LOADING AND BRACING (TL & LTL) IN VAN TRAILERS⊕ OF SIDEWINDER (AIM-9) MISSILES PACKED IN CNU-310/E SHIPPING AND STORAGE CONTAINERS

INDEX

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

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GENERAL NOTES

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 SIDEWINDER (AIM-9) MISSILES PACKED IN CNU-310/E SHIPPING AND STORAGE CONTAINERS.

CONTAINER DIMENSIONS - - 138-1/4" L X 42" W X 17-3/4" H
CONTAINER WEIGHT - - - - 1,380 LBS (APPROX)
CONTAINER CUBE - - - - - 59.7 CUBIC FEET (APPROX)

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. VAN TRAILERS WHICH ARE 48'-0" LONG BY 8'-2" WIDE (INSIDE DIMENSION), 45'-0" LONG BY 7'-8" WIDE (INSIDE DIMENSION) AND 40'-0" LONG BY 7'-8" 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.

D. SELECTION OF A VEHICLE TO BE USED TO TRANSPORT THE DESIGNATED ITEM MUST COMPLY WITH AR 55-355, CHAPTER 29, FOR EXPLOSIVES AND OTHER DANGEROUS ARTICLES, IN FULL.

E. THE GROSS WEIGHT AND AXLE DISTRIBUTION OF WEIGHT FOR A LOAD WILL BE THE RESPONSIBILITY 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 THRU WHICH THE LOAD IS TO BE TRANSPORTED BY MOTOR CARRIER. LIKEWISE, THE GROSS WEIGHT ON A SINGLE OR TANDEM AXLE MUST NOT EXCEED THE MAXIMUM ALLOWABLE WEIGHT. IF THERE IS ANY DOUBT AS TO WHETHER THE TOTAL GROSS WEIGHT OR AXLE WEIGHT EXCEEDS THE MAXIMUM ALLOWED, WEIGHT SHOULD BE VERIFIED BY ACTUALLY WEIGHING THE LOADED VEHICLE.

F. NOTICE: A SHIPMENT WILL BE POSITIONED IN THE TRAILER CONSISTENT WITH STATE WEIGHT LAWS. THE NUMBER OF LADING UNITS MAY BE ADJUSTED TO FIT THE SIZE OF THE TRAILER TO BE LOADED OR THE QUANTITY TO BE SHIPPED. COMBINATIONS OF THE OUTLOADING PROCEDURES SPECIFIED MAY BE USED, HOWEVER, THE APPROVED METHODS SHOWN MUST BE FOLLOWED AS CLOSELY AS POSSIBLE FOR BLOCKING, BRACING, AND STAYING OF THE DESIGNATED ITEMS.

G. OTHER TYPES OF LADING ITEMS MAY BE LOADED INTO TRAILERS WHICH ARE PARTIALLY LOADED WITH THE DESIGNATED ITEMS, 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.

H. SOME LOADS ARE SHOWN IN TRAILERS HAVING ROUNDED CORNERS AT THE FORWARD END. IF THE CONVENTIONAL VAN TRAILER BEING USED IS EQUIPPED WITH A SQUARE FRONT OR WITH AN INSTALLED BULKHEAD, OMIT THE FORWARD BLOCKING ASSEMBLY A, PIECE MARKED (1), AND REPLACE IT WITH A FORWARD BLOCKING ASSEMBLY B, AS DETAILED ON PAGE 14.

J. WHEN STEEL STRAPPING IS SEALED AT AN END-OVER-END LAP JOINT, A MINIMUM OF ONE SEAL WITH TWO PAIR OF NOTCHES WILL BE USED TO SEAL THE JOINT WHEN A NOTCH-TYPE SEALER IS BEING USED. A MINIMUM OF TWO SEALS, BUTTED TOGETHER WITH TWO PAIR OF CRIMPS PER SEAL WILL BE USED TO SEAL THE JOINT WHEN A CRIMP-TYPE SEALER IS BEING USED. REFER TO THE "STRAP JOINT A" AND "STRAP JOINT B" DETAILS ON PAGE 15 FOR GUIDANCE.

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(GENERAL NOTES CONTINUED)

K. DUNNAGE LUMBER SPECIFIED THROUGHOUT THIS PROCEDURAL DRAWING IS OF NOMINAL SIZE. FOR EXAMPLE, 2" X 4" MATERIAL IS ACTUALLY 1-1/2" THICK BY 3-1/2" WIDE AND 2" X 6" MATERIAL IS ACTUALLY 1-1/2" THICK BY 5-1/2" WIDE.

L. NOTICE: A STAGGERED NAILING PATTERN WILL BE USED WHEREVER POSSIBLE WHEN NAILS ARE DRIVEN INTO JOINTS OF DUNNAGE ASSEMBLIES. ALSO, A STAGGERED NAILING PATTERN WILL BE USED WHEN DUNNAGE IS NAILED TO THE FLOOR OF THE TRANSPORTING VEHICLE, OR WHEN LAMINATING DUNNAGE. THE NAILING PATTERN WILL BE ADJUSTED AS REQUIRED SO THAT A NAIL DOES NOT PENETRATE INTO OR NEAR A CRACK BETWEEN FLOOR BOARDS. ADDITIONALLY, THE NAILING PATTERN FOR AN UPPER PIECE OF LAMINATED DUNNAGE WILL BE ADJUSTED AS REQUIRED SO THAT A NAIL FOR THAT PIECE WILL NOT BE DRIVEN THROUGH THE PIECE ONTO OR RIGHT BESIDE A NAIL IN A LOWER PIECE.

M. POWER DRIVEN STAPLES MAY BE USED AS ALTERNATIVE FASTENERS FOR NAILS WHEN CONSTRUCTING DUNNAGE ASSEMBLIES WHICH ARE TO BE USED IN THE DELINEATED TRAILER LOADS SHOWN THROUGHOUT THIS DRAWING. THE STAPLES TO BE USED MUST BE EQUAL IN LENGTH TO THE SPECIFIED NAIL SIZE AND MUST BE SUBSTITUTED ON A ONE STAPLE FOR ONE NAIL BASIS. STAPLES WHICH ARE 2-1/2" OR LESS IN LENGTH SHOULD BE IN ACCORDANCE WITH 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.

O. IF THE SPACE AT THE REAR OF THE LOAD, BETWEEN THE CNU CONTAINERS AND THE REAR DOOR MEASURES LESS THE 9", USE THE "REAR BLOCKING ASSEMBLY A" AS DEPICTED ON PAGE 4. IF THE VOID AT THE REAR OF THE LOAD IS 9" OR GREATER, USE THE "REAR BLOCKING ASSEMBLY B", AS SHOWN ON PAGE 8.

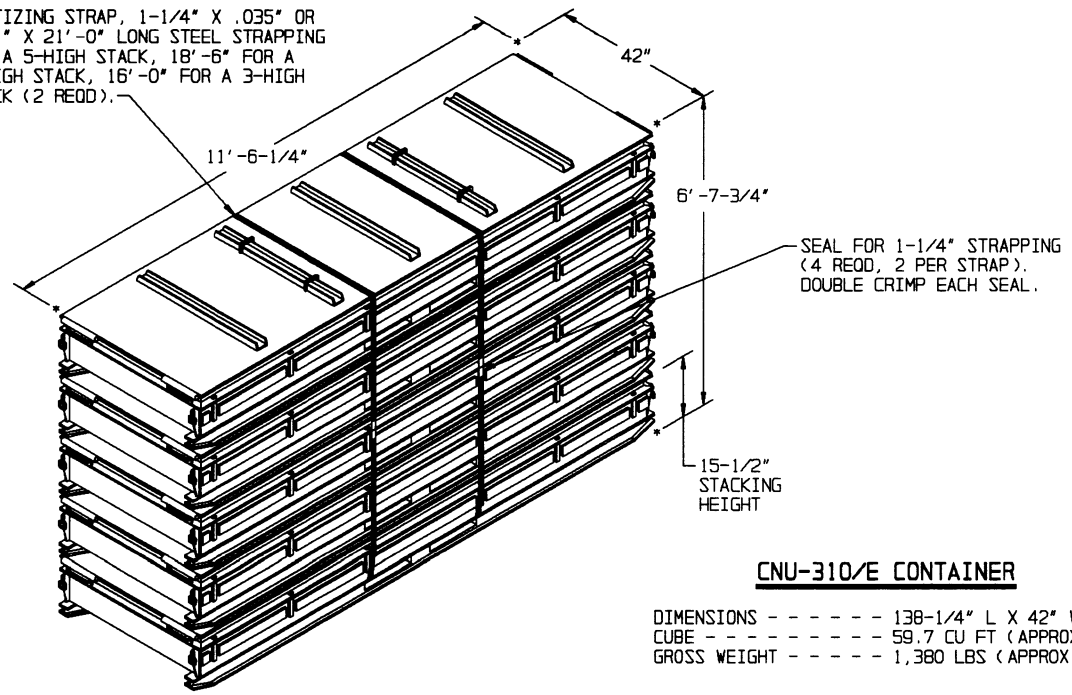
P. CAUTION: WHEN POWER OR PNEUMATIC NAILERS ARE BEING USED IN THE APPLICATION OF NAILED FLOORLINE BLOCKING OR BRACING, CONTAINERS BEING LOADED INTO THE CONVEYANCE MUST BE POSITIONED TO ALLOW A CLEAR PATH OF EXIT FOR THE OPERATOR AT ALL TIMES, SHOULD AN EMERGENCY EXIT BECOME NECESSARY.

Q. 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.

R. FOR ADDITIONAL GUIDANCE, ATTENTION IS DIRECTED TO THE "SPECIAL NOTES" SECTIONS WHICH ARE IMMEDIATELY ADJACENT TO THE OUTLOADING METHODS.

MATERIAL SPECIFICATIONS

LUMBER - - - - - - - - :	SEE TM 743-200-1 (DUNNAGE LUMBER) AND FED SPEC MM-L-751.
NAILS - - - - - - - - :	FED SPEC FF-N-105; COMMON.
STRAPPING, STEEL - - :	ASTM D3953; FLAT STRAPPING, TYPE 1, HEAVY DUTY, FINISH A, B (GRADE 2), OR C.
SEAL, STRAP - - - - :	ASTM D3953; CLASS H, FINISH A, B (GRADE 2), OR C, DOUBLE NOTCH TYPE, STYLE I, II, OR IV.



CONTAINER STACK DETAIL

CNU-310/E CONTAINER

DIMENSIONS - - - - - - 138-1/4" L X 42" W X 17-3/4" H
CUBE - - - - - - - - - - 59.7 CU FT (APPROX)
GROSS WEIGHT - - - - - 1,380 LBS (APPROX)

UNITIZING AND HANDLING GUIDANCE:

1. STACKING CONTAINERS FOR UNITIZING.

   A. AN UPPER CONTAINER SHOULD BE PLACED AS CLOSE AS POSSIBLE IN VERTICAL ALIGNMENT WITH THE NEXT LOWER CONTAINER.

   B. POSITION THE AFT END OF AN UPPER CONTAINER ABOVE THE AFT END OF THE NEXT LOWER CONTAINER.

   C. THE CONTAINER SKIDS OF AN UPPER CONTAINER SHOULD BE FULLY SEATED AGAINST THE SKID LOCATOR PIECES ON THE COVER OF THE NEXT LOWER CONTAINER.

2. INSTALLATION OF 1-1/4" X .035" OR .031" UNITIZING STRAPPING.

   A. THE UNITIZING STRAPS SHOULD BE POSITIONED AROUND THE CONTAINERS AS SHOWN. PLACE STRAPPING THROUGH FORK RECEPTACLES OF A LOWER CONTAINER, SO THAT STRAPPING LAYS FLAT AND STRAIGHT WITH THE BODY SURFACES OF THE CONTAINERS; I.E., VERTICAL ALONG SIDES AND STRAIGHT ACROSS TOP AND BOTTOM OF THE STACK.

   B. STRAPPING WILL BE FIRMLY TENSIONED, AND EACH END-OVER-END LAP JOINT WILL BE SEALED WITH TWO DOUBLE CRIMPED STRAP SEALS AS SHOWN. THE LAP JOINTS WILL BE MADE ALONG THE SIDE OF THE STACK. DURING STRAP TENSIONING, CARE SHOULD BE EXERCISED TO ENSURE THAT THE CONTAINERS ARE NOT DAMAGED. EXCESS STRAPPING (STRAP ENDS) SHOULD BE CUT OFF OR BROKEN OFF NEAR THE JOINT SEALS.

(CONTINUED AT RIGHT)

(UNITIZING AND HANDLING GUIDANCE CONTINUED)

3. CONTAINER OR CONTAINER STACK HANDLING.

   NOTES: (1) APPROVED MATERIAL HANDLING EQUIPMENT (FORKLIFT TRUCKS, CRANES, HAND TRUCKS, DOLLIES, ROLLER ASSEMBLIES, SLINGS, SPREADER BARS, ETC.) IS SPECIFIED ELSEWHERE.

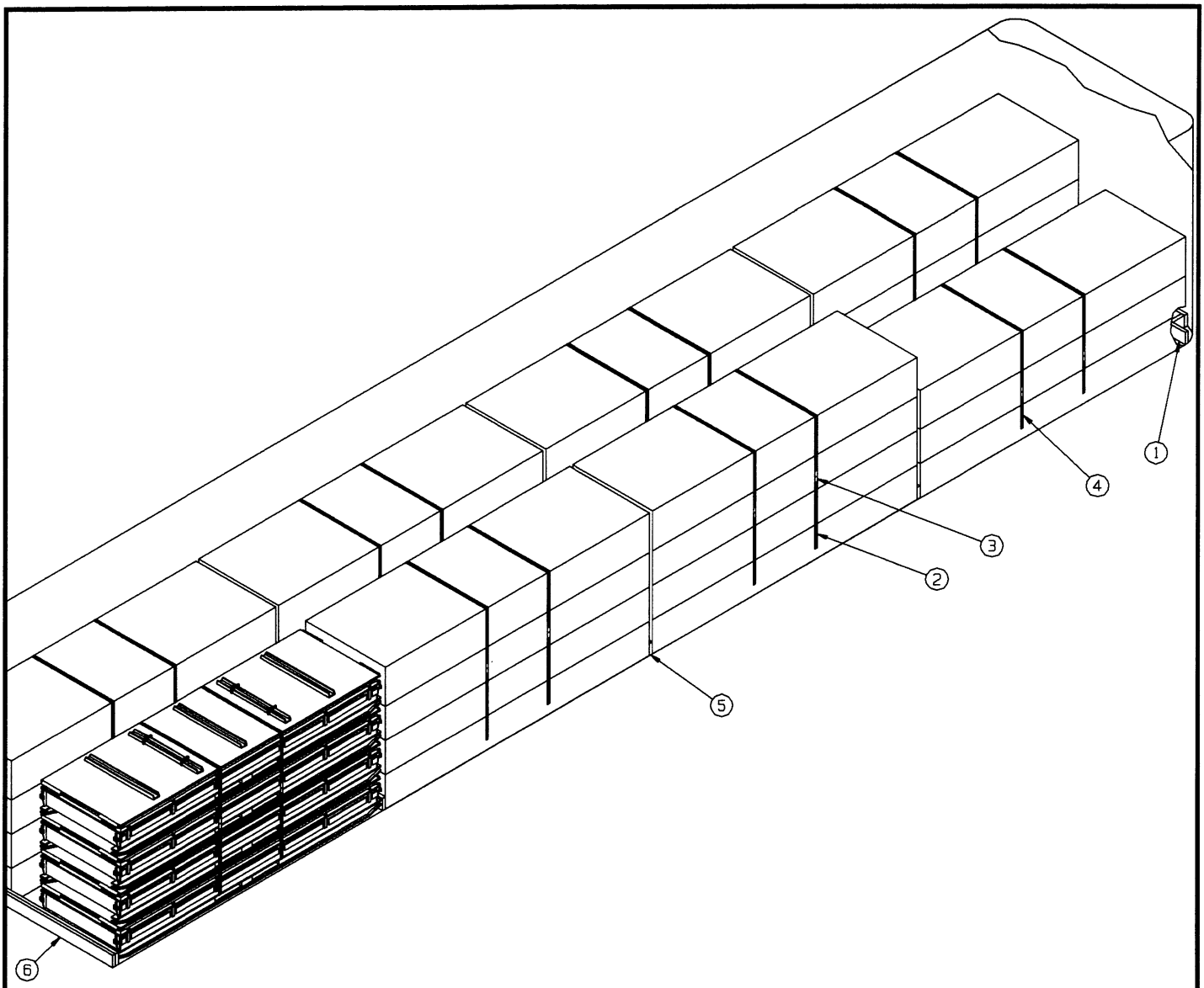
   (2) PRECAUTIONARY HANDLING TECHNIQUES NORMALLY EMPLOYED OR AS SPECIFIED FOR THE TYPE OF COMMODITY INVOLVED WILL BE OBSERVED.

   A. ONLY APPROVED AND APPROPRIATELY SIZED MATERIALS HANDLING EQUIPMENT WILL BE USED FOR HANDLING THE DEPICTED CONTAINERS.

   B. IF HANDLING IS ACCOMPLISHED WITH A FORKLIFT TRUCK, THE CONTAINERS SHOULD BE HANDLED FROM A SIDE POSITION AS MUCH AS POSSIBLE. CARE MUST BE EXERCISED WHEN INSERTING FORKS UNDER A CONTAINER, TO PREVENT DAMAGE TO THE CONTAINER BY THE FORK TINES OR THE FORKLIFT PACKAGE GUARD. FOR VERY SHORT "INCHING" SPEED MOVEMENTS, SUCH AS WILL BE EXPERIENCED DURING TRAILER LOADING, A UNITIZED CONTAINER STACK MAY BE HANDLED BY INSERTING THE FORKS OF A FORKLIFT TRUCK INTO THE FORK RECEPTACLES OF AN UPPER CONTAINER. IF ONE CONTAINER IS HANDLED BY SLINGING, THE SLING MAY BE ATTACHED TO THE LIFTING POINTS ON THE CONTAINER. HOWEVER, IF A TWO, THREE, FOUR OR FIVE-HIGH STACK IS HANDLED BY SLINGING, DO NOT ATTACH THE SLING TO THE LIFTING POINTS ON A CONTAINER. THE SLING USED MUST BE OF SUCH A DESIGN THAT THE LIFTING IS DONE ON THE BOTTOM OF THE LOWEST CONTAINER.

   C. WHEN LOADING A CONTAINER OR CONTAINER STACK, THE CONTAINER OR STACK WILL BE PARTIALLY PLACED INTO THE END OF THE TRAILER BY HANDLING WITH A FORKLIFT FROM THE SIDE. THE FORKLIFT THEN MUST INSERT ITS TINES FROM THE END OF THE CONTAINER OR STACK, LIFT THE END SLIGHTLY, THEN PROCEED TO PUSH THE CONTAINER OR STACK INTO ITS FINAL POSITION WITHIN THE TRAILER. CARE MUST BE EXERCISED TO AVOID DAMAGE TO THE CONTAINER ENDS, ETC., DURING PUSHING OPERATIONS.

   D. WHEN UNLOADING A CONTAINER OR CONTAINER STACK FROM THE TRAILER, THE FORKLIFT TINES WILL BE INSERTED UNDER THE LOWER CONTAINER, THE FORKLIFT WILL THEN ELEVATE THE END SLIGHTLY ABOVE THE FLOOR, AND BEGIN DRAGGING THE CONTAINER OR STACK FROM THE TRAILER AFTER ATTACHING A CHAIN OR WEB STRAP FROM A LOWER CONTAINER LIFT POINT AROUND THE FORKLIFT MAST TO A LOWER LIFT POINT ON THE OPPOSITE SIDE OF THE CONTAINER.



ISOMETRIC VIEW

KEY NUMBERS

(1) FORWARD BLOCKING ASSEMBLY A (1 REQD). SEE THE DETAIL ON PAGE 13. SEE GENERAL NOTES "L" AND "M" ON PAGE 2. SEE SPECIAL NOTE 2 ON PAGE 5.

(2) UNITIZING STRAP, 1-1/4" X .035" OR .031" X 18'-6" LONG STEEL STRAPPING (14 REQD). INSTALL THRU THE FORK POCKET OF THE BOTTOM CONTAINER AND TO ENCIRCLE A STACK OF FOUR CONTAINERS. SEE THE "UNITIZING AND HANDLING GUIDANCE" ON PAGE 3. SEE SPECIAL NOTE 3 ON PAGE 5.

(3) SEAL FOR 1-1/4" STEEL STRAPPING (32 REQD, 2 PER STRAP). DOUBLE CRIMP EACH SEAL. SEE THE "END-OVER-END LAP JOINT DETAILS" ON PAGE 15. SEE GENERAL NOTE "J" ON PAGE 2.

(4) UNITIZING STRAP, 1-1/4" X .035" OR .031" X 16'-0" LONG STEEL STRAPPING (2 REQD). INSTALL THRU THE FORK POCKET OF THE BOTTOM CONTAINER AND TO ENCIRCLE A STACK OF THREE CONTAINERS. SEE THE "UNITIZING AND HANDLING GUIDANCE" ON PAGE 3.

(5) HEADER ASSEMBLY (3 REQD). SEE THE DETAIL ON PAGE 13.

(6) REAR BLOCKING ASSEMBLY A (1 REQD). SEE THE DETAIL ON PAGE 13. SEE SPECIAL NOTE 4 ON PAGE 5.

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

SPECIAL NOTES:

1. A 31-UNIT LOAD IS SHOWN IN A 48'-0" LONG BY 8'-2" WIDE (INSIDE DIMENSION) VAN TRAILER. TRAILERS OF OTHER LENGTHS AND WIDTHS MAY BE USED.

2. THE TRAILER IS SHOWN WITH ROUNDED FRONT CORNERS. HOWEVER, THE FORWARD BLOCKING ASSEMBLY IS TO BE USED EVEN IF THE TRAILER TO BE LOADED HAS A SQUARE FRONT WALL OR AN INSTALLED BULKHEAD. THE USE OF THE ASSEMBLY WILL SHIFT THE LOAD TO THE REAR ENOUGH TO PROVIDE FOR PROPER WEIGHT DISTRIBUTION.

3. CONTAINERS MUST BE UNITIZED INTO STACKS OF FOUR OR THREE CONTAINERS PRIOR TO LOADING INTO THE VAN TRAILER. THE STACKS WILL BE FORMED AT THE REAR OF THE TRAILER BY POSITIONING THE CONTAINERS WITH ONE END RESTING JUST INSIDE THE REAR OF THE TRAILER. ONE CONTAINER WILL BE POSITIONED ON TOP OF ANOTHER UNTIL THE DESIRED STACK HEIGHT IS REACHED. THE UNITIZING STRAPS WILL BE INSTALLED AND THE STACK CAN THEN BE PARTIALLY LIFTED FROM THE REAR AND PUSHED INTO THE TRAILER. USE CAUTION SO AS NOT TO DAMAGE THE CONTAINERS.

4. IF THE SPACE AT THE REAR OF THE LOAD IS MORE THAN 9", THE REAR BLOCKING ASSEMBLY B WILL BE USED IN LIEU OF THE DEPICTED REAR BLOCKING ASSEMBLY, PIECE MARKED ⑥. SEE THE DETAIL ON PAGE 14.

5. IF THE TRAILER HAS SUFFICIENT NAILING AREA AT THE REAR OF THE LOAD, A NAILED HEADER MAY BE USED IN LIEU OF A REAR BLOCKING ASSEMBLY. SEE PIECE MARKED ⑥ ON PAGE 6 FOR GUIDANCE. THE HEADER WILL BE NAILED W/17-10d NAILS IN THE FIRST AND 17-20d NAILS IN EACH OF THE SECOND AND THIRD LAYERS.

6. THE DEPICTED 31-UNIT LOAD CAN BE TRANSPORTED PROVIDING THE TRACTOR "DRIVE" AXLES DO NOT WEIGH MORE THAN 16,350 POUNDS AND THE TRAILER AXLES DO NOT WEIGH MORE THAN 8,800 POUNDS. A 32-UNIT LOAD CANNOT BE SHIPPED WITHOUT EXCEEDING THE AXLE WEIGHT LIMITATIONS.

7. THE DEPICTED LOAD CAN BE REDUCED TO SUIT THE QUANTITY TO BE SHIPPED. IF OMITTING ONE CONTAINER, THE FOURTH LAYER CONTAINER IN THE FIRST LOAD UNIT SHOULD BE LEFT OUT. ADDITIONAL CONTAINERS CAN BE OMITTED, AS DESIRED. ADJUST THE LENGTH OF THE UNITIZING STRAPS APPROPRIATELY.

8. THE LOCATION OF THE 7-CONTAINER LOAD UNIT IS NOT MANDATORY BUT IS FURNISHED AS GUIDANCE ONLY. LIKEWISE, THE MAXIMUM WEIGHTS GIVEN FOR TRACTOR "DRIVE" AXLES AND TRAILER AXLES ARE FOR GUIDANCE.

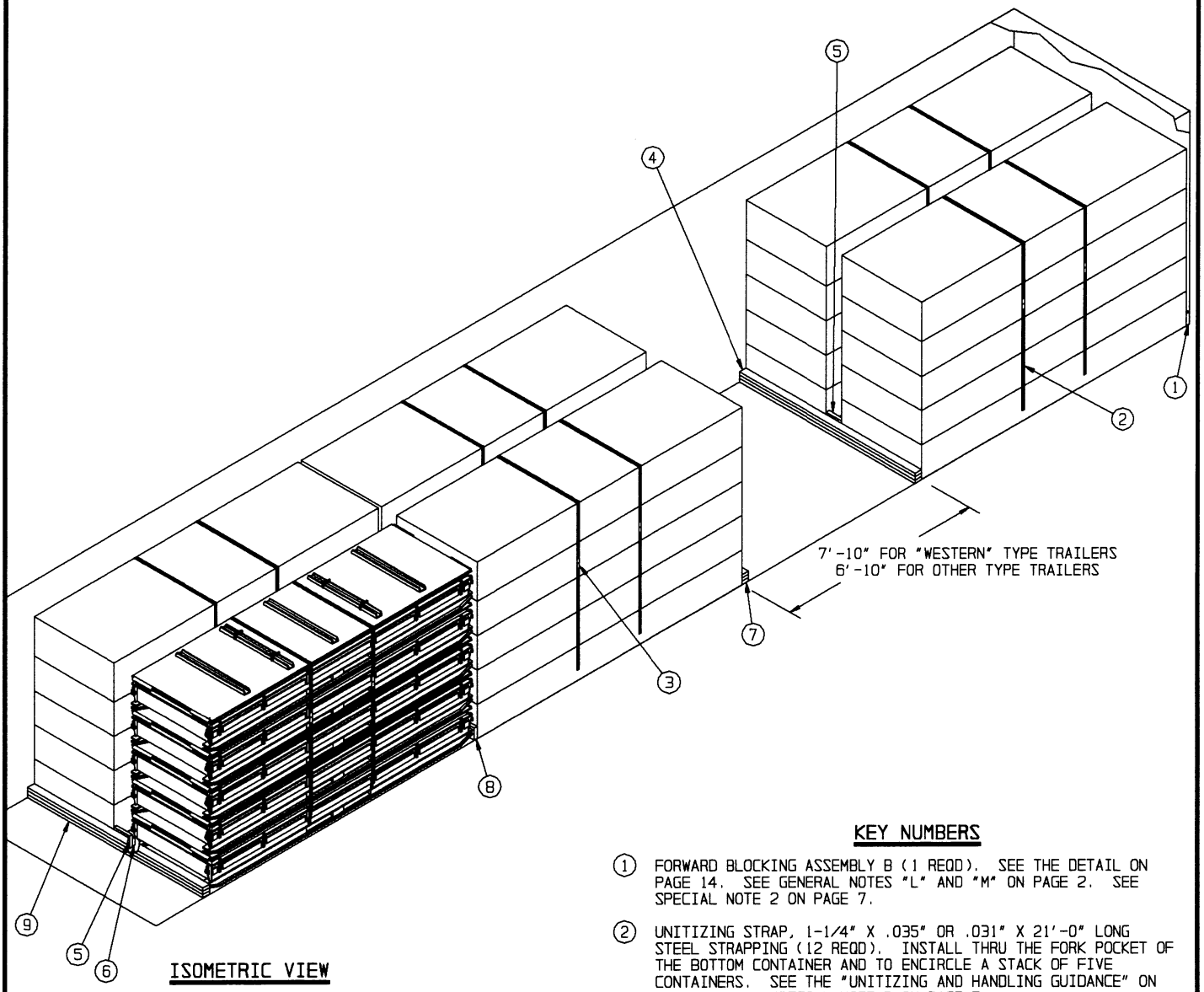
BILL OF MATERIAL		
LUMBER	LINEAR FEET	BOARD FEET
2" X 4" 2" X 6"	9 66	6 66
NAILS	NO. REQD	POUNDS
10d (3")	88	1-1/2
STEEL STRAPPING, 1-1/4" - - 291' REQD - - - - 42 LBS SEAL FOR 1-1/4" STRAPPING - - 32 REQD - - - - 2 LBS		

LOAD AS SHOWN

ITEM	QUANTITY	WEIGHT (APPROX)
CONTAINER	31	42,780 LBS
DUNNAGE		190 LBS
TOTAL WEIGHT		42,970 LBS (APPROX)

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

PROJECT SP 259-92



ISOMETRIC VIEW

KEY NUMBERS

(1) FORWARD BLOCKING ASSEMBLY B (1 REQD). SEE THE DETAIL ON PAGE 14. SEE GENERAL NOTES "L" AND "M" ON PAGE 2. SEE SPECIAL NOTE 2 ON PAGE 7.

(2) UNITIZING STRAP, 1-1/4" X .035" OR .031" X 21'-0" LONG STEEL STRAPPING (12 REQD). INSTALL THRU THE FORK POCKET OF THE BOTTOM CONTAINER AND TO ENCIRCLE A STACK OF FIVE CONTAINERS. SEE THE "UNITIZING AND HANDLING GUIDANCE" ON PAGE 3. SEE SPECIAL NOTE 3 ON PAGE 7.

(3) SEAL FOR 1-1/4" STEEL STRAPPING (24 REQD, 2 PER STRAP). DOUBLE CRIMP EACH SEAL. SEE THE "END-OVER-END LAP JOINT DETAILS" ON PAGE 15. SEE GENERAL NOTE "J" ON PAGE 2.

(4) HEADER, 2" X 4" BY TRAILER WIDTH MINUS 1/2" (TRIPLED) (1 REQD). POSITION AT REAR OF THE FIRST LOAD UNIT. NAIL THE FIRST PIECE TO THE TRAILER FLOOR W/6-10d NAILS. NAIL THE SECOND PIECE TO THE FIRST AND THE THIRD PIECE TO THE SECOND W/6-10d NAILS. SEE SPECIAL NOTE 4 ON PAGE 7.

(5) LATERAL BRACING, 2" X 6" BY CUT TO FIT MINUS 1" (3 REQD). POSITION ON EDGE AND NAIL TO PIECE MARKED (4), (7) AND/OR (9) W/4-10d NAILS.

(6) LATERAL BRACING, 2" X 4" BY CUT TO FIT MINUS 1" (3 REQD). POSITION ON EDGE AND NAIL TO PIECE MARKED (5) W/4-10d NAILS.

(7) HEADER, 2" X 6" BY TRAILER WIDTH MINUS 1/2" (TRIPLED) (1 REQD). POSITION AT FRONT OF REAR PORTION OF THE LOAD. NAIL THE FIRST PIECE TO THE TRAILER FLOOR W/6-10d NAILS. NAIL THE SECOND PIECE TO THE FIRST AND THE THIRD PIECE TO THE SECOND W/6-20d NAILS.

(8) HEADER ASSEMBLY (1 REQD). SEE THE DETAIL ON PAGE 13.

(9) HEADER, 2" X 4" BY TRAILER WIDTH MINUS 1/2" (TRIPLED) (1 REQD). POSITION AT REAR OF THE LOAD. NAIL THE FIRST PIECE TO THE TRAILER FLOOR W/6-10d NAILS. NAIL THE SECOND PIECE TO THE FIRST AND THE THIRD PIECE TO THE SECOND W/6-10d NAILS. SEE SPECIAL NOTE 5 ON PAGE 7.

30-UNIT LOAD IN A 45'-0" LONG BY 7'-8" WIDE TRAILER

SPECIAL NOTES:

1. A 30-UNIT LOAD IS SHOWN IN A 45'-0" LONG BY 7'-8" WIDE (INSIDE DIMENSION) VAN TRAILER. TRAILERS OF OTHER LENGTHS AND WIDTHS MAY BE USED.

2. THE TRAILER IS SHOWN WITH SQUARE FRONT CORNERS. IF THE TRAILER TO BE LOADED HAS ROUNDED FRONT CORNERS, THE FORWARD BLOCKING ASSEMBLY "A" MUST BE USED.

3. CONTAINERS MUST BE UNITIZED INTO STACKS OF FIVE CONTAINERS PRIOR TO LOADING INTO THE VAN TRAILER. THE STACKS WILL BE FORMED AT THE REAR OF THE TRAILER BY POSITIONING THE CONTAINERS WITH ONE END RESTING JUST INSIDE THE REAR OF THE TRAILER. ONE CONTAINER WILL BE POSITIONED ON TOP OF ANOTHER UNTIL THE DESIRED STACK HEIGHT IS REACHED. THE UNITIZING STRAPS WILL BE INSTALLED AND THE STACK CAN THEN BE PARTIALLY LIFTED FROM THE REAR AND PUSHED INTO THE TRAILER. USE CAUTION SO AS NOT TO DAMAGE THE CONTAINERS.

4. IF DESIRED, IN LIEU OF USING THE NAILED HEADERS, PIECES MARKED ④ AND ⑦, AN 8'-3" LONG SPACER ASSEMBLY WITH THE STRUT BRACING PIECE INSTALLED MAY BE USED. SEE THE DETAIL ON PAGE 14.

5. AT THE REAR OF THE LOAD, IF THE AREA WHERE THE REAR HEADER, PIECE MARKED ⑨, IS TO BE INSTALLED IS NOT NAILABLE, OR IF DESIRED, THE REAR BLOCKING ASSEMBLY "B" MAY BE USED FOR AN EXCESS SPACE OF 9" OR GREATER. SEE THE DETAIL ON PAGE 14. IF THE SPACE AT THE REAR OF THE LOAD IS LESS THAN 9", THE REAR BLOCKING ASSEMBLY "A" WILL BE USED. SEE THE DETAIL ON PAGE 13.

6. THE DEPICTED 30-UNIT LOAD CAN BE TRANSPORTED IN A "WESTERN" TYPE TRAILER, HAVING THE REAR TANDEMS LOCATED AT THE EXTREME REAR OF THE TRAILER, PROVIDING THE TRACTOR "DRIVE" AXLES DO NOT WEIGH MORE THAN 15,750 POUNDS. IF THE DOOR OPENING OF THE TRAILER IS AT LEAST 8'-2" HIGH, A 31-UNIT LOAD CAN BE SHIPPED. THE ADDED CONTAINER SHOULD BE PLACED ON THE REAR LOAD UNIT. THE REAR TANDEMS OF THE EMPTY TRAILER THEN CANNOT WEIGH MORE THAN 9,450 POUNDS AND THE "DRIVE" AXLES CANNOT WEIGH MORE THAN 15,700 POUNDS. IF IT IS DESIRED TO SHIP 32 CONTAINERS, THEY SHOULD BOTH BE PLACED ON THE SECOND LOAD UNIT. THE MAXIMUM "DRIVE" AXLE WEIGHT WILL THEN BE 14,700 POUNDS AND THE MAXIMUM EMPTY TRAILER WEIGHT WILL BE 9,000 POUNDS. THE PLACEMENT OF ADDED CONTAINERS IS NOT MANDATORY AND MAY BE ADJUSTED TO SUIT. THE MAXIMUM AXLE WEIGHTS GIVEN ARE APPROXIMATE AND ADVISORY ONLY.

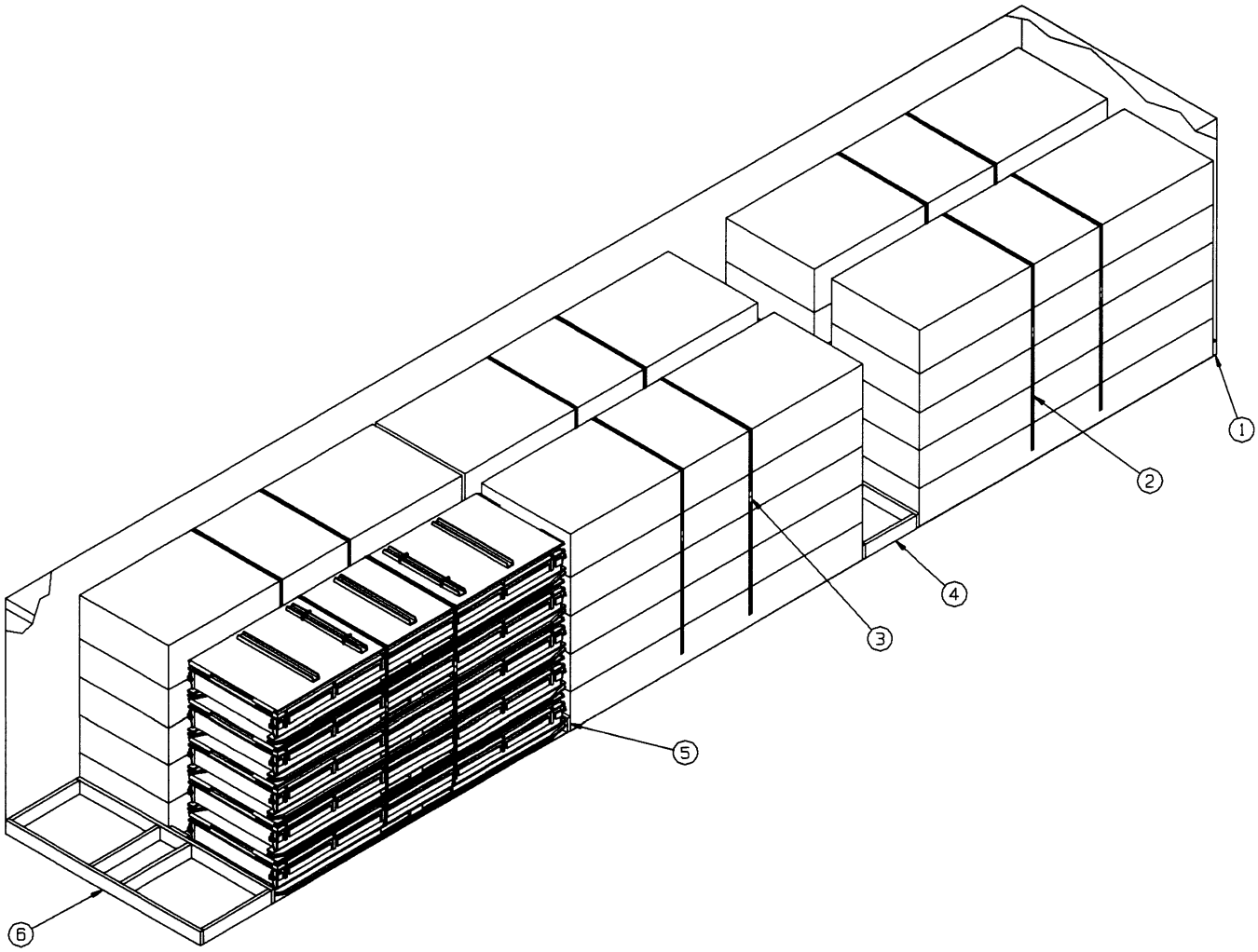
7. THE DEPICTED 30-UNIT LOAD CAN BE TRANSPORTED IN A TRAILER OTHER THAN A "WESTERN" TYPE PROVIDING THE TRACTOR "DRIVE" AXLES DO NOT WEIGH MORE THAN 16,300 POUNDS. IF THE DOOR OPENING OF THE TRAILER IS AT LEAST 8'-2" HIGH, A 31-UNIT LOAD CAN BE SHIPPED. THE ADDED CONTAINER SHOULD BE PLACED ON THE SECOND LOAD UNIT. THE REAR TANDEMS OF THE EMPTY TRAILER THEN CANNOT WEIGH MORE THAN 9,300 POUNDS AND THE "DRIVE" AXLES CANNOT WEIGH MORE THAN 15,750 POUNDS. IF IT IS DESIRED TO SHIP 32 CONTAINERS, THEY SHOULD BOTH BE PLACED ON THE SECOND LOAD UNIT. THE MAXIMUM "DRIVE" AXLE WEIGHT WILL THEN BE 15,250 POUNDS AND THE MAXIMUM EMPTY TRAILER WEIGHT WILL BE 8,400 POUNDS. THE PLACEMENT OF ADDED CONTAINERS IS NOT MANDATORY AND MAY BE ADJUSTED TO SUIT. THE MAXIMUM AXLE WEIGHTS GIVEN ARE APPROXIMATE AND ADVISORY ONLY.

8. THE DEPICTED 30-UNIT LOAD CAN BE REDUCED TO SUIT THE QUANTITY TO BE SHIPPED. IF OMITTING ONE CONTAINER, A TOP LAYER CONTAINER IN THE FIRST LOAD UNIT SHOULD BE LEFT OUT. ADDITIONAL CONTAINERS CAN BE OMITTED, AS DESIRED. ADJUST THE LENGTH OF THE UNITIZING STRAPS APPROPRIATELY.

BILL OF MATERIAL		
LUMBER	LINEAR FEET	BOARD FEET
2" X 4" 2" X 6"	55 47	37 47
NAILS	NO. REQD	POUNDS
10d (3") 20d (4")	90 12	1-1/2 1/2
STEEL STRAPPING, 1-1/4" - - 252' REQD - - - - 36 LBS SEAL FOR 1-1/4" STRAPPING - - 24 REQD - - - - 1 LB		

LOAD AS SHOWN

ITEM	QUANTITY	WEIGHT (APPROX)
CONTAINER	30	41,400 LBS
DUNNAGE		207 LBS
TOTAL WEIGHT		41,607 LBS (APPROX)



ISOMETRIC VIEW

KEY NUMBERS

(1) FORWARD BLOCKING ASSEMBLY B (1 REQD). SEE THE DETAIL ON PAGE 14. SEE GENERAL NOTES "L" AND "M" ON PAGE 2. SEE SPECIAL NOTE 2 ON PAGE 9.

(2) UNITIZING STRAP, 1-1/4" X .035" OR .031" X 21'-0" LONG STEEL STRAPPING (12 REQD). INSTALL THRU THE FORK POCKET OF THE BOTTOM CONTAINER AND TO ENCIRCLE A STACK OF FIVE CONTAINERS. SEE THE "UNITIZING AND HANDLING GUIDANCE" ON PAGE 3. SEE SPECIAL NOTE 3 ON PAGE 9.

(3) SEAL FOR 1-1/4" STEEL STRAPPING (24 REQD, 2 PER STRAP). DOUBLE CRIMP EACH SEAL. SEE THE "END-OVER-END LAP JOINT DETAILS" ON PAGE 15, AND GENERAL NOTE "J" ON PAGE 2.

(4) SPACER ASSEMBLY, 21" LONG (1 REQD). SEE THE DETAIL ON PAGE 14. SEE SPECIAL NOTE 4 ON PAGE 9.

(5) HEADER ASSEMBLY (1 REQD). SEE THE DETAIL ON PAGE 13.

(6) REAR BLOCKING ASSEMBLY B (1 REQD). SEE THE DETAIL ON PAGE 14. SEE SPECIAL NOTE 6 ON PAGE 9.

SPECIAL NOTES:

1. A 30-UNIT LOAD IS SHOWN IN A 40'-0" LONG BY 7'-8" WIDE (INSIDE DIMENSION) VAN TRAILER. TRAILERS OF OTHER LENGTHS AND WIDTHS MAY BE USED.

2. THE TRAILER IS SHOWN WITH SQUARE FRONT CORNERS. IF THE TRAILER TO BE LOADED HAS ROUNDED FRONT CORNERS, THE FORWARD BLOCKING ASSEMBLY "A" MUST BE USED. SEE THE DETAIL ON PAGE 13.

3. CONTAINERS MUST BE UNITIZED INTO STACKS OF FIVE CONTAINERS PRIOR TO LOADING INTO THE VAN TRAILER. THE STACKS WILL BE FORMED AT THE REAR OF THE TRAILER BY POSITIONING THE CONTAINERS WITH ONE END RESTING JUST INSIDE THE REAR OF THE TRAILER. ONE CONTAINER WILL BE POSITIONED ON TOP OF ANOTHER UNTIL THE DESIRED STACK HEIGHT IS REACHED. THE UNITIZING STRAPS WILL BE INSTALLED AND THE STACK CAN THEN BE PARTIALLY LIFTED FROM THE REAR AND PUSHED INTO THE TRAILER. USE CAUTION SO AS NOT TO DAMAGE THE CONTAINERS.

4. THE SPACER ASSEMBLY, PIECE MARKED ④, WILL BE CONSTRUCTED APPROXIMATELY 21" LONG FOR A LOAD IN EITHER A "WESTERN" TYPE TRAILER, HAVING THE REAR TANDEMS AT THE EXTREME REAR OF THE TRAILER, OR A TRAILER OTHER THAN A "WESTERN" TYPE.

5. IF DESIRED, IN LIEU OF USING THE SPACER ASSEMBLY, PIECE MARKED ④, NAILED HEADERS MAY BE USED. SEE PIECE MARKED ④ ON PAGE 6 FOR THE HEADER TO BE USED AGAINST THE REAR OF THE FIRST LOAD UNIT, AND PIECE MARKED ⑦ ON PAGE 6 FOR THE HEADER TO BE USED AT THE FRONT OF THE REAR PORTION OF THE LOAD.

6. AT THE REAR OF THE LOAD, IF THE AREA WHERE THE REAR BLOCKING ASSEMBLY, PIECE MARKED ⑥, IS TO BE POSITIONED IS NAILABLE, AND IF DESIRED, A NAILED HEADER MAY BE INSTALLED. SEE PIECE MARKED ⑨ ON PAGE 6 FOR GUIDANCE.

7. THE DEPICTED 30-UNIT LOAD CAN BE REDUCED TO SUIT THE QUANTITY TO BE SHIPPED. IF OMITTING ONE CONTAINER, A TOP LAYER CONTAINER IN THE FIRST LOAD UNIT SHOULD BE LEFT OUT. ADDITIONAL CONTAINERS CAN BE OMITTED, AS DESIRED. ADJUST THE LENGTH OF THE UNITIZING STRAPS AS APPROPRIATE.

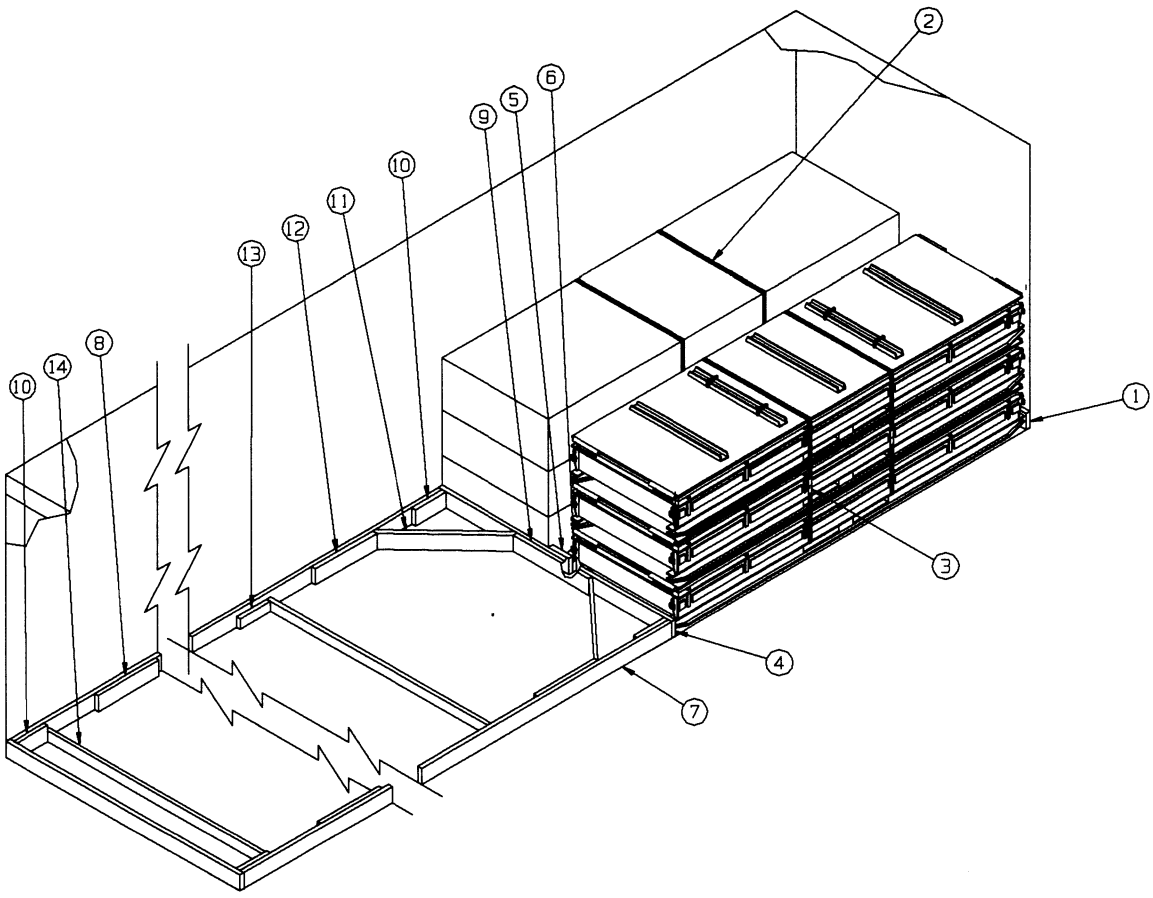
8. IF THE DOOR OPENING HEIGHT OF THE TRAILER TO BE LOADED IS AT LEAST 8'-2" HIGH, CONTