1003, DATED SEPTEMBER 1989.

U.S. ARMY MATERIEL COMMAND DRAWING

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GENERAL NOTES

- A. THIS DOCUMENT HAS BEEN PREPARED AND ISSUED IN ACCOR-DANCE 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 VOLCANO MINE CANISTERS PACKED TWO PER PA113 CYLINDRICAL METAL CONTAINER. FOR DETAIL OF THE PALLET UNIT, SEE U.S. ARMY MATERIEL COMMAND DRAWING 19-48-4231/81-20PM1006 AND PAGE 3.
- C. THE OUTLOADING PROCEDURES DEPICTED WITHIN THIS DOCU-MENT 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 SHORT-EST 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.
- SELECTION OF A VEHICLE FOR THE TRANSPORT OF THE DESIG-NATED ITEM IS THE RESPONSIBILITY OF THE ORIGINATING CAR-RIER AND THE SHIPPER. ONLY VEHICLES IN ACCORDANCE WITH THE REQUIREMENTS OF THE APPLICABLE REGULATORY DOCU-MENTS 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 CAR-RIER 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 TRANS PORTED BY MOTOR CARRIER. LIKEWISE, THE GROSS WEIGHT ON A SINGLE OR TANDEM AXLE MUST NOT EXCEED THE MAXIMUM AL-LOWABLE 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 WEIGH-ING THE LOADED VEHICLE.
- NOTICE: A SHIPMENT WILL BE POSITIONED IN THE TRAILER CON-SISTENT 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, HOW-EVER, 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 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 VOLCANO MINE CANISTERS, PROVIDING THE TOTAL LOAD IS COMPATIBLE, EXISTING DIRECTIVES ARE NOT VIOLATED, AND THE OTHER LAD ING ITEMS ARE BLOCKED AND BRACED TO EQUAL THE BLOCKING AND BRACING CRITERIA SPECIFIED HEREIN.

(CONTINUED AT RIGHT)

MATERIAL SPECIFICATIONS LUMBER - - - - - -: SEE TM 743-200-1 (DUNNAGE LUMBER) AND

	VOLUNTARY PRODUCT STANDARD PS 20.
<u>NAILS</u> :	ASTM F1667; COMMON STEEL NAIL (NLCMS OR NLCMMS).
<u>PLYWOOD</u> :	COMMERCIAL ITEM DESCRIPTION A-A-55057, INDUSTRIAL PLYWOOD, INTERIOR WITH EXTERIOR GLUE, GRADE C-D. IF SPECIFIED GRADE IS NOT AVAILABLE, A BETTER INTERIOR OR AN EXTERIOR GRADE MAY BE SUBSTITUTED.
STRAPPING, STEEL:	ASTM D3953; FLAT STRAPPING, TYPE 1, HEAVY DUTY, FINISH A, B (GRADE 2), OR C.

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

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

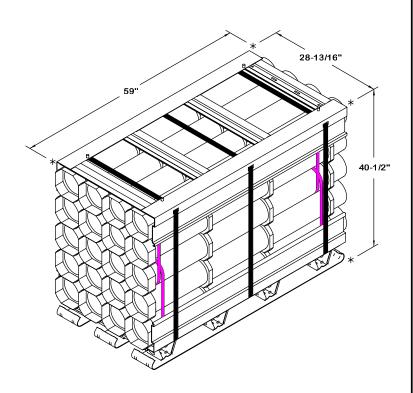
(GENERAL NOTES CONTINUED)

- J. SOME LOADS ARE SHOWN IN TRAILERS HAVING ROUNDED COR-NERS 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 3 FOR
- 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 WHER-EVER POSSIBLE WHEN NAILS ARE DRIVEN INTO JOINTS OF DUN-NAGE 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 FASTEN-ERS 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 AC-CORDANCE WITH ASTM F1667 AS NEARLY AS PRACTICABLE. STA-PLES 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 THESE ASSEMBLIES MAY BE ADJUSTED AS REQUIRED TO FACILITATE VARIANCE IN THE SIZE OF THE PALLET
- Q. IF THE VOID 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 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 23. IF THE VOID AT THE REAR OF THE LOAD IS 9" OR GREATER, USE THE "REAR BLOCKING ASSEMBLY A", AS DETAILED ON PAGE 22, IF A PALLET UNIT IS LOADED CROSSWISE AT THE REAR OF THE LOAD, OR USE THE "REAR BLOCKING ASSEMBLY B", AS DETAILED ON PAGE 23, IF THE PALLET UNITS ARE LOADED LENGTHWISE AT THE REAR OF THE LOAD. NOTE: REAR BLOCKING ASSEMBLIES MAY BE RE-PLACED WITH NAILED HEADERS AT THE REAR OF THE LOAD, PRO-VIDED THE TRAILER IS CONFIGURED SUCH AS TO ALLOW NAILING IN THE AREA IN QUESTION. REFER TO PIECE MARKED ③ ON PAGE 10 AND THE HEADER NAILING CHARTS ON PAGE 7 FOR GUIDANCE. CAUTION: THE NAILED HEADER METHOD IS REQUIRED WHEN LOADING VAN TRAILERS EQUIPPED WITH ROLL-UP TYPE DOORS.
- 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.

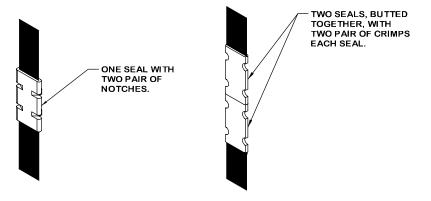
(CONTINUED ON PAGE 3)

(GENERAL NOTES CONTINUED)

- S. LONGITUDINALLY ADJACENT PALLET UNITS IN A TRAILER WILL BE POSITIONED WITH THE BASE END AGAINST BASE END OR BELL END AGAINST BELL END. THE FRONT LOAD UNIT IN A TRAILER WILL BE POSITIONED WITH THE BASE ENDS OF THE CONTAINERS TOWARD THE FRONT WALL OF THE TRAILER
- T. 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 20. FOR "SHIPMENT OF LEFTOVER CONTAINERS" SEE THE DETAILS ON PAGE 21.
- U. THESE PROCEDURES CAN ALSO BE UTILIZED FOR THE SHIPMENT OF PALLET UNITS OF PA113 CONTAINERS WHEN THEY ARE LOADED WITH AN ITEM OTHER THAN THE SPECIFIED MINE CANISTER, OR WHEN THEY ARE EMPTY.
- V. 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.
- W. FOR ADDITIONAL GUIDANCE, ATTENTION IS DI-RECTED TO THE "SPECIAL NOTES" SECTIONS WHICH ARE IMMEDIATELY ADJACENT TO THE DE-PICTED OUTLOADING METHODS.



