LOADING AND BRACING (TL & LTL) IN VAN TRAILERS® OF CBU-52/E OR CBU-58/B DISPENSERS PACKED IN CNU-126/E SHIPPING AND STORAGE CONTAINER

<u>INDEX</u>

<u>ITEM</u>	PAGE(S)
GENERAL NOTES AND MATERIAL SPECIFICATIONS	2 3
19-UNIT LOAD IN A 40'-0" LONG BY 7'-8" WIDE VAN TRAILER	4,5
19-UNIT LOAD IN A 45'-0" LONG BY 8'-2" WIDE VAN TRAILER	6,7
VAN TRAILER	8,9 10.11
TYPICAL LTL (1-UNIT LOAD)	12 13-15

[⊕] CAUTION: THE OUTLOADING PROCEDURES SHOWN HEREIN ARE ONLY APPLICABLE TO HIGHWAY MOVEMENTS, NOT TRAILER-ON-FLATCAR MOVEMENTS.

U.S. ARMY MATERI	EL C	OMM	AND DE	RAWING
APPROVED, U.S. ARMY INDUSTRIAL OPERATIONS COMMAND	DRAFT:	NAMZ	TECHNICIAN	ENGINEER
Sul Estuckwick				M. SARDONE
APPROVED BY ORDER OF COMMANDING GENERAL, U.S. ARMY MATERIEL COMMAND	VALIDAT ENGINEE DIVIST	RING ION	TRANSPORTATION ENGINEERING DIVISION	ENGINEERING OFFICE
1/11 40 +	S	AK 4	N. Frence	& W7 East
William Fernst	MARCH 1996			
U.S. ARMY DEFENSE AMMUNITION CENTER AND SCHOOL	CLASS	DIVISION	DRAWING	FILE
	19	48	8573	SP11J28

DO NOT SCALE

GENERAL NOTES

- THIS DOCUMENT HAS BEEN PREPARED AND ISSUED IN ACCORDANCE WITH AR 740-1 AND AUGMENTS TM 743-200-1 (CHAPTER 5).
- THE OUTLOADING PROCEDURES SPECIFIED IN THIS DRAWING ARE APPLICABLE FOR CBU-52/E OR CBU-58/B MUNITIONS PACKED IN CNU-126/E CONTAINERS. SUBSEQUENT REFERENCE TO CONTAINER HEREIN MEANS THE CNU-126∕E CONTAINER WITH AMMUNITION

CONTAINER DIMENSIONS - 98-1/2" L X 36-3/4" W X 25-1/2" H CONTAINER WEIGHT - - - 2,160 LBS (APPROX) CONTAINER CUBE - - - 49.3 CUBIC FEET (APPROX)

- 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 TRAILERS AND APPLY 10 IRAILERS HAVING WOUL, OR WOUL AND METAL, OR ALL METAL FLOORS. VAN TRAILERS WHICH ARE 40'-0" LONG BY 7'-8' WIDE (INSIDE DIMENSION), 45'-0" LONG BY 8'-2" WIDE (INSIDE DIMENSION), AND 48'-0" LONG BY 8'-2" WIDE (INSIDE DIMENSION) HAVE BEEN SHOWN, HOWEVER, 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.
- SELECTION OF A VEHICLE TO BE USED TO TRANSPORT THE DESIGNATED ITEM MUST COMPLY WITH AR 55-355, CHAPTER 29, FOR EXPLOSIVES AND OTHER DANGEROUS ARTICLES, IN FULL.
- THE GROSS WEIGHT AND AXLE DISTRIBUTION OF WEIGHT FOR A LOAD WILL BE THE RESPONSIBILITY OFF 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 ACTUALLLY WEIGHING THE LOADED VEHICLE. ACTUALLY WEIGHING THE LOADED VEHICLE.
- 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.
- THE "LOAD AS SHOWN" FOR THE 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 HEAVIER LOADS IF IT IS DESIRED TO INCREASE THE LADING WEIGHT.

(CONTINUED AT RIGHT)

(GENERAL NOTES CONTINUED)

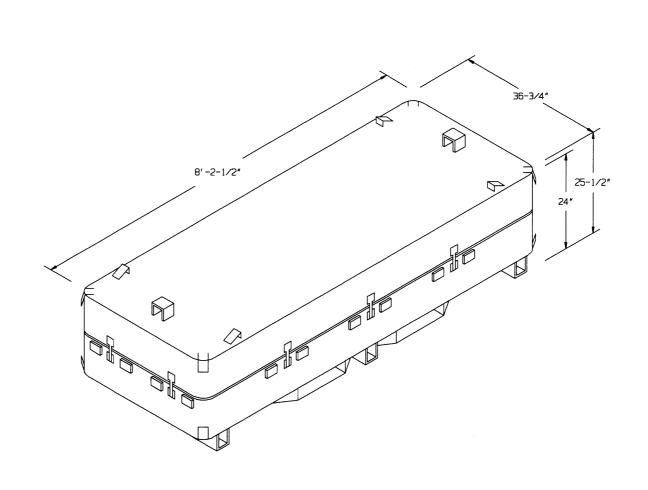
- H. OTHER TYPES OF LADING ITEMS MAY BE LOADED INTO TRAILERS WHICH ARE PARTIALLY LOADED WITH PALLET UNITS OF COMPLETE WOUNDS, PROVIDING THE TOTAL LOAD IS COMPATIBLE, EXISTING DIRECTIVES ARE NOT VIOLATED, AND THE OTHER LADING ITEMS ARE BLOCKED AND BRACED TO EQUAL THE BLOCKING AND BRACING CRITERIA SPECIFIED HEREIN.
- J. 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 REFER PAGE 15 FOR GUIDANCE
- 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.
- NOTICE: A STAGGERED NAILING PATTERN WILL BE USED WHEREVER POSSIBLE WHEN NAILS ARE DRIVEN INTO JOINTS OF DUNNAGE ASSEMBLIES. ALSO, A STAGGERED NAILING PATTERN WILL BE USED WHEN DUNNAGE IS NAILED TO THE FLOOR OF THE TRANSPORTING VEHICLE, OR WHEN LAMINATING DUNNAGE. THE NAILING PATTERN WILL BE ADJUSTED AS REQUIRED SO THAT A NAIL DOES NOT PENETRATE INTO OR NEAR A CRACK BETWEEN PEOUR 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.
- POWER DRIVEN STAPLES MAY BE USED AS ALTERNATIVE FASTENERS FOR NAILS WHEN CONSTRUCTING DUNNAGE ASSEMBLIES WHICH ARE TO BE USED IN THE DELINEATED TRAILER LOADS SHOWN THROUGHOUT THIS DRAWING. THE STAPLES TO BE USED MUST BE EQUAL IN LENGTH TO THE SPECIFIED NAIL SIZE AND MUST BE SUBSTITUTED ON A ONE STAPLE FOR ONE NAIL BASIS. STAPLES WHICH ARE 2-1/2" OR LESS IN LENGTH SHOULD BE IN ACCORDANCE WITH FEDERAL SPECIFICATION FF-N-105 AS NEARLY AS PRACTICABLE. STAPLES WHICH ARE LONGER THAN 2-1/2" WILL BE A COMMERCIAL GRADE, OF A QUALITY EQUIVALENT TO THOSE MANUFACTURED BY SENCO PRODUCTS INCORPORATED. NOTE: STAPLES WILL NOT BE SUBSTITUTED FOR NAILS IN ANY LOAD RESTRAINING FLOOR DUNNAGE APPLICATION.
- N. PORTIONS OF THE TRAILERS, SUCH AS SIDEWALLS, ENDWALLS, AND ROOFS, HAVE NOT BEEN SHOWN IN THE LOAD VIEWS FOR CLARITY PURPOSES.
- WHEN POWER OR PNEUMATIC NAILERS ARE BEING USED IN THE APPLICATION OF NAILED FLOORLINE BLOCKING OR BRACING, CONTAINERS BEING LOADED INTO THE CONVEYANCE MUST BE POSITIONED TO ALLOW A CLEAR PATH OF EXIT FOR THE OPERATOR AT ALL TIMES, SHOULD AN EMERGENCY EXIT BECOME NECESSARY.
- CONVERSION TO METRIC EQUIVALENTS: DIMENSIONS WITHIN THIS DOCUMENT ARE EXPRESSED IN INCHES, AND WEIGHTS ARE EXPRESSED IN POUNDS. WHEN NECESSARY, THE METRIC EQUIVALENTS MAY BE COMPUTED ON THE BASIS OF ONE INCH EQUALS 25.4 MM AND ONE POUND EQUALS 0.454 KG.
- Q. FOR ADDITIONAL GUIDANCE, ATTENTION IS DIRECTED TO THE "SPECIAL NOTES" SECTIONS WHICH ARE IMMEDIATELY ADJACENT TO THE DEPICTED OUTLOADING METHODS.

MATERIAL SPECIFICATIONS

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

SEAL, STRAP ---: ASTM 03953; CLASS H, FINISH A, B (GRADE 2), OR C, DOUBLE NOTCH TYPE, STYLE I, II, OR IV.

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

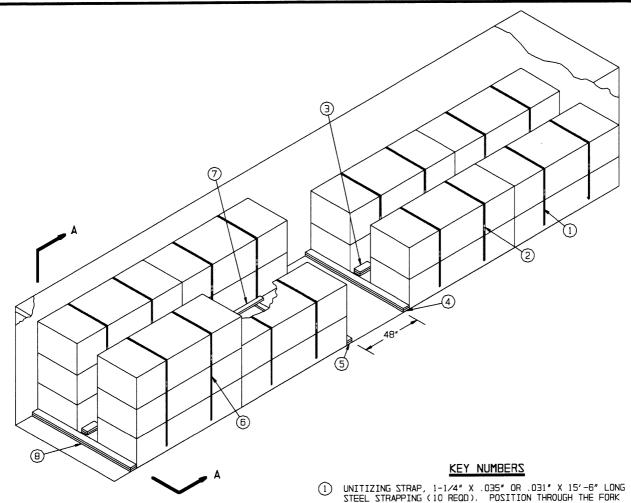


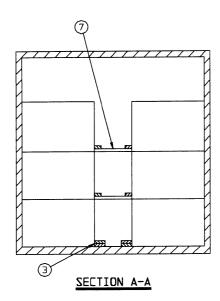
CNU-126/E CONTAINER

(STACKING HEIGHT 24")

CONTAINER DIMENSIONS - - - - 8'-2-1/2" LONG X 36-3/4" WIDE X 25-1/2" HIGH GROSS WEIGHT W/CBU-52/8 MUNITIONS - - - 2,032 POUNDS (APPROX) GROSS WEIGHT W/CBU-58/E MUNITIONS - - - 2,160 POUNDS (APPROX) CUBE - - - - - - - - - - - - - - 49.3 CUBIC FEET (APPROX)

PAGE 3





- ① UNITIZING STRAP, 1-1/4" X .035" OR .031" X 15'-6" LONG STEEL STRAPPING (10 REQD). POSITION THROUGH THE FORK POCKETS OF THE BOTTOM CONTAINERS IN TWO-HIGH STACKS.
- SEAL FOR 1-1/4" STEEL STRAPPING, (32 REQD, 2 PER STRAP). CRIMP EACH SEAL WITH 2 PAIR OF CRIMPS. SEE THE "END-OVER-END LAP JOINT" DETAILS ON PAGE 15 AND GENERAL NOTE "J" ON PAGE 2.
- 3 SIDE BLOCKING, 2" X 6" X 12" (DOUBLED) (16 REOD).
 POSITION AGAINST THE CONTAINERS AT EACH END. NAIL THE
 FIRST PIECE TO THE TRAILER FLOOR W/3-10d NAILS. NAIL
 THE SECOND PIECE TO THE FIRST IN A LIKE MANNER. SEE
 GENERAL NOTE "L" ON PAGE 2.
- FORWARD INTERMEDIATE HEADER, 2" X 6" BY TRAILER WIDTH MINUS 1/2" (DOUBLED) (1 REOD). NAIL THE FIRST PIECE TO THE TRAILER FLOOR W/10-10d NAILS. NAIL THE SECOND PIECE TO THE FIRST IN A LIKE MANNER. SEE SPECIAL NOTE 4 ON
- (5) REAR INTERMEDIATE HEADER, 2" X 6" BY TRAILER WIDTH MINUS 1/2" (DOUBLED) (1 REOD). POSITION AS SHOWN AND NAIL THE FIRST PIECE TO THE TRAILER FLOOR W/6-10d NAILS. NAIL THE SECOND PIECE TO THE FIRST W/6-20d NAILS.
- (6) UNITIZING STRAP, 1-1/4" X .035" OR .031" X 19'-6" LONG STEEL STRAPPING (6 REQD). POSITION THROUGH THE FORK POCKETS OF THE BOTTOM CONTAINER IN THREE-HIGH STACKS.
- ANTI-SWAY BRACE, (2 REQD). SEE THE DETAIL ON PAGE 13. ANTI-SWAY BRACE, (2 REOD). SEE THE DETAIL ON PAGE 13. INSTALL BETWEEN LATERALLY ADJACENT SECOND LAYER CONTAINERS IN THE LOAD UNIT WHICH HAS A SINGLE CONTAINER IN THE THIRD LAYER AND BETWEEN TOP LAYER CONTAINERS IN THE THREE HIGH STACK. SEE GENERAL NOTE "M" ON PAGE 2.
- (B) REAR HEADER, 2" X 6" BY TRAILER WIDTH MINUS 1/2" (DOUBLED) (1 REOD). NAIL THE FIRST PIECE TO THE TRAILER FLOOR W/10-10d NAILS. NAIL THE SECOND PIECE TO THE FIRST IN A LIKE MANNER.

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

- 1. A 19-UNIT LOAD IS SHOWN IN A 40'-O" LONG BY 7'-8" WIDE (INSIDE DIMENSION) VAN TRAILER WHICH HAS A NAILABLE FLOOR. TRAILERS OF OTHER DIMENSIONS CAN BE USED. TRAILERS HAVING NON-NAILABLE FLOORS CAN BE USED. SEE SPECIAL NOTES 3 THROUGH 5 BELOW FOR GUIDANCE.
- THE TRAILER SHOWN IN THE LOAD VIEW ON PAGE 4 IS EQUIPPED WITH A SQUARE FRONT WALL. IF THE TRAILER TO BE LOADED HAS ROUNDED FRONT CORNERS, A "FORWARD BLOCKING ASSEMBLY" MUST BE USED. SEE THE DETAIL ON PAGE 13.
- 3. IF THE TRAILER BEING LOADED DOES NOT HAVE A NAILABLE FLOOR, OR IF DESIRED, ANTI-SWAY BRACES, SHOWN AS PIECES MARKED ⑦ IN THE LOAD ON PAGE 4, MAY BE USED BETWEEN THE LATERALLY ADJACENT CONTAINERS IN THE BOTTOM LAYER IN LIEU OF USING THE NAILED SIDE BLOCKING, PIECES MARKED ③.
- 4. IN TRAILERS NOT HAVING A NAILABLE FLOOR, OR IF DESIRED IN OTHER TRAILERS, A SPACER ASSEMBLY CAN BE USED IN THE SPACE BETWEEN THE SECOND AND THIRD LOAD UNITS IN LIEU OF USING THE NAILED HEADERS, PIECES MARKED ② AND ⑤. SEE THE "SPACER ASSEMBLY" DETAIL ON PAGE 15. THE ASSEMBLY SHOULD BE 59" LONG.
- 5. IN TRAILERS NOT HAVING A NAILABLE FLOOR, OR IF DESIRED IN OTHER TRAILERS, A REAR BLOCKING ASSEMBLY CAN BE USED AT THE REAR OF THE LOAD IN LIEU OF USING PIECE MARKED (B). IF THE SPACE AT THE REAR OF THE LOAD IS MORE THAN 1-1/2" BUT LESS THAN 9", USE THE "REAR BLOCKING ASSEMBLY B" AS DETAILED ON PAGE 14. IF THE SPACE IS MORE THAN 9", USE THE "REAR BLOCKING ASSEMBLY A", AS DETAILED ON PAGE 14. IF THE SPACE IS LESS THAN 1-1/2", REAR BLOCKING IS NOT REOUIRED.
- 6. THE DEPICTED LOADING PATTERN IS APPLICABLE FOR "WESTERN" TYPE TRAILERS WHICH HAVE THE REAR TANDEMS LOCATED AT THE EXTREME REAR OF THE TRAILER. IF THE TRAILER TO BE LOADED IS OTHER THAN THE "WESTERN" TYPE, OMIT PIECES MARKED (4) AND (5), OR THE SPACER ASSEMBLY IF IT IS USED, AND POSITION THE CONTAINER LOAD UNITS AGAINST EACH OTHER.
- 7. THE DEPICTED LOAD CAN BE INCREASED BY ONE OR TWO CONTAINERS, IF DESIRED. TWENTY CONTAINERS CAN BE SHIPPED BY PLACING THE ADDED CONTAINER OPPOSITE THE THIRD-LAYER CONTAINER IN THE THIRD LOAD UNIT.

 SUBSTITUTE TWO PIECES MARKED ⑤ FOR THE TWO PIECES MARKED ① IN THAT STACK. FOR SHIPMENT OF TWENTY-ONE CONTAINERS, ADD A CONTAINER IN THE SECOND LOAD UNIT. THIS CONTAINER PLACEMENT IS NOT MANDATORY BUT IS PROVIDED AS GUIDANCE ONLY. CONTAINERS SHOULD BE PLACED SO AS TO OBTAIN THE BEST WEIGHT DISTRIBUTION.
- 8. THE DEPICTED LOAD CAN BE REDUCED TO SUIT THE QUANTITY TO BE SHIPPED. IF THE LOAD IS TO BE REDUCED BY ONE CONTAINER, OMIT THE CONTAINER FROM THE TOP LAYER OF THE THIRD LOAD UNIT. ADDITIONAL REDUCTION CAN BE ACCOMPLISHED BY OMITTING CONTAINERS FROM THE REAR LOAD LINTT
- 9. IF A 45'-0" LONG TRAILER IS FURNISHED FOR LOADING, REFER TO THE LOADING PROCEDURES ON PAGES 6 AND 7 FOR GUIDANCE. IF A 48'-0" LONG TRAILER IS FURNISHED FOR LOADING, REFER TO THE LOADING PROCEDURES ON PAGES 8 AND 9 FOR GUIDANCE.

BILL OF MATERIAL			
LUMBER	LINEAR FEET	BOARD FEET	
2" X 4" 2" X 6"	32 80	22 80	
SJIAN	NO. REQD	SQNDOA	
10d (3″) 20d (4″)	164 6	2-3/4 1/4	
STEEL STRAPPING, 1-1/4" 272' REOD 39 LBS SEAL FOR 1-1/4" STRAPPING 32 REOD 2 LBS			

LOAD AS SHOWN

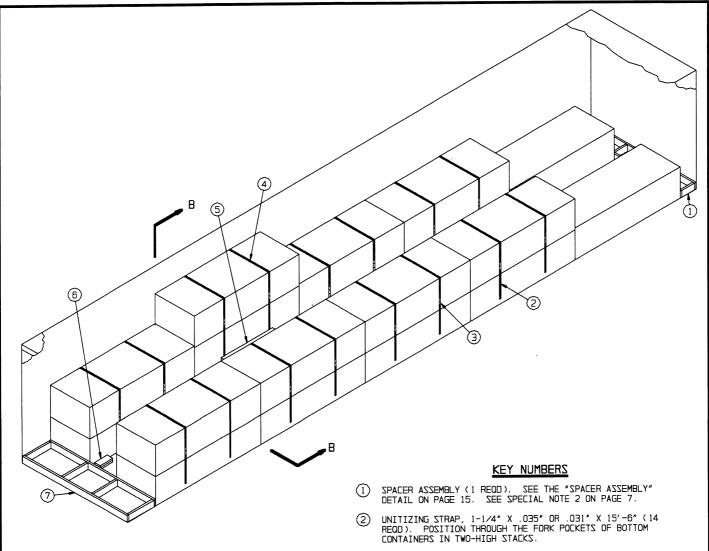
 ITEM
 QUANTITY
 WEIGHT
 (APPROX)

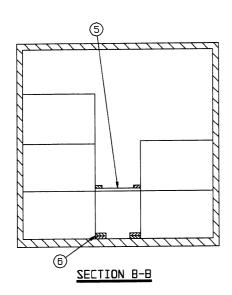
 CONTAINER - - - - - 19 - - - - 41,040 LBS

 DUNNAGE - - - - - - - - - - - 248 LBS

 TOTAL WEIGHT - - - - - - - - - 41,288 LBS (APPROX)

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





- 3 SEAL FOR 1-1/4" STEEL STRAPPING, (32 REOD, 2 PER STRAP). CRIMP EACH SEAL WITH TWO PAIRS OF CRIMPS. SEE THE "END-OVER-END LAP JOINT" DETAILS ON PAGE 15 AND GENERAL NOTE "J" ON PAGE 2.
- (4) UNITIZING STRAP, 1-1/4" X .035" OR .031" X 19'-6" (2 REOD). POSITION THROUGH THE FORK POCKETS OF THE BOTTOM CONTAINER IN THE 3-HIGH STACK.
- (5) ANTI-SWAY BRACE, (1 REQD) SEE THE DETAIL ON PAGE 13.
 INSTALL BETWEEN SECOND LAYER CONTAINERS IN THE LOAD UNIT
 WHICH HAS A CONTAINER IN THE THIRD LAYER. SEE GENERAL
 NOTE "M" ON PAGE 2.
- 6 SIDE BLOCKING, 2" X 6" 12" (DOUBLED) (20 REOD).
 POSITION AGAINST THE CONTAINERS AT EACH END. NAIL THE
 FIRST PIECE TO THE TRAILER FLOOR W/3-10d NAILS. NAIL
 THE SECOND PIECE TO THE FIRST IN A LIKE MANNER. SEE
 GENERAL NOTE "L" ON PAGE 2.
- (7) REAR BLOCKING ASSEMBLY, (1 REQD). SEE THE "REAR BLOCKING ASSEMBLY A" DETAIL ON PAGE 14. SEE SPECIAL NOTE 4 ON PAGE 7.

19-UNIT LOAD IN A 45'-0" LONG BY 8'-2" WIDE VAN TRAILER

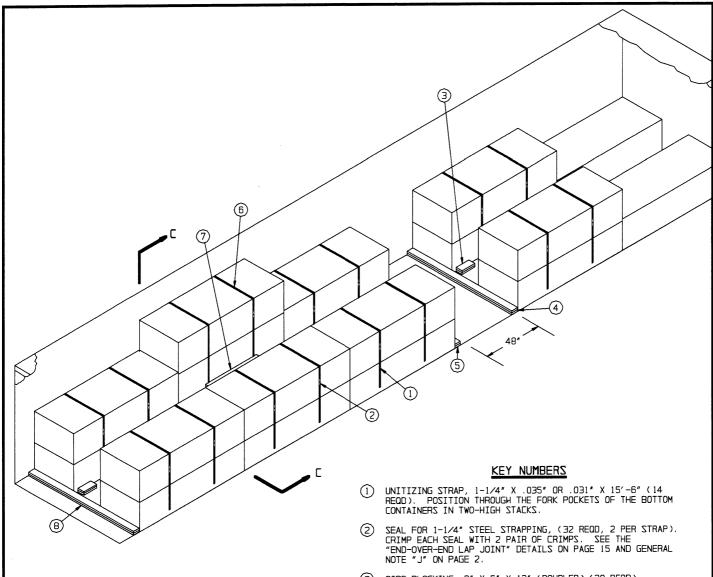
- 1. A 19-UNIT LOAD IS SHOWN IN A 45'-O" LONG BY 8'-2" WIDE (INSIDE DIMENSION) VAN TRAILER WHICH HAS A NAILABLE FLOOR. TRAILERS OF OTHER DIMENSIONS CAN BE USED. TRAILERS HAVING NON-NAILABLE FLOORS CAN BE USED. SEE SPECIAL NOTES 3 AND 4 FOR GUIDANCE.
- 2. THE TRAILER SHOWN IN THE LOAD VIEW ON PAGE 6 IS EQUIPPED WITH A SQUARE FRONT WALL. IF THE TRAILER TO BE LOADED HAS ROUNDED FRONT CORNERS, A "FORWARD BLOCKING ASSEMBLY" MUST BE USED. SEE THE DETAIL ON PAGE 13.
- 3. IF THE TRAILER BEING LOADED DOES NOT HAVE A NAILABLE FLOOR, OR IF DESIRED, ANTI-SWAY BRACES, SHOWN AS PIECES MARKED ⑤, MAY BE USED BETWEEN THE LATERALLY ADJACENT CONTAINERS IN THE BOTTOM LAYER IN LIEU OF USING THE NAILED SIDE BLOCKING, PIECES MARKED ⑥.
- 4. IF THE SPACE AT THE REAR OF THE LOAD, BETWEEN THE CONTAINERS AND THE REAR DOORS, MEASURES 1-1/2" OR LESS, REAR BLOCKING IS NOT REDUIRED. IF THE SPACE AT THE REAR OF THE LOAD IS MORE THAN 1-1/2" BUT LESS THAN 9", USE THE "REAR BLOCKING ASSEMBLY B" AS DETAILED ON PAGE 14. IF THE SPACE IS MORE THAN 9", USE THE "REAR BLOCKING ASSEMBLY A", AS SHOWN.
- 5. IF THE TRAILER BEING LOADED IS EQUIPPED WITH ROLL-UP TYPE DOORS, NAILED TYPE REAR BLOCKING MUST BE USED IN LIEU OF THE REAR BLOCKING ASSEMBLY, PIECE MARKED ⑦. SEE PIECE MARKED ⑧ ON PAGE 8 FOR GUIDANCE.
- 6. THE PLACEMENT OF CONTAINERS IN THE LOAD VIEW ON PAGE 6
 IS APPLICABLE FOR A "WESTERN" TYPE TRAILER WHICH HAS THE
 REAR TANDEMS AT THE EXTREME REAR OF THE TRAILER. THE
 DEPICTED LOAD CAN BE INCREASED, IF DESIRED. TWENTY
 CONTAINERS CAN BE LOADED BY PLACING THE ADDED CONTAINER
 OPPOSITE THE THIRD-LAYER CONTAINER IN THE FOURTH LOAD
 UNIT. SECURE WITH TWO PIECES MARKED (4). IF DESIRED,
 21 CONTAINERS CAN BE LOADED. THE TWENTY-FIRST CONTAINER
 SHOULD BE ADDED IN THE THIRD LAYER OF THE THIRD LOAD
 UNIT. THIS CONTAINER PLACEMENT IS NOT MANDATORY BUT IS
 PROVIDED AS GUIDANCE ONLY. CONTAINERS SHOULD BE PLACED
 SO AS TO OBTAIN THE BEST WEIGHT DISTRIBUTION.
- 7. FOR TRAILERS OTHER THAN THE "WESTERN" TYPE, FOR A LOAD QUANTITY OF 19 CONTAINERS, THE SECOND LAYER SHOULD BE FULL EXCEPT FOR THE LAST LOAD UNIT WHICH WILL HAVE ONLY ONE CONTAINER IN THE TOP LAYER. TWENTY CONTAINERS CAN BE LOADED IN TWO FULL LAYERS. A LOAD IN A TRAILER OTHER THAN A "WESTERN" TYPE IS LIMITED TO 20 CONTAINERS.
- B. THE DEPICTED LOAD CAN BE REDUCED TO SUIT THE QUANTITY TO BE SHIPPED. IF THE LOAD IS TO BE REDUCED BY ONE CONTAINER, OMIT THE CONTAINER IN THE TOP LAYER. ADDITIONAL REDUCTION CAN BE ACCOMPLISHED BY OMITTING CONTAINERS FROM THE SECOND LAYER, PREFERABLY FROM THE FRONT PORTION OF THE LAYER.
- 9. IF A 40'-0" LONG TRAILER IS FURNISHED FOR LOADING, REFER TO THE LOADING PROCEDURES ON PAGES 4 AND 5 FOR GUIDANCE. IF A 48'-0" LONG TRIALER IS FURNISHED FOR LOADING, REFER TO THE LOADING PROCEDURES ON PAGES 8 AND 9 FOR GUIDANCE.
- 10. IF THE CNU-126∕E CONTAINERS ARE LOADED WITH AN ITEM WHICH IS LIGHTER WEIGHT THAN THE DEPICTED ITEM, THE NUMBER OF CONTAINERS IN THE LOAD CAN BE INCREASED.

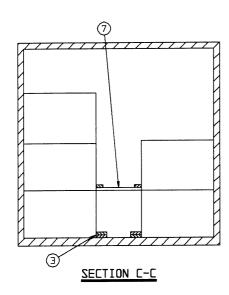
BILL OF MATERIAL		
LUMBER	LINEAR FEET	BOARD FEET
2" X 4" 2" X 6"	8 68	6 68
NAILS	NO. REQD	POUNDS
10d (3")	180	3
STEEL STRAPPING, 1-1/4" 276' REOD 40 LBS SEAL FOR 1-1/4" STRAPPING 32 REOD 2 LBS		

LOAD AS SHOWN

ITEM	QUANTITY	WEIGHT (APPROX)
CONTAINER DUNNAGE		
TOTAL WEIGHT		41.233 LBS (APPROX)

19-UNIT LOAD IN A 45'-O" LONG BY 8'-2" WIDE VAN TRAILER





- SIDE BLOCKING, 2" X 6" X 12" (DOUBLED) (20 REOD).
 POSITION AGAINST THE CONTAINERS AT EACH END. NAIL THE
 FIRST PIECE TO THE TRAILER FLOOR W/3-10d NAILS. NAIL
 THE SECOND PIECE TO THE FIRST IN A LIKE MANNER. SEE
 GENERAL NOTE "L" ON PAGE 2.
- FORWARD INTERMEDIATE HEADER, 2" X 6" BY TRAILER WIDTH MINUS 1/2" (DOUBLED) (1 REQD). NAIL THE FIRST PIECE TO THE TRAILER FLOOR W/8-10d NAILS. NAIL THE SECOND PIECE TO THE FIRST IN A LIKE MANNER. SEE SPECIAL NOTE 4 ON PAGE Q
- (5) REAR INTERMEDIATE HEADER, 2" X 6" BY TRAILER WIDTH MINUS 1/2" (DOUBLED) (1 REQD). POSITION AS SHOWN AND NAIL THE FIRST PIECE TO THE TRAILER FLOOR W/6-10d NAILS. NAIL THE SECOND PIECE TO THE FIRST W/6-20d NAILS.
- (6) UNITIZING STRAP, 1-1/4" X .035" OR .031" X 19'-6" LONG STEEL STRAPPING (2 REQD). POSITION THROUGH THE FORK POCKETS OF THE BOTTOM CONTAINER IN THREE-HIGH STACK.
- (7) ANTI-SWAY BRACE, (1 REOD). SEE THE DETAIL ON PAGE 13. INSTALL BETWEEN SECOND LAYER CONTAINERS IN THE LOAD UNIT WHICH HAS A SINGLE CONTAINER IN THE THIRD LAYER. SEE GENERAL NOTE "M" ON PAGE 2.
- (B) REAR HEADER, 2" X 6" BY TRAILER WIDTH MINUS 1/2" (DOUBLED) (1 REOD). NAIL THE FIRST PIECE TO THE TRAILER FLOOR W/14-10d NAILS. NAIL THE SECOND PIECE TO THE FIRST IN A LIKE MANNER.

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

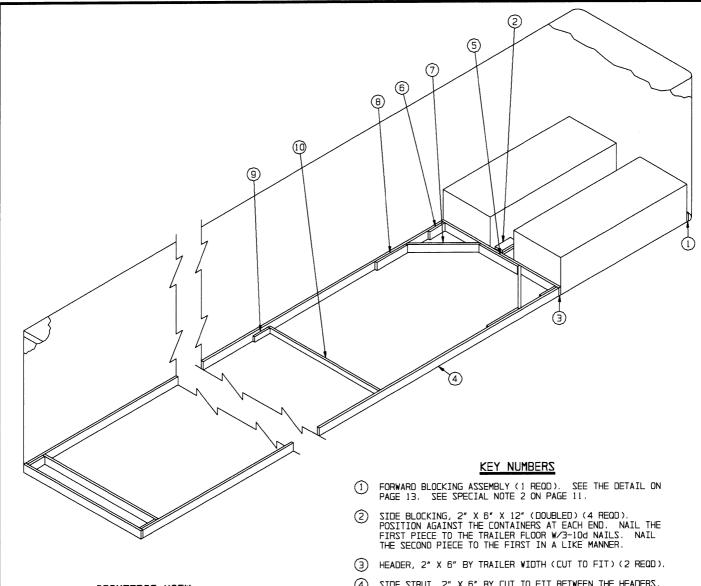
- 1. A 19-UNIT LOAD IS SHOWN IN A 48'-O" LONG BY 8'-2" WIDE (INSIDE DIMENSION) VAN TRAILER WHICH HAS A NAILABLE FLOOR. TRAILERS OF OTHER DIMENSIONS CAN BE USED. TRAILERS HAVING NON-NAILABLE FLOORS CAN BE USED. SEE SPECIAL NOTES 3 THROUGH 5 BELOW FOR GUIDANCE.
- 2. THE TRAILER SHOWN IN THE LOAD VIEW ON PAGE 4 IS EQUIPPED WITH A SQUARE FRONT WALL. IF THE TRAILER TO BE LOADED HAS ROUNDED FRONT CORNERS, A "FORWARD BLOCKING ASSEMBLY" MUST BE USED. SEE THE DETAIL ON PAGE 13.
- 3. IF THE TRAILER BEING LOADED DOES NOT HAVE A NAILABLE FLOOR, OR IF DESIRED, ANTI-SWAY BRACES, SHOWN AS PIECES MARKED ① IN THE LOAD ON PAGE 8, MAY BE USED BETWEEN THE LATERALLY ADJACENT CONTAINERS IN THE BOTTOM LAYER IN LIEU OF USING THE NAILED SIDE BLOCKING, PIECES MARKED ③.
- 4. IN TRAILERS NOT HAVING A NAILABLE FLOOR, OR IF DESIRED IN OTHER TRAILERS, A SPACER ASSEMBLY CAN BE USED IN THE SPACE BETWEEN THE SECOND AND THIRD LOAD UNITS IN LIEU OF USING THE NAILED HEADERS, PIECES MARKED (4) AND (5). SEE THE "SPACER ASSEMBLY DETAIL ON PAGE 15. THE ASSEMBLY SHOULD BE 59" LONG.
- 5. IN TRAILERS NOT HAVING A NAILABLE FLOOR, OR IF DESIRED IN OTHER TRAILERS, A REAR BLOCKING ASSEMBLY CAN BE USED AT THE REAR OF THE LOAD IN LIEU OF USING PIECE MARKED (B). IF THE SPACE AT THE REAR OF THE LOAD IS MORE THAN 1-1/2" BUT LESS THAN 9", USE THE "REAR BLOCKING ASSEMBLY B" AS DETAILED ON PAGE 14. IF THE SPACE IS MORE THAN 9", USE THE "REAR BLOCKING ASSEMBLY A", AS DETAILED ON PAGE 14. IF THE SPACE IS LESS THAN 1-1/2", REAR BLOCKING IS NOT REQUIRED.
- 6. THE DEPICTED LOADING PATTERN IS APPLICABLE FOR "WESTERN" TYPE TRAILERS WHICH HAVE THE REAR TANDEMS LOCATED AT THE EXTREME REAR OF THE TRAILER. IF THE TRAILER TO BE LOADED IS OTHER THAN THE "WESTERN" TYPE, OMIT PIECES MARKED (4) AND (5), OR THE SPACER ASSEMBLY IF IT IS USED, AND POSITION THE CONTAINER LOAD UNITS AGAINST EACH OTHER.
- 7. THE DEPICTED LOAD CAN BE INCREASED BY ONE CONTAINER, IF DESIRED. TWENTY CONTAINERS CAN BE SHIPPED BY PLACING THE ADDED CONTAINER OPPOSITE THE THIRD-LAYER CONTAINER IN THE FOURTH LOAD UNIT. SUBSTITUTE TWO PIECES MARKED (6) FOR THE TWO PIECES MARKED (1) IN THAT STACK. THIS CONTAINER PLACEMENT IS NOT MANDATORY BUT IS PROVIDED AS GUIDANCE ONLY. CONTAINERS SHOULD BE PLACED SO AS TO OBTAIN THE BEST WEIGHT DISTRIBUTION.
- 8. THE DEPICTED LOAD CAN BE REDUCED TO SUIT THE QUANTITY TO BE SHIPPED. IF THE LOAD IS TO BE REDUCED BY ONE CONTAINER, OMIT THE CONTAINER FROM THE TOP LAYER OF THE FOURTH LOAD UNIT. ADDITIONAL REDUCTION CAN BE ACCOMPLISHED BY OMITTING CONTAINERS FROM THE REAR LOAD UNIT.
- 9. IF A 40'-0" LONG TRAILER IS FURNISHED FOR LOADING, REFER TO THE LOADING PROCEDURES ON PAGES 4 AND 5 FOR GUIDANCE. IF A 45'-0" LONG TRAILER IS FURNISHED FOR LOADING, REFER TO THE LOADING PROCEDURES ON PAGES 6 AND 7 FOR GUIDANCE

BILL OF MATERIAL			
LUMBER	LINEAR FEET	BOARD FEET	
2" X 4" 2" X 6"	16 88	11 88	
NAILS	NO. REOD	POUNDS	
10d (3") 20d (4")	182 6	3 1/4	
STEEL STRAPPING, 1-1/4" 276' REOD 40 LBS SEAL FOR 1-1/4" STRAPPING 32 REOD 2 LBS			

LOAD AS SHOWN

ITEM	QUANTITY	WEIGHT (APPROX)
CONTAINER DUNNAGE		
TOTAL WEIGHT		38,852 LBS (APPROX)

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

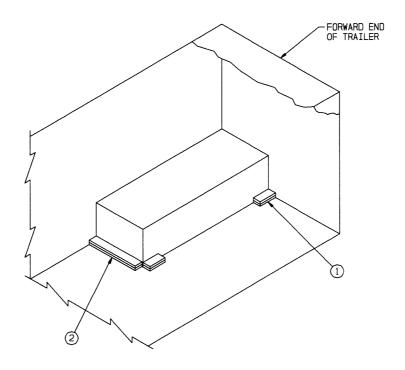


- (4) SIDE STRUT, 2" X 6" BY CUT TO FIT BETWEEN THE HEADERS, PIECES MARKED (3).
- (5) CENTER CLEAT, 2" X 6" X 30" (1 REOD). NAIL TO THE FORWARD HEADER, PIECE MARKED (3), W/6-10d NAILS.
- (6) POCKET CLEAT, 2" X 6" X 12" (4 REQD). NAIL TO A SIDE STRUT, PIECE MARKED (4), W/5-10d NAILS. TOENAIL TO THE ADJACENT HEADER, PIECE MARKED (3), W/3-12d NAILS.
- ① DIAGONAL BRACE, 2" X 6" BY CUT TO FIT (2 REOD). DOUBLE BEVEL EACH END WITH 45° CUTS. INSTALL AT A 45° ANGLE AS SHOWN AND TOENAIL TO THE ADJACENT HEADER, PIECE MARKED ③, AND/OR THE SIDE STRUT, PIECE MARKED ④, W/2-16d NAILS AT EACH END.
- (8) BACK-UP CLEAT, 2" X 5" X 24" (2 REOD). NAIL TO A SIDE STRUT, PIECE MARKED (4), W/8-10d NAILS.
- STRUT BRACE RETAINER CLEAT, 2" X 4" X 12" (AS REOD).
 NAIL TO A SIDE STRUT, PIECE MARKED ④, ₩/3-10d NAILS.
 SEE SPECIAL NOTE 3 ON PAGE 11.
- (OUT TO FIT) STRUT BRACE, 2" X 4" BY TRAILER WIDTH MINUS 3" (CUT TO FIT) (MINIMUM OF ONE REOD). NAIL TO THE POCKET CLEATS, PIECES MARKED (B), AND/OR TO THE STRUT BRACE RETAINER CLEATS, PIECES MARKED (B), W/2-12d NAILS AT EACH END. SEE SPECIAL NOTE 3 ON PAGE 11.

TYPICAL LTL (2-UNIT LOAD)

- 1. A 2-UNIT LOAD IS SHOWN IN A 7'-B" WIDE (INSIDE DIMENSION) VAN TRAILER. TRAILERS OF OTHER WIDTHS CAN BE USED.
- 2. A TRAILER EQUIPPED WITH ROUNDED FRONT CORNERS IS SHOWN. IF THE TRAILER TO BE LOADED HAS A SQUARE FRONT, OMIT THE FORWARD BLOCKING ASSEMBLY, PIECE MARKED ①, AND POSITION THE CONTAINERS DIRECTLY AGAINST THE FRONT WALL.
- 3. ALL LTL LOADS, REGARDLESS OF THEIR SIZE, REQUIRE ONE STRUT BRACE POSITIONED AT THE REAR OF THE TRAILER AND NAILED TO THE POCKET CLEATS, PIECES MARKED (B). IF THE SIDE STRUTS, PIECES MARKED (A), ARE LONGER THAN 7'-O", AN ADDITIONAL STRUT BRACE, PIECE MARKED (D), AND TWO STRUT BRACE RETAINING CLEATS, PIECES MARKED (D), MUST BE APPLIED FOR EVERY 7'-O" OF SIDE STRUT LENGTH.
- 4. THE K-BRACE BLOCKING, SHOWN AS PIECES MARKED ③ THROUGH ① , IS ADEQUATE FOR RETAINING A MAXIMUM OF NINE CONTAINERS.
- 5. TRAILERS EQUIPPED WITH ROLL-UP TYPE DOORS MAY BE USED; HOWEVER, THE NAILED-HEADER TYPE METHOD OF REAR BLOCKING MUST BE INSTALLED IN LIEU OF THE "K-BRACE" TYPE BLOCKING, PIECES MARKED ③ THROUGH ① . SEE PIECE MARKED ⑥ ON PAGE 4 FOR A TYPICAL INSTALLATION. THE HEADER WILL BE NAILED WITH NOT LESS THAN 6-10d NAILS PER PIECE. A HEADER WITH 6 NAILS PER PIECE IS ADEQUATE FOR AN LTL LOAD OF NOT MORE THAN SEVEN CONTAINERS. FOR EACH ADDITIONAL CONTAINER, ADD A 10d NAIL IN EACH LAYER OF THE HEADER.

TYPICAL LTL (2-UNIT LOAD)



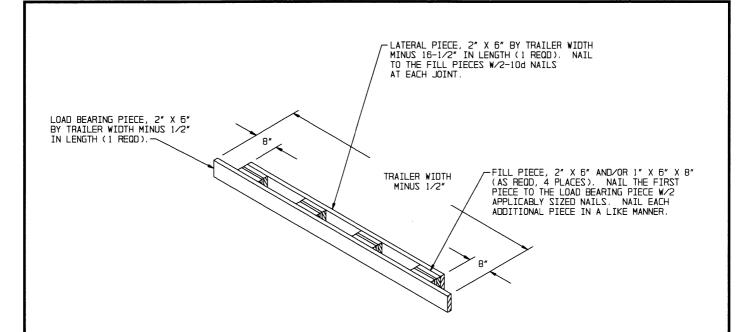
SPECIAL NOTES:

- 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 CONTAINER SHOWN HAS OVERALL DIMENSIONS OF 8'-2-1/2" LONG BY 36-3/4" WIDE BY 25-1/2" HIGH AND WEIGHS APPROXIMATELY 2,160 POUNDS.
- 3. THE HEADER SHOWN AS PIECE MARKED 2 WILL NOT BE RELIED UPON TO RETAIN MORE THAN SIX CONTAINERS.
- 4. IF MORE THAN ONE CONTAINER IS TO BE TRANSPORTED, THE LOAD SHOULD BE FORMED IN ROWS, WITH THE CONTAINERS POSITIONED AGAINST OPPOSITE SIDEWALLS. SIDE BLOCKING, SHOWN AS PIECE ① ABOVE MUST BE INSTALLED BETWEEN LATERALLY ADJACENT CONTAINERS. IF THE TRAILER HAS ROUNDED CORNERS AT THE FORWARD END, MOVE THE CONTAINERS BACK A SUITABLE DISTANCE TO CLEAR THE CORNERS AND INSTALL AN ADDITIONAL HEADER.

KEY NUMBERS

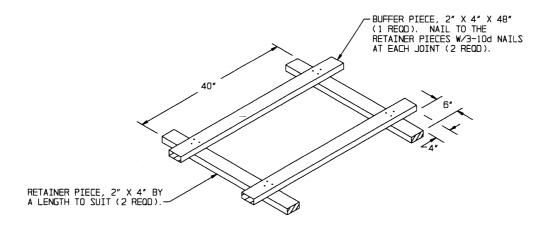
- 1 SIDE BLOCKING, 2" X 6" X 12" (DOUBLED) (2 REQD).
 POSITION AGAINST THE CONTAINER SKIDS AS SHOWN ABOVE.
 NAIL THE FIRST PIECE TO THE FLOOR W/3-10d NAILS. NAIL
 THE SECOND PIECE TO THE FIRST IN A LIKE MANNER.
- (2) HEADER, 2" X 6" X 36" (DOUBLED) (1 REOD). POSITION AGAINST THE SKIDS OF THE CONTAINER AS SHOWN ABOVE. NAIL THE FIRST PIECE TO THE FLOOR W/6-10d NAILS. NAIL THE SECOND PIECE TO THE FIRST IN A LIKE MANNER. SEE SPECIAL NOTE 3 AT THE LEFT.

TYPICAL LTL (1-UNIT LOAD)



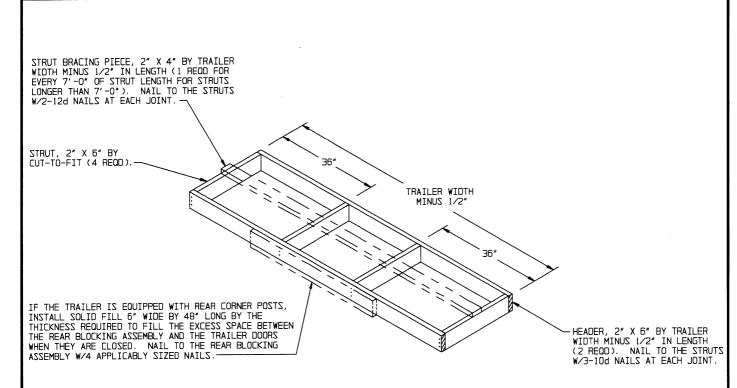
FORWARD BLOCKING ASSEMBLY

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", ADDITIONAL FILL PIECES WILL BE USED.



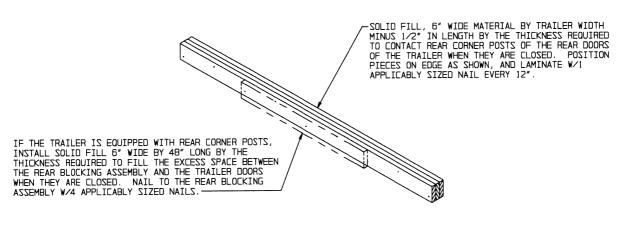
ANTI-SWAY BRACE

DETAILS



REAR BLOCKING ASSEMBLY A

THIS ASSEMBLY IS FOR USE AT THE REAR END OF A LOAD WHEN THE EXCESS SPACE BETWEEN THE LADING AND THE TRAILER DOORS IS 9° OR GREATER.

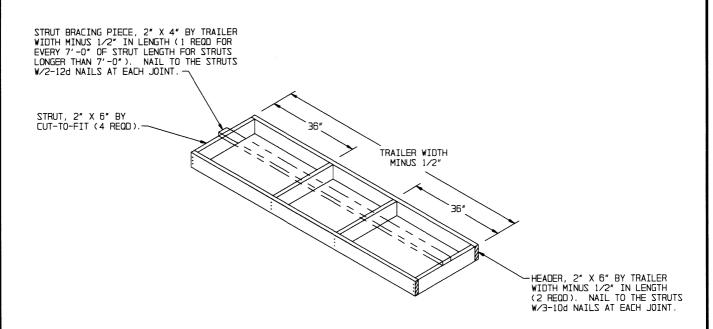


REAR BLOCKING ASSEMBLY B

THIS ASSEMBLY IS FOR USE AT THE REAR END OF A LOAD WHEN THE SPACE BETWEEN THE LADING AND THE TRAILER DOORS IS LESS THAN $9^{\prime\prime}$.

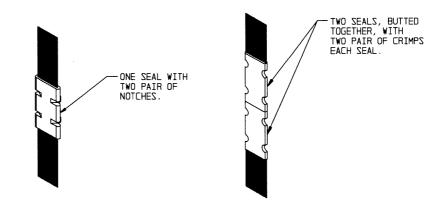
DETAILS

PAGE 14



SPACER ASSEMBLY

THIS ASSEMBLY IS DESIGNED FOR USE IN THE PLACE OF AN OMITTED LOAD UNIT, AND/OR TO PROVIDE FOR PROPER WEIGHT DISTRIBUTION AS TYPICALLY SHOWN IN THE LOADS ON PAGE 4 AND PAGE 8.



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

DETAILS

PAGE 15