PALLET UNIT



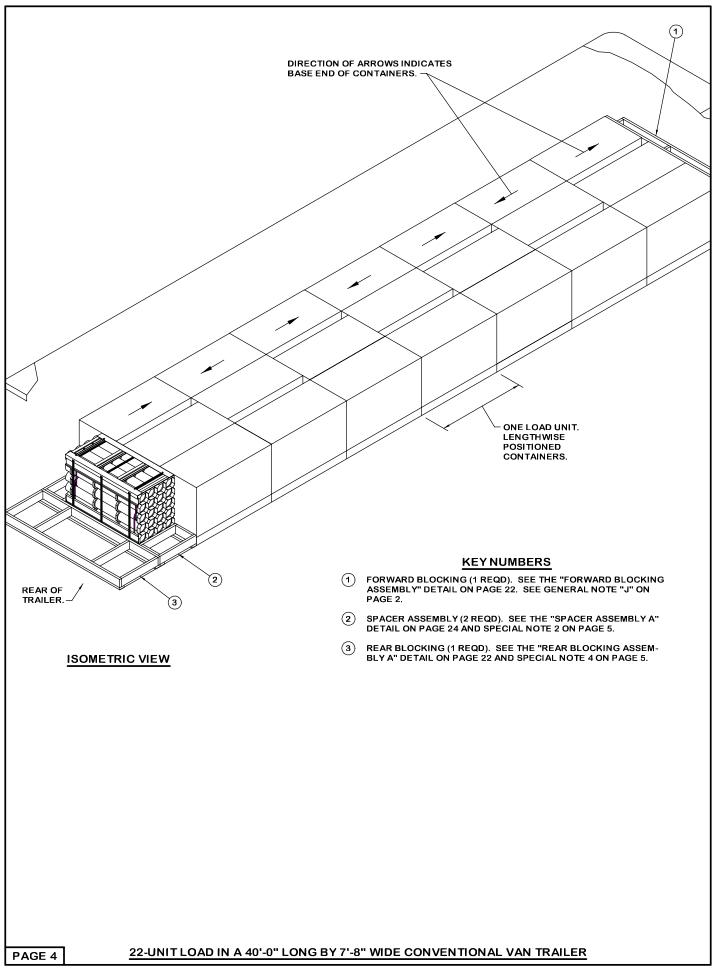
STRAP JOINT A

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



- A 22-UNIT LOAD IS SHOWN IN A 40'-0" LONG BY 7'-8" WIDE (INSIDE DIMENSION) CONVENTIONAL TYPE VAN TRAILER. TRAILERS OF OTHER DIMENSIONS CAN BE USED.
- 2. THE "SPACER ASSEMBLY A" IS ONLY FOR USE WHEN SHIPPING A LOAD WHICH CONTAINS ONE PALLET UNIT POSITIONED CROSSWISE AS SHOWN. IF A 21-UNIT LOAD OR ANY MULTIPLE OF THREE PALLET UNITS IS TO BE LOADED, THE SPACER ASSEMBLIES WILL NOT BE REQUIRED.
- 3. ANTI-SWAY BRACES ARE REQUIRED WHEN THE SPACE BETWEEN LATERALLY ADJACENT PALLET UNITS EXCEEDS 6", AS MEASURED FROM PALLET ADAPTER TO PALLET ADAPTER.
- 4. IF THE VOID 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 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 23. IF THE VOID AT THE REAR OF THE LOAD IS 9" OR GREATER, USE THE REAR BLOCKING ASSEMBLY "A", PIECE MARKED ③ ON PAGE 4, IF A PALLET UNIT IS LOADED CROSSWISE AT THE REAR OF THE LOAD, AS SHOWN; USE THE REAR BLOCKING ASSEMBLY "B", AS DETAILED ON PAGE 23, IF THE PALLET UNITS ARE LOADED LENGTHWISE AT THE REAR OF THE LOAD. 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 ③ ON PAGE 10 AND THE HEADER NAILING CHARTS ON PAGE 7 FOR GUIDANCE. CAUTION: THE NAILED HEADER METHOD IS REQUIRED WHEN LOADING VAN TRAILERS EQUIPPED WITH ROLL-UP TYPE DOORS.
- 5. ALTERNATE THE POSITION OF THE LATERAL VOID IN THE LOAD TO ENSURE A UNIFORM WEIGHT DISTRIBUTION ACROSS THE WIDTH OF THE TRAILER. AS DEPICTED IN THE LOAD ON PAGE 4.
- 6. THE DEPICTED LOAD MAY BE ADJUSTED TO SUIT THE QUANTITY TO BE SHIPPED, OR TO SUIT THE WEIGHT OF THE UNIT BEING LOADED. AN ENTIRE LOAD UNIT OR UNITS MAY BE OMITTED, THE CROSSWISE UNIT AT THE REAR OF THE LOAD MAY BE OMITTED, OR AN ADDITIONAL CROSSWISE UNIT MAY BE ADDED AT THE REAR OR THE FRONT OF THE LOAD. A COMBINATION OF THE METHODS DEPICTED ON PAGES 4, 6 AND 8 MAY BE EMPLOYED TO ACHIEVE THE DESIRED QUANTITY OF PALLET UNITS TO BE SHIPPED.
- 7. LEFTOVER CONTAINERS IN AN AMOUNT NOT TO EXCEED THREE CONTAINERS MAY BE SECURED TO THE TOP OF A FULL PALLET UNIT FOR SHIPMENT. REFER TO THE "PROCEDURES FOR SHIPMENT OF LEFTOVER CONTAINERS" ON PAGE 21 FOR GUIDANCE.
- 8. REFER TO PAGE 20 FOR GUIDANCE IN THE SHIPMENT OF PARTIAL PALLET UNITS.

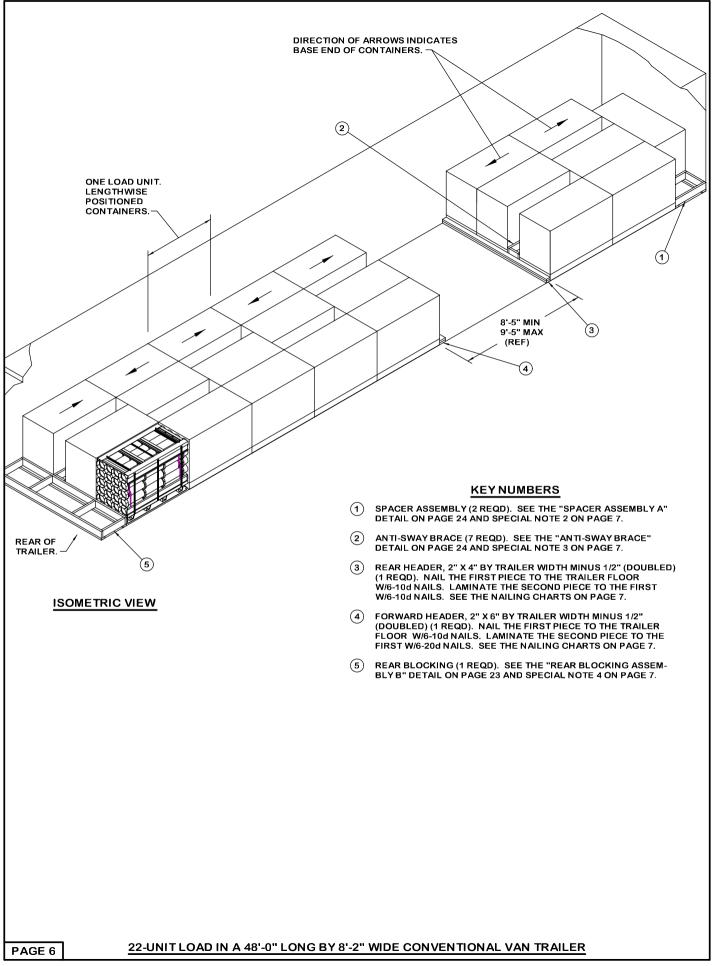
BILL OF MATERIAL			
LUMBER	LINEAR FEET	BOARD FEET	
2" x 4" 2" x 6"	39 66	26 66	
NAILS	NO. REQD	POUNDS	
10d (3")	114	2	

LOAD AS SHOWN

ITEM	QUANTITY	$\underline{\texttt{WEIGHT}}$ (APPROX)
	22 	

TOTAL WEIGHT - - - - - - 42,820 LBS (APPROX)

22-UNIT LOAD IN A 40'-0" LONG BY 7'-8" WIDE CONVENTIONAL VAN TRAILER



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 7 8 9 10 11 12 13 14 15 16 17	15,000 17,500 20,000 22,500 25,000 27,500 30,000 32,500 35,000 40,000 42,500 45,000		

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

SPECIAL NOTES:

- A 22-UNIT LOAD IS SHOWN IN A 48'-0" LONG BY 8'-2" WIDE (INSIDE DIMENSION) CONVENTIONAL TYPE VAN TRAILER. TRAILERS OF OTHER DIMENSIONS CAN BE USED.
- 2. THE "SPACER ASSEMBLY A" IS ONLY FOR USE WHEN SHIPPING A LOAD WHICH CONTAINS ONE PALLET UNIT POSITIONED CROSSWISE AS SHOWN. IF A 21-UNIT LOAD OR ANY MULTIPLE OF THREE PALLET UNITS IS TO BE LOADED, THE SPACER ASSEMBLIES WILL NOT BE REQUIRED.
- 3. ANTI-SWAY BRACES MAY BE OMITTED WHEN THE SPACE BETWEEN LATERALLY ADJACENT PALLET UNITS IS 6" OR LESS, AS MEASURED FROM PALLET ADAPTER TO PALLET ADAPTER.
- 4. IF THE VOID 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 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 23. IF THE VOID AT THE REAR OF THE LOAD IS 9" OR GREATER, USE THE REAR BLOCKING ASSEMBLY "B", PIECE MARKED (5) ON PAGE 6, IF THE PALLET UNITS ARE LOADED LENGTHWISE AT THE REAR OF THE LOAD, AS SHOWN; USE THE REAR BLOCKING ASSEMBLY "A", AS DETAILED ON PAGE 22, IF A PALLET UNIT IS LOADED CROSSWISE AT THE REAR OF THE LOAD. NOTE: REAR BLOCKING ASSEMBLIES MAY BE REPLACED WITH NAILED HEADERS AT THE REAR OF THE LOAD, PROVIDED THE TRAILER IS CONFIGURED SUCH AS TO AL-LOW NAILING IN THE AREA IN QUESTION. REFER TO PIECE MARKED ③ ON PAGE 10 AND THE HEADER NAILING CHARTS AT LEFT FOR GUIDANCE. CAUTION: THE NAILED HEADER METHOD IS REQUIRED WHEN LOADING VAN TRAILERS EQUIPPED WITH ROLL-UP TYPE DOORS.
- 5. ALTERNATE THE POSITION OF THE LATERAL VOID IN THE LOAD TO ENSURE A UNIFORM WEIGHT DISTRIBUTION ACROSS THE WIDTH OF THE TRAILER. AS DEPICTED IN THE LOAD ON PAGE 6.
- 6. THE DEPICTED LOAD MAY BE ADJUSTED TO SUIT THE QUANTITY TO BE SHIPPED, OR TO SUIT THE WEIGHT OF THE UNIT BEING LOADED. AN ENTIRE LOAD UNIT OR UNITS MAY BE OMITTED, THE CROSSWISE UNIT AT THE FRONT OF THE LOAD MAY BE OMITTED, OR AN ADDITIONAL CROSSWISE UNIT MAY BE ADDED AT THE FRONT OR REAR OF THE LOAD. A COMBINATION OF THE METHODS DEPICTED ON PAGES 4, 6 AND 8 MAY BE EMPLOYED TO ACHIEVE THE DESIRED QUANTITY OF PALLET UNITS TO BE SHIPPED.
- 7. LEFTOVER CONTAINERS IN AN AMOUNT NOT TO EXCEED THREE CONTAINERS MAY BE SECURED TO THE TOP OF A FULL PALLET UNIT FOR SHIPMENT. REFER TO THE "PROCEDURES FOR SHIPMENT OF LEFTOVER CONTAINERS" ON PAGE 21 FOR GUIDANCE.
- 8. REFER TO PAGE 20 FOR GUIDANCE IN THE SHIPMENT OF PARTIAL PALLET UNITS.

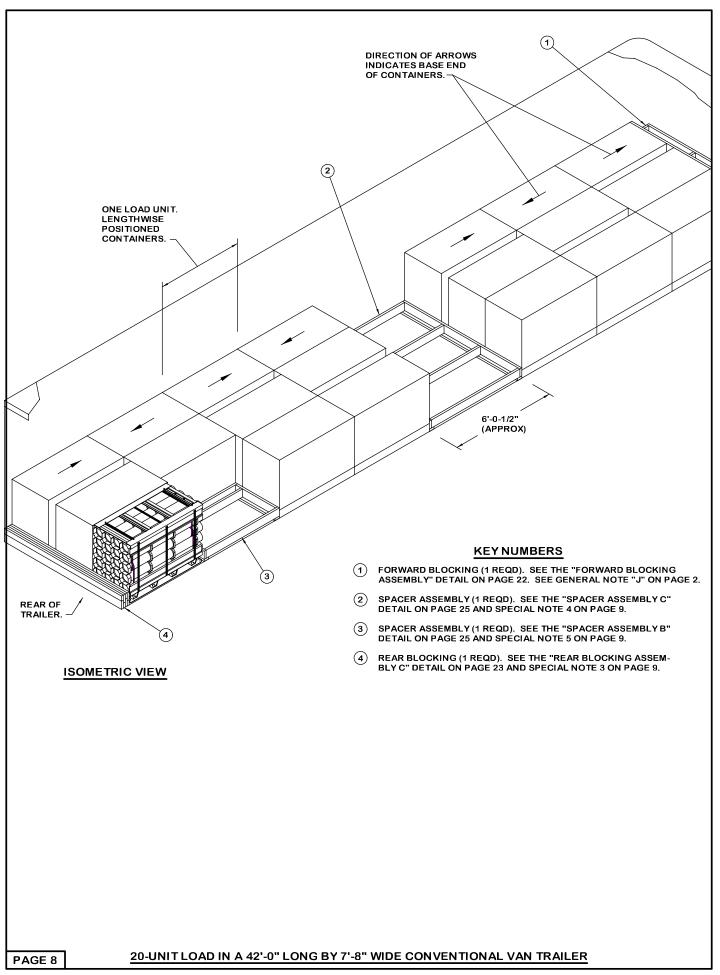
BILL OF MATERIAL			
LUMBER	LINEAR FEET	BOARD FEET	
2" x 4" 2" x 6"	56 132	38 132	
NAILS	NO. REQD	POUNDS	
10d (3") 20d (4")	244 6	4 1/4	

LOAD AS SHOWN

ITEM	QUANTITY WEIGHT	(APPROX)
	· 22 42,636 · 341	

TOTAL WEIGHT - - - - - - 42,977 LBS (APPROX)

22-UNIT LOAD IN A 48'-0" LONG BY 8'-2" WIDE CONVENTIONAL VAN TRAILER



- A 20-UNIT LOAD IS SHOWN IN A 42'-0" LONG BY 7'-8" WIDE (INSIDE DIMENSION) CONVENTIONAL TYPE VAN TRAILER. TRAILERS OF OTHER DIMENSIONS CAN BE USED.
- 2. ANTI-SWAY BRACES ARE REQUIRED WHEN THE SPACE BETWEEN LATERALLY ADJACENT PALLET UNITS EXCEEDS 6", AS MEASURED FROM PALLET ADAPTER.
- 3. IF THE VOID 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 VOID AT THE REAR OF THE LOAD IS GREATER THAN 1-1/2" BUT LESS THAN 9", USE REAR BLOCKING ASSEMBLY "C", PIECE MARKED ④ ON PAGE 8. IF THE VOID AT THE REAR OF THE LOAD IS 9" OR GREATER, USE THE REAR BLOCKING ASSEMBLY "A", AS DETAILED ON PAGE 22, IF A PALLET UNIT IS LOADED CROSSWISE AT THE REAR OF THE LOAD; USE THE REAR BLOCKING ASSEMBLY "B", AS DETAILED ON PAGE 23, IF THE PALLET UNITS ARE LOADED LENGTHWISE AT THE REAR OF THE LOAD. 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 ③ ON PAGE 10 AND THE HEADER NAILING CHARTS ON PAGE 7 FOR GUIDANCE. CAUTION: THE NAILED HEADER METHOD IS REQUIRED WHEN LOADING VAN TRAILERS EQUIPPED WITH ROLL-UP TYPE DOORS.
- 4. SPACER ASSEMBLY "C", SHOWN AS PIECE MARKED ② IN THE LOAD ON PAGE 8, IS TO BE USED FOR THE PURPOSE OF PROVIDING PROPER WEIGHT DISTRIBUTION, AND IS SHOWN AS TYPICAL ONLY. IF THE TRAILER TO BE LOADED IS LONGER THAN 42', 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 "C" MUST NOT BE POSITIONED ADJACENT TO THE FORWARD BLOCKING ASSEMBLY, PIECE MARKED ①.
- 5. SPACER ASSEMBLY "B" SHOWN AS PIECE MARKED ③ 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 ③ 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, PIECE MARKED ①.
- ALTERNATE THE POSITION OF THE LATERAL VOID IN THE LOAD TO ENSURE A UNIFORM WEIGHT DISTRIBUTION ACROSS THE WIDTH OF THE TRAILER, AS DEPICTED IN THE LOAD ON PAGE 8.
- 7. THE DEPICTED LOAD MAY BE ADJUSTED TO SUIT THE QUANTITY TO BE SHIPPED, OR TO SUIT THE WEIGHT OF THE UNIT BEING LOADED. A LOAD CAN BE REDUCED BY A MULTIPLE OF THREE UNITS BY OMITTING ONE OR MORE FULL LOAD UNITS FROM THE LOAD; OR, ONE OR MORE PALLET UNITS CAN BE ADDED TO OR OMITTED FROM THE LOAD. A COMBINATION OF THE METHODS DEPICTED ON PAGES 4, 6 AND 8 MAY BE EMPLOYED TO ACHIEVE THE DESIRED QUANTITY OF PALLET UNITS TO BE SHIPPED.
- 8. LEFTOVER CONTAINERS IN AN AMOUNT NOT TO EXCEED THREE CONTAINERS MAY BE SECURED TO THE TOP OF A FULL PALLET UNIT FOR SHIPMENT. REFER TO THE "PROCEDURES FOR SHIPMENT OF LEFTOVER CONTAINERS" ON PAGE 21 FOR GUIDANCE.
- 9. REFER TO PAGE 20 FOR GUIDANCE IN THE SHIPMENT OF PARTIAL PALLET UNITS.

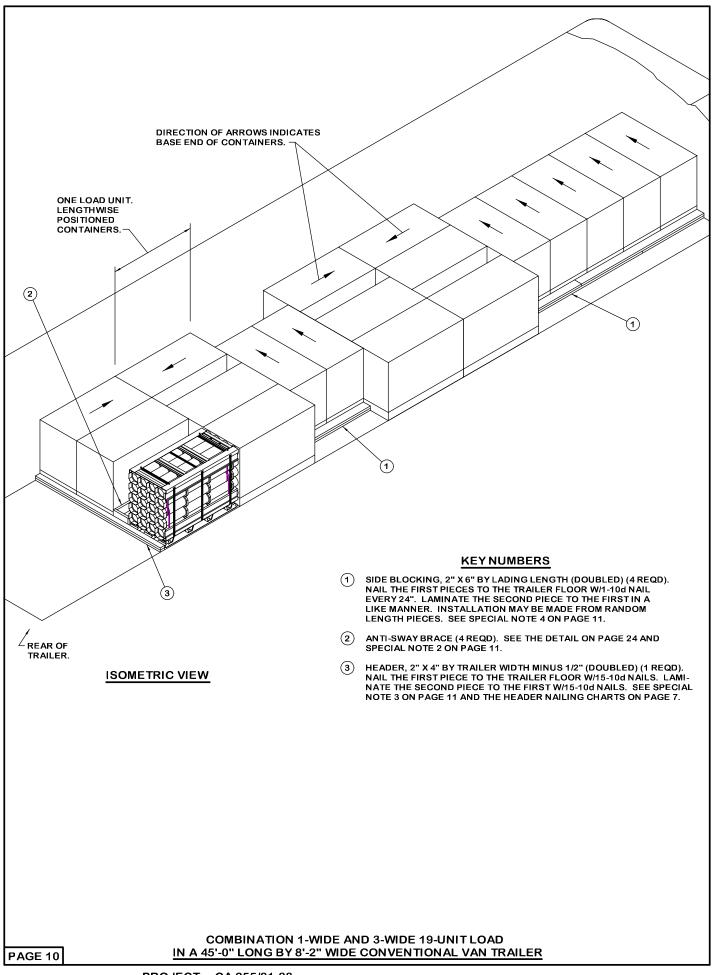
BILL OF MATERIAL			
LUMBER	LINEAR FEET	BOARD FEET	
2" x 4" 2" x 6"	65 117	43 117	
NAILS	NO. REQD	POUNDS	
10d (3")	136	2-1/4	

LOAD AS SHOWN

ITEM	QUANTITY	$\underline{\text{WEIGHT}}$ (APPROX)
	20	

TOTAL WEIGHT - - - - - - 39,081 LBS (APPROX)

20-UNIT LOAD IN A 42'-0" LONG BY 7'-8" WIDE CONVENTIONAL VAN TRAILER



- 1. A 19-UNIT LOAD IS SHOWN IN A 45'-0" LONG BY 8'-2" WIDE (INSIDE DIMENSION) CONVENTIONAL TYPE VAN TRAILER. TRAILERS OF OTHER DIMENSIONS CAN BE USED.
- 2. ANTI-SWAY BRACES MAY BE OMITTED WHEN THE SPACE BETWEEN LATERALLY ADJACENT PALLET UNITS IS 6" OR LESS, AS MEASURED FROM PALLET ADAPTER TO PALLET ADAPTER.
- 3. IF THE VOID 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 VOID AT THE REAR OF THE LOAD IS GREATER THAN 1-1/2" BUT LESS THAN 9", USE THE REAR BLOCKING ASSEMBLY "C", AS DETAILED ON PAGE 23, OR A NAILED HEADER, AS SHOWN. IF THE VOID AT THE REAR OF THE LOAD IS 9" OR GREATER, USE THE REAR BLOCKING ASSEMBLY "A", AS DETAILED ON PAGE 22, IF A PALLET UNIT IS LOADED CROSSWISE AT THE REAR OF THE LOAD; USE THE REAR BLOCKING ASSEMBLY "B", AS DETAILED ON PAGE 23, IF THE PALLET UNITS ARE LOADED LENGTHWISE AT THE REAR OF THE LOAD; OR, USE A NAILED HEADER, AS SHOWN. IF THE TRAILER IS EQUIPPED WITH A METAL THRESHOLD PLATE AND IT INTERFERES WITH THE NAILING OF PIECE MARKED ③, ONE OF THE REAR BLOCKING ASSEMBLIES DESCRIBED ABOVE MUST BE USED. CAUTION: THE NAILER SEQUIPPED WITH ROLL-UP TYPE DOORS.
- 4. IF DESIRED, SIDE SPACER ASSEMBLIES, AS DEPICTED ON PAGE 24, MAY BE USED IN LIEU OF THE SIDE BLOCKING, PIECE MARKED ①. SEE THE LOAD ON PAGE 12 FOR DETAILS.
- 5. ALTERNATE THE POSITION OF THE LATERAL VOID IN THE LOAD TO ENSURE A UNIFORM WEIGHT DISTRIBUTION ACROSS THE WIDTH OF THE TRAILER, AS DEPICTED IN THE LOAD ON PAGE 10.
- 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 LOAD CAN BE INCREASED BY REPLACING SOME OF THE 1-WIDE UNITS WITH 3-WIDE UNITS, OR THE LOAD CAN BE REDUCED BY REPLACING 3-WIDE PORTIONS WITH SINGLE UNITS.
- 7. LEFTOVER CONTAINERS IN AN AMOUNT NOT TO EXCEED THREE CONTAINERS MAY BE SECURED TO THE TOP OF A FULL PALLET UNIT FOR SHIPMENT. REFER TO THE "PROCEDURES FOR SHIPMENT OF LEFTOVER CONTAINERS" ON PAGE 21 FOR GUIDANCE.
- 8. REFER TO PAGE 20 FOR GUIDANCE IN THE SHIPMENT OF PARTIAL PALLET UNITS.

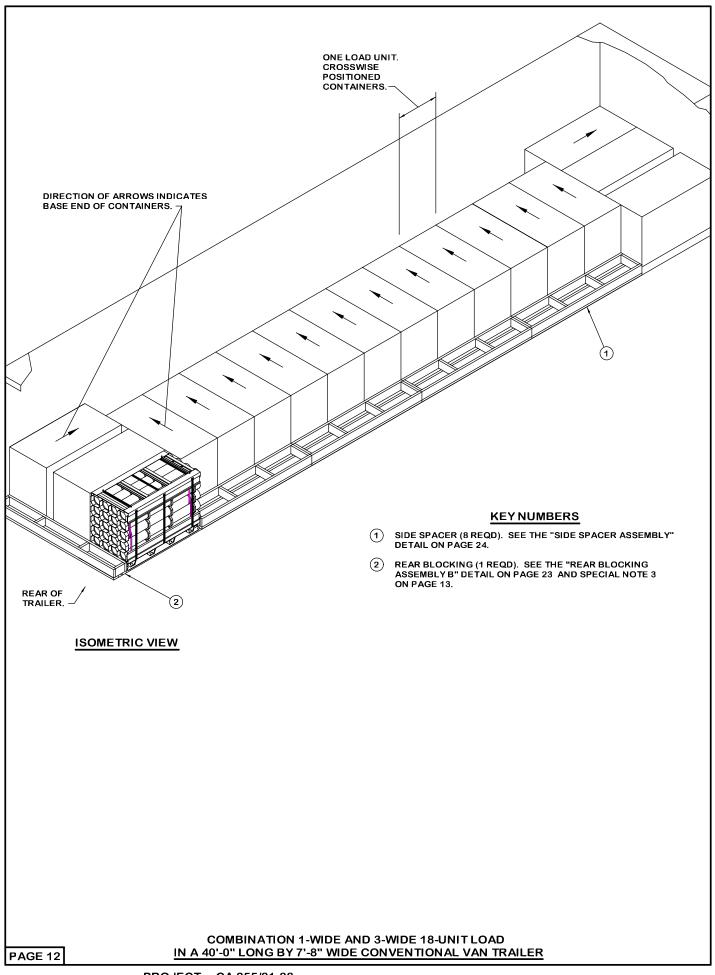
BILL OF MATERIAL			
LUMBER	LINEAR FEET	BOARD FEET	
2" x 4" 2" x 6"	24 113	16 113	
NAILS	NO. REQD	POUNDS	
10d (3")	142	2-1/4	

LOAD AS SHOWN

<u>ITEM</u>	QUANTITY	WEIGHT (APPROX)
PALLET UNIT DUNNAGE		

TOTAL WEIGHT - - - - - - 37,081 LBS (APPROX)

COMBINATION 1-WIDE AND 3-WIDE 19-UNIT LOAD
IN A 45'-0" LONG BY 8'-2" WIDE CONVENTIONAL VAN TRAILER



- 1. AN 18-UNIT COMBINATION LOAD IS SHOWN IN A 40'-0" LONG BY 7'-8" WIDE (INSIDE DIMENSION) CONVENTIONAL TYPE VAN TRAILER, TRAILERS OF OTHER DIMENSIONS CAN BE USED.
- ANTI-SWAY BRACES ARE REQUIRED WHEN THE SPACE BETWEEN LATERALLY ADJACENT UNITS EXCEEDS 6", AS MEASURED FROM PALLET ADAPTER TO PALLET ADAPTER.
- 3. IF THE VOID 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 VOID AT THE REAR OF THE LOAD IS GREATER THAN 1-1/2" BUT LESS THAN 9", USE THE REAR BLOCKING ASSEMBLY "C", AS DETAILED ON PAGE 23. IF THE VOID AT THE REAR OF THE LOAD IS 9" OR GREATER, USE THE REAR BLOCKING ASSEMBLY "B", AS SHOWN, IF THE PALLET UNITS ARE LOADED LENGTHWISE AT THE REAR OF THE LOAD; OR, USE THE REAR BLOCKING ASSEMBLY "A", AS DETAILED ON PAGE 22, IF A PALLET UNIT IS LOADED CROSSWISE AT THE REAR OF THE LOAD. 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 ③ ON PAGE 10 AND THE HEADER NAILING CHARTS ON PAGE 7 FOR GUIDANCE. CAUTION: THE NAILED HEADER METHOD IS REQUIRED WHEN LOADING VAN TRAILERS EQUIPPED WITH ROLL-UP TYPE DOORS.
- 4. IF THE TRAILER BEING LOADED IS EQUIPPED WITH A WOOD OR WOOD AND METAL FLOOR, AND IF DESIRED, NAILED SIDE BLOCKING MAY BE USED IN LIEU OF THE SIDE SPACER ASSEMBLIES, PIECE MARKED ①. SIDE BLOCKING SHOULD BE DOUBLED 2" X 6" MATERIAL. SEE THE LOAD ON PAGE 10 FOR DETAILS.
- 5. ALTERNATE THE POSITION OF THE LATERAL VOID IN THREE-WIDE LOAD UNITS TO ENSURE A UNIFORM LOAD, AS DEPICTED IN THE LOAD ON PAGE 12.
- 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 LOAD CAN BE INCREASED BY REPLACING SOME OF THE 1-WIDE UNITS WITH 3-WIDE UNITS, OR THE LOAD CAN BE REDUCED BY REPLACING 3-WIDE PORTIONS WITH SINGLE UNITS.
- 7. LEFTOVER CONTAINERS IN AN AMOUNT NOT TO EXCEED THREE CONTAINERS MAY BE SECURED TO THE TOP OF A FULL PALLET UNIT FOR SHIPMENT. REFER TO THE "PROCEDURES FOR SHIPMENT OF LEFTOVER CONTAINERS" ON PAGE 21 FOR GUIDANCE.
- 8. REFER TO PAGE 20 FOR GUIDANCE IN THE SHIPMENT OF PARTIAL PALLET UNITS.

BILL OF MATERIAL				
LUMBER	LINEAR FEET	BOARD FEET		
2" x 4" 2" x 6"	130 168	87 168		
NAILS	NO. REQD	POUNDS		
10d (3")	342	5-1/2		

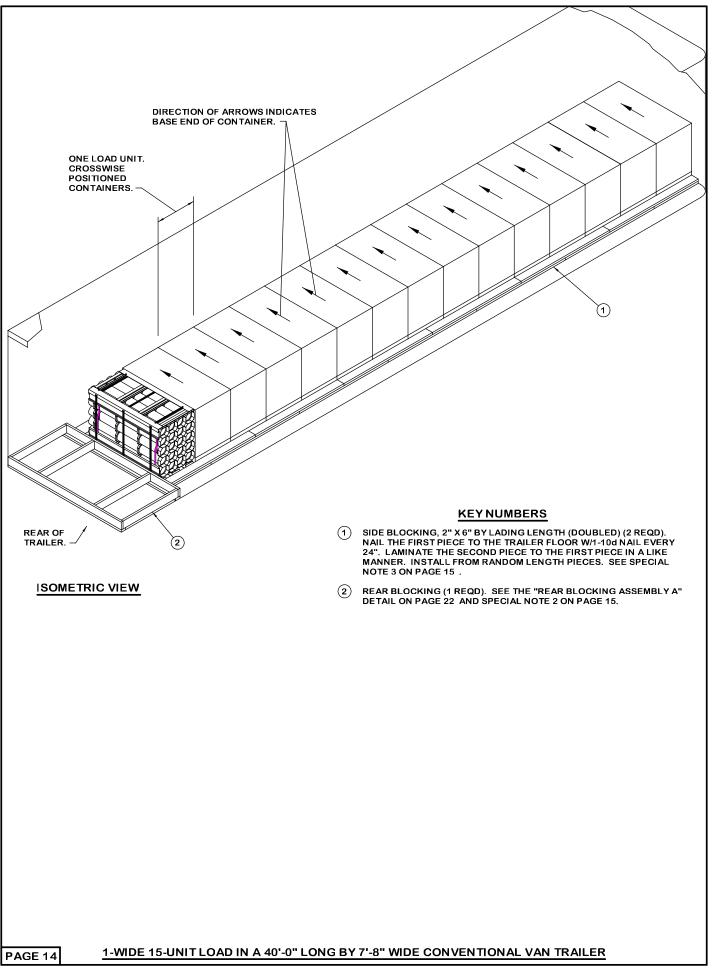
LOAD AS SHOWN

ITEM	QUANTITY	WEIGHT (APPROX)
	18	

TOTAL WEIGHT - - - - - - 35, 397 LBS (APPROX)

COMBINATION 1-WIDE AND 3-WIDE 18-UNIT LOAD

IN A 40'-0" LONG BY 7'-8" WIDE CONVENTIONAL VAN TRAILER



- 1. A 1-WIDE 15-UNIT LOAD IS SHOWN IN A 40'-0" LONG BY 7'-8" WIDE (INSIDE DIMENSION) CONVENTIONAL TYPE VAN TRAILER. TRAILERS OF OTHER DIMENSIONS CAN BE USED.
- 2. IF THE VOID 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 VOID AT THE REAR OF THE LOAD IS GREATER THAN 1-1/2" BUT LESS THAN 9", USE THE REAR BLOCKING ASSEMBLY "C", AS DETAILED ON PAGE 23. IF THE VOID AT THE REAR OF THE LOAD IS 9" OR GREATER, USE THE REAR BLOCKING ASSEMBLY "A", 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 ③ ON PAGE 10 AND THE HEADER NAILING CHARTS ON PAGE 7 FOR GUIDANCE. CAUTION: THE NAILED HEADER METHOD IS REQUIRED WHEN LOADING VAN TRAILERS EQUIPPED WITH ROLL-UP TYPE DOORS.
- 3. IF DESIRED, SIDE SPACER ASSEMBLIES, AS DEPICTED ON PAGE 24, MAY BE USED IN LIEU OF THE SIDE BLOCKING, PIECE MARKED

 1. SEE THE LOAD ON PAGE 12 FOR DETAILS.
- THE DEPICTED LOAD CAN BE ADJUSTED TO SUIT THE QUANTITY TO BE SHIPPED, OR TO SUIT THE WEIGHT OF THE UNIT BEING LOADED.
- LEFTOVER CONTAINERS IN AN AMOUNT NOT TO EXCEED THREE CONTAINERS MAY BE SECURED TO THE TOP OF A FULL PALLET UNIT FOR SHIPMENT. REFER TO THE "PROCEDURES FOR SHIPMENT OF LEFTOVER CONTAINERS" ON PAGE 21 FOR GUIDANCE.
- REFER TO PAGE 20 FOR GUIDANCE IN THE SHIPMENT OF PARTIAL PALLET UNITS.

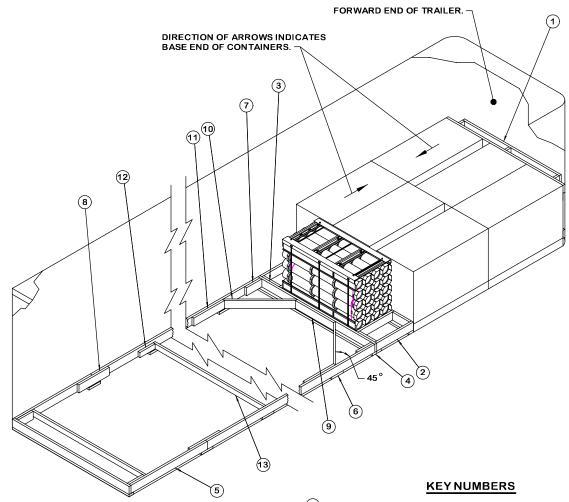
BILL OF MATERIAL				
LUMBER	LINEAR FEET	BOARD FEET		
2" x 4" 2" x 6"	16 173	11 173		
NAILS	NO. REQD	POUNDS		
10d (3")	110	1-3/4		

LOAD AS SHOWN

ITEM	QUANTITY	WEIGHT (APPROX)
PALLET UNIT DUNNAGE	15	29,070 LBS 367 LBS

TOTAL WEIGHT - - - - - - 29, 437 LBS (APPROX)

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



(KEY NUMBERS CONTINUED)

ISOMETRIC VIEW

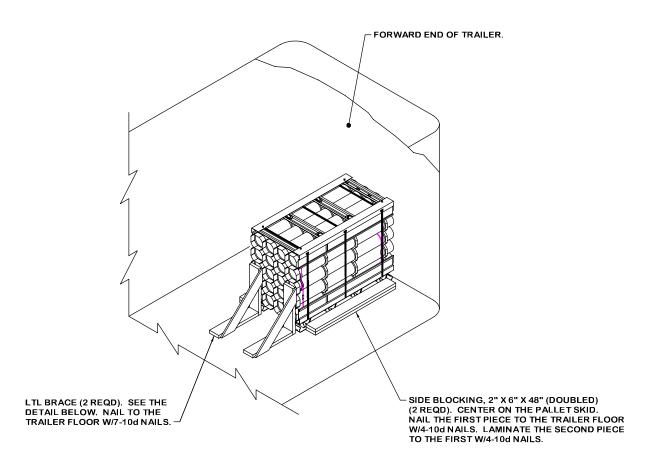
- (10) DIAGONAL BRACE, 2" X 6" BY CUT TO FIT (2 REQD). DOUBLE BEVEL EACH END WITH 45° CUTS. INSTALL AT A 45° ANGLE AS SHOWN AND TOENAIL TO THE ADJACENT HEADER AND SIDE STRUT, PIECES MARKED ③ AND ⑤, W/2-16d NAILS AT EACH END.
- (1) BACK-UP CLEAT, 2" X 6" X 24" (2 REQD). NAIL TO A SIDE STRUT, PIECE MARKED (5), W/8-10d NAILS.
- (12) STRUT BRACE RETAINING CLEAT, 2" X 4" X 12" (AS REQD). NAIL TO A SIDE STRUT, PIECE MARKED (5), W/3-10d NAILS. SEE SPECIAL NOTE 5 ON PAGE 17.
- (3) STRUT BRACE, 2" X 4" BY TRAILER WIDTH MINUS 3" IN LENGTH (MINIMUM OF ONE REQUIRED). NAIL TO THE POCKET CLEATS, PIECES MARKED (7), AND/OR TO THE STRUT BRACE RETAINING CLEATS, PIECES MARKED (12), W/2-12d NAILS AT EACH END. SEE SPECIAL NOTE 5 ON PAGE 17.

- (1) FORWARD BLOCKING (1 REQD). SEE THE "FORWARD BLOCKING ASSEMBLY" DETAIL ON PAGE 22. SEE GENERAL NOTE "J" ON PAGE 2.
- ② SPACER ASSEMBLY (2 REQD). SEE THE "SPACER ASSEMBLY A" DETAIL ON PAGE 24. SEE SPECIAL NOTE 3 ON PAGE 17.
- (3) HEADER, 2" X 6" BY TRAILER WIDTH MINUS 1/2" IN LENGTH (2 REQD). SEE SPECIAL NOTE 7 ON PAGE17.
- 4 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 (3), W/1-10d NAIL EVERY 8".
- (5) SIDE STRUT, 2" X 6" BY CUT TO FIT BETWEEN THE FORWARD AND REAR HEADERS, PIECES MARKED (3) (2 REQD). SEE SPECIAL NOTE 4 ON PAGE 17.
- (6) RISER PIECE, 2" X 4" X 9" (AS REQD). CENTER UNDER THE JOINTS OF PIECES MARKED (10) AND (11), (12) AND (13), AND UNDER THE SPLICE OF PIECES MARKED (5) IF APPLICABLE. NAIL TO THE SIDE STRUTS MARKED (5) W/2-10d NAILS.
- 7 POCKET CLEAT, 2" X 6" X 12" (4 REQD). NAIL TO A SIDE STRUT, PIECE MARKED (5), W/3-10d NAILS. TOENAIL TO THE ADJACENT HEADER, PIECE MARKED (3), W/3-10d NAILS.
- 8 SPLICE PIECE, 2" X 6" X 24" (AS REQD). CENTER ON JOINT OF PIECES MARKED (§) AND NAIL TO SIDE STRUT MARKED (§) W/4-10d NAILS AT EACH END. SEE SPECIAL NOTE 4 ON PAGE 17.
- (9) CENTER CLEAT, 2" X 6" X 30" (1 REQD). NAIL TO A HEADER, PIECE MARKED (3), W/6-10d NAILS.

(CONTINUED AT LEFT)

TYPICAL LTL (7-UNIT) LOAD IN A CONVENTIONAL VAN TRAILER

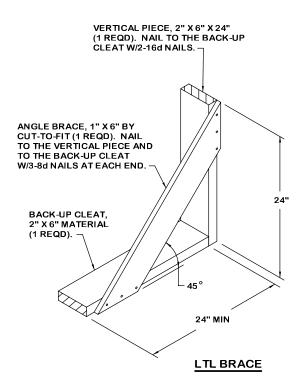
- 1. A 7'-8" WIDE (INSIDE DIMENSION) CONVENTIONAL VAN TRAILER IS SHOWN. TRAILERS OF OTHER WIDTHS CAN BE USED.
- 2. ANTI-SWAY BRACES ARE REQUIRED WHEN THE SPACE BETWEEN LATERALLY ADJACENT UNITS EXCEEDS 6", AS MEASURED FROM PALLET ADAPTER TO PALLET ADAPTER.
- 3. THE SPACER ASSEMBLIES, PIECES MARKED ②, ARE SHOWN ONLY TO DEPICT A TYPICAL INSTALLATION. SPACER ASSEMBLIES WILL BE USED WHEN A PALLET UNIT IS LOADED CROSSWISE IN THE TRAILER. THEY MAY OR MAY NOT BE REQUIRED, DEPENDING ON THE QUANTITY OF PALLET UNITS TO BE SHIPPED.
- 4. DEPENDING ON THE NUMBER OF UNITS BEING LOADED, EACH OF THE SIDE STRUTS, PIECES MARKED (§), 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 (§), MUST BE POSITIONED UNDER EACH SPLICE JOINT. IF DESIRED, THE STRUT BRACE PIECE(S), PIECE MARKED (§), MAY BE NAILED TO THE SPLICE PIECES IN LIEU OF USING ADDITIONAL STRUT BRACE RETAINING CLEATS, PIECE MARKED (§).
- 5. ALL LTL LOADS, REGARDLESS OF THEIR SIZE, REQUIRE ONE STRUT BRACE POSITIONED AT THE REAR OF THE TRAILER AND NAILED TO PIECE MARKED ①. IF THE SIDE STRUTS, PIECE MARKED ⑥, ARE LONGER THAN 7'-0", AN ADDITIONAL STRUT BRACE, PIECE MARKED ⑥, AND TWO STRUT BRACE RETAINING CLEATS, PIECE MARKED ⑥, AND TWO RISER PIECES MARKED ⑥, MUST BE APPLIED FOR EVERY 7'-0" OF SIDE STRUT LENGTH.
- 6. THE "K-BRACE" BLOCKING, SHOWN AS PIECES MARKED ③ THRU (3), IS ADEQUATE FOR RETAINING A MAXIMUM LTL LOAD OF 20.000 POUNDS.
- 7. TRAILERS EQUIPPED WITH ROLL-UP TYPE DOORS MAY BE USED; HOWEVER, THE NAILED-HEADER METHOD OF REAR BLOCKING MUST BE INSTALLED IN LIEU OF THE "K-BRACE" TYPE BLOCKING. REFER TO PIECE MARKED ③ ON PAGE 10 AND THE HEADER NAILING CHARTS ON PAGE 7 FOR GUIDANCE. NOTE THAT THE NAILEDHEADER 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 ③ THRU ① WHICH APPLY TO TRAILERS HAVING NON-NAILABLE FLOORS.
- 8. LEFTOVER CONTAINERS IN AN AMOUNT NOT TO EXCEED THREE CONTAINERS MAY BE SECURED TO THE TOP OF A FULL PALLET UNIT FOR SHIPMENT. REFER TO THE "PROCEDURES FOR SHIPMENT OF LEFTOVER CONTAINERS" ON PAGE 21 FOR GUIDANCE.
- 9. REFER TO PAGE 20 FOR GUIDANCE IN THE SHIPMENT OF PARTIAL PALLET UNITS.



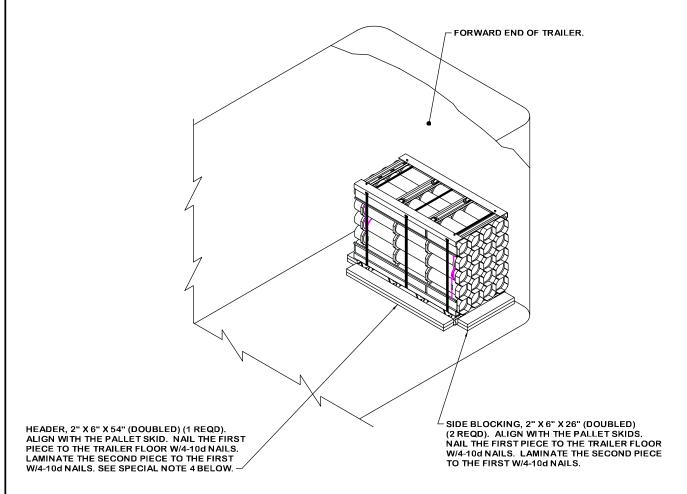
ISOMETRIC VIEW

SPECIAL NOTES:

- 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. LTL BRACES MUST CONTACT EITHER THE AFT OR FORWARD END OF THE UNIT, NOT THE SIDES. UNITS MAY ALSO BE LOCATED IN THE CORNER OF THE TRAILER, IF DESIRED. 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 22.
- 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 24.
- 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.



TYPICAL LTL (1-UNIT) LOAD IN A CONVENTIONAL VAN TRAILER

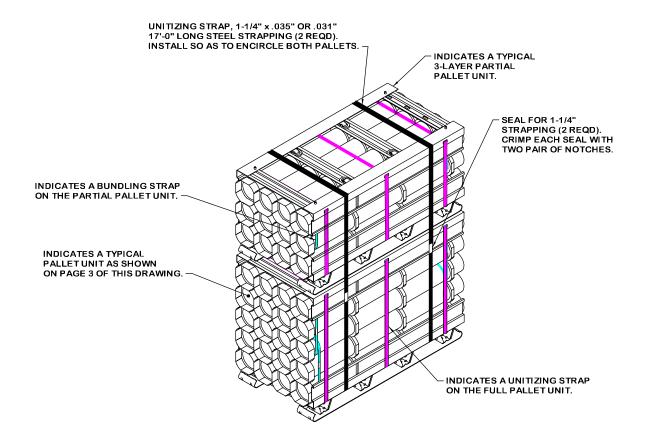


ISOMETRIC VIEW

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 THE CORNER OF THE TRAILER. IF THE TRAILER DOES NOT HAVE A SQUARE FRONT, A FORWARD BLOCKING ASSEMBLY MUST BE INSTALLED WHEN POSITIONING A UNIT IN THE CORNER OF THE TRAILER. SEE THE DETAIL ON PAGE 22.
- 3. MORE THAN ONE PALLET UNIT CAN BE SHIPPED. 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 24.
- 4. THE HEADER AS APPLIED ABOVE FOR LONGITUDINAL BRACING WILL SUPPORT 10,000 POUNDS OF LADING; A TRAILER WIDTH HEADER WILL SUPPORT UP TO A FULL TRAILER LOAD OF PALLET UNITS. SEE THE HEADER NAILING CHARTS ON PAGE 7.

TYPICAL LTL (1-UNIT) LOAD IN A CONVENTIONAL VAN TRAILER



SECUREMENT OF A PARTIAL PALLET UNIT ON TOP OF A FULL PALLET UNIT

SPECIAL NOTES:

PAGE 20

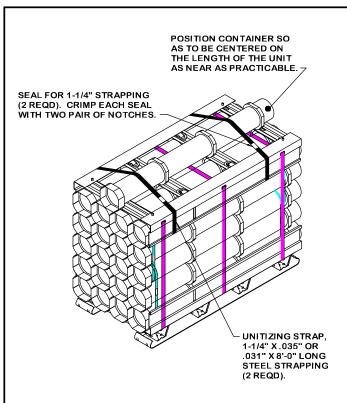
- 1. SHIPMENTS OF PALLET UNITS OF VOLCANO MINE CANISTERS SHOULD CONSIST OF FULL-HEIGHT AND FULL-LAYER UNITS TO THE MAXIMUM EXTENT POSSIBLE. HOWEVER, THE END OF A LOT OR THE QUANTITY OF ITEMS NEEDED TO FILL A REQUISITION MAY NECESSITATE THE SHIPMENT OF ONE OR MORE LESS-THAN-FULL PALLET UNITS WITHIN A LOAD. THE PROCEDURES ON THIS PAGE ARE PRESENTED AS GUIDANCE IN THE SHIPMENT OF THESE PARTIAL UNITS.
- A PARTIAL PALLET UNIT MUST CONSIST OF EITHER TWO OR THREE FULL LAYERS IN ORDER FOR THE TOP AND BOTTOM PALLET ADAPTER ASSEMBLIES TO PROPERLY FUNCTION. A LAYER MAY CONSIST OF EMPTY CONTAINERS, THOUGH, AS DESCRIBED IN THE GENERAL NOTES OF AMC DRAWING
- 3. ELIMINATE THE TWO LOWER BUNDLING STRAPS WHEN UNIT-IZING A THREE-HIGH PARTIAL PALLET, AND ELIMINATE ALL FOUR BUNDLING STRAPS WHEN UNITIZING A TWO-HIGH PARTIAL PALLET UNIT.

(SPECIAL NOTES CONTINUED AT RIGHT)

(SPECIAL NOTES CONTINUED)

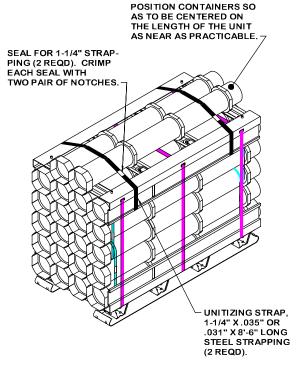
- 4. A PARTIAL PALLET UNIT MUST NOT BE POSITIONED ON THE REARMOST PALLET UNIT IN THE LOAD.
- 5. LEFTOVER CONTAINERS, IN AN AMOUNT WHICH IS LESS THAN THE QUANTITY IN ONE LAYER OF A UNIT, CAN BE SECURED TO THE TOP OF A PARTIAL UNIT FOR SECUREMENT ON TOP OF A LOAD. THE LEFTOVER CONTAINERS MUST BE SECURED TO THE PARTIAL UNIT WITH THEIR OWN STRAPPING, SEPARATE FROM THE STRAPS FOR THE PARTIAL UNIT. SEE THE DETAILS ON PAGE 21 FOR GUIDANCE IN STRAP APPLICATION.

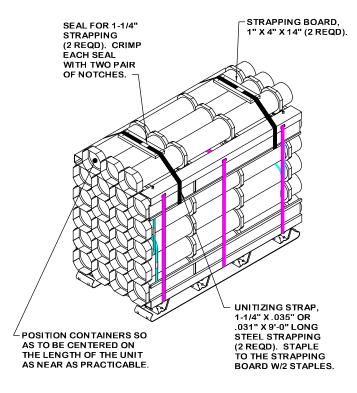
PROCEDURES FOR SHIPMENT OF A PARTIAL PALLET UNIT



- 1. SHIPMENTS OF PALLET UNITS OF VOLCANO MINE CANISTERS SHOULD CONSIST OF FULL-HEIGHT 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 ANY QUANTITY OF CONTAINERS BETWEEN ONE AND SEVEN.
- 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 IN 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 SECUREMENT OF LEFTOVER CONTAINERS FOR SHIPMENT. THE PROCEDURES ARE ALSO APPLICABLE FOR SECUREMENT OF LEFTOVER CONTAINERS TO PARTIAL PALLET UNITS FOR SHIPMENT ON TOP OF A LOAD. SEE SPECIAL NOTE 5 ON PAGE 20 FOR LIMITATIONS. IN ADDITION, THE PROCEDURES ARE APPLICABLE FOR SECURING LEFTOVER CONTAINERS TO A PARTIAL UNIT FOR SHIPMENT WITHIN A TIER.
- 4. THE PROCEDURES DEPICTED ON THIS PAGE ARE APPLICABLE FOR THE SHIPMENT OF LEFTOVER CONTAINERS IN ANY OF THE LOADS DEPICTED HEREIN.

SECUREMENT OF ONE CONTAINER

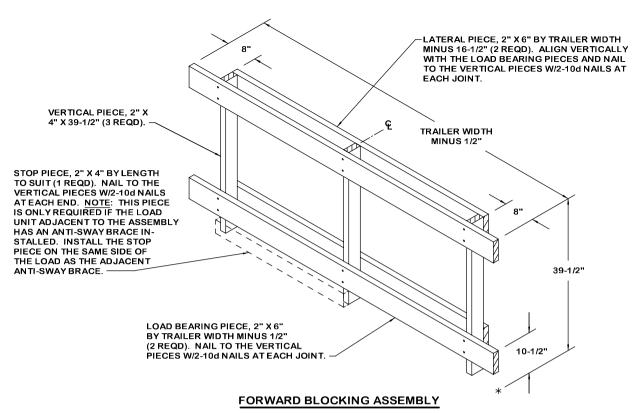




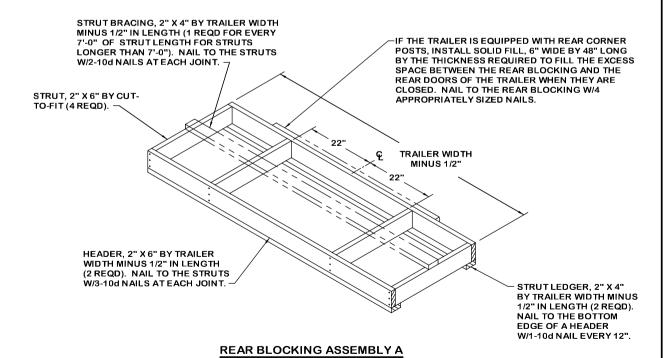
SECUREMENT OF TWO CONTAINERS

SECUREMENT OF THREE CONTAINERS

PROCEDURES FOR SHIPMENT OF LEFTOVER CONTAINERS

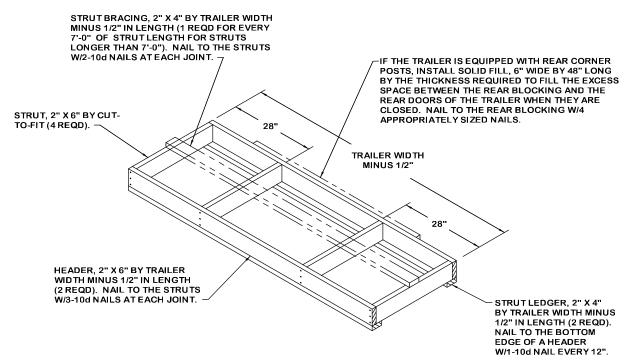


THIS ASSEMBLY IS DESIGNED FOR USE AT THE FRONT END OF A TRAILER HAVING ROUNDED CORNERS, AND IS APPLICABLE FOR A CORNER RADIUS OF NOT MORE THAN 6-1/2". IF THE RADIUS IS FROM 6-1/2" TO 8", 2" \times 6" VERTICAL PIECES WILL BE USED IN LIEU OF THE 2" \times 4" PIECES. IF THE TRAILER TO BE LOADED HAS LARGE-ANGLED CORNERS AT THE FORWARD END, REFER TO PAGE 26 FOR GUIDANCE.



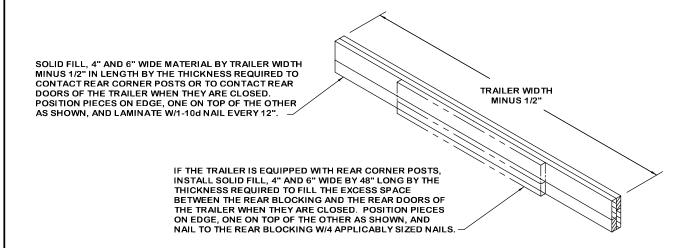
THIS ASSEMBLY IS DESIGNED FOR USE AT THE REAR OF A LOAD WHEN THE SPACE BETWEEN THE LADING AND THE TRAILER DOOR IS MORE THAN 9" AND THE LOAD UNIT ADJACENT TO THE ASSEMBLY IS LOADED CROSSWISE. NOTE THAT THE ABOVE VIEW IS ROTATED

180° FROM THE POSITION IN WHICH IT WILL BE INSTALLED.



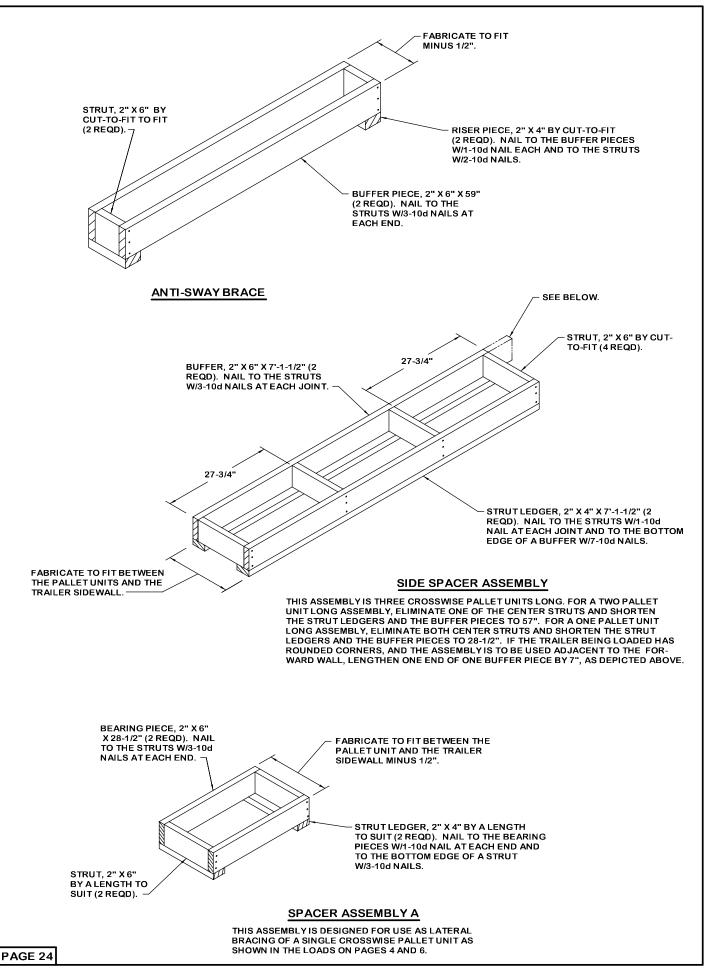
REAR BLOCKING ASSEMBLY B

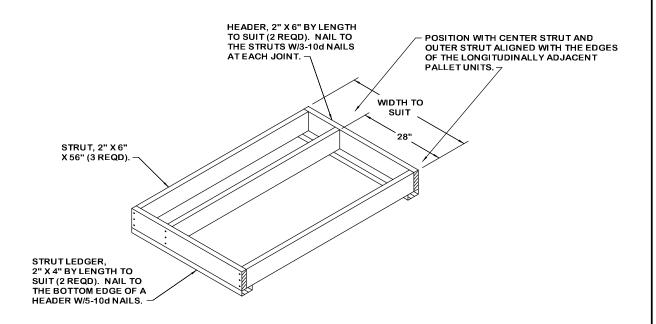
THIS ASSEMBLY IS DESIGNED FOR USE AT THE REAR OF A LOAD WHEN THE SPACE BETWEEN THE LADING AND THE TRAILER DOOR IS MORE THAN 9" AND THE LOAD UNIT ADJACENT TO THE ASSEMBLY IS LOADED LENGTHWISE. NOTE THAT THE ABOVE VIEW IS ROTATED 180° FROM THE POSITION IN WHICH IT WILL BE INSTALLED.



REAR BLOCKING ASSEMBLY C

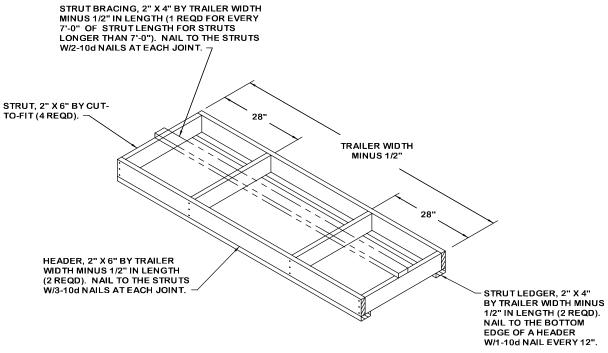
THIS ASSEMBLY IS FOR USE AT THE REAR OF A LOAD WHEN THE SPACE BETWEEN THE LADING AND THE TRAILER DOOR IS GREATER THAN 1-1/2" BUT LESS THAN 9".





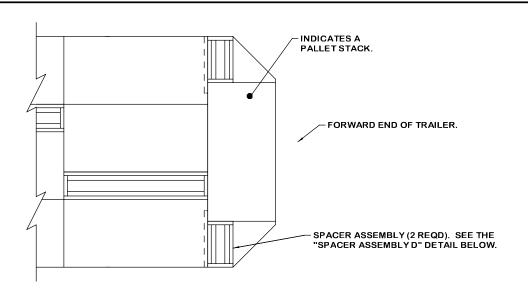
SPACER ASSEMBLY B

THIS ASSEMBLY IS DESIGNED FOR USE IN THE PLACE OF A PALLET UNIT WHICH IS OMITTED FROM THE LOAD IN A CONVENTIONAL VAN TRAILER, AS TYPICALLY SHOWN IN THE LOAD ON PAGE 8.



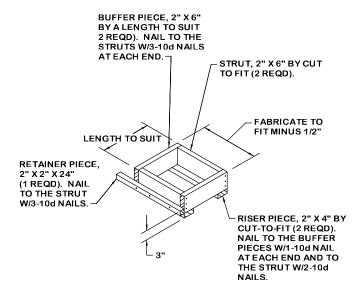
SPACER ASSEMBLY C

THIS ASSEMBLY IS DESIGNED TO FILL A LONGITUDINAL VOID WITHIN A THREE PALLET UNIT WIDE LOAD AND TO ENSURE THE PROPER LONGITUDINAL DISTRIBUTION OF THE LOAD WEIGHT WITHIN THE TRAILER, AS TYPICALLY SHOWN IN THE LOAD ON PAGE 8.



ALTERNATIVE FORWARD LOADING PATTERN

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



SPACER ASSEMBLY D

THIS ASSEMBLY IS DESIGNED FOR LATERAL BRACING OF A SINGLE PALLET UNIT WHICH IS LOADED CROSSWISE AND POSITIONED IN THE FRONT OF AN ANGLED CORNER TRAILER AS SHOWN IN THE "ALTERNATIVE FORWARD LOADING PATTERN" VIEW ABOVE. RIGHT HAND AND LEFT HAND SPACER ASSEMBLIES ARE REQUIRED.

PROCEDURES FOR CONVENTIONAL VAN TRAILERS EQUIPPED WITH LARGE-ANGLED FRONT CORNERS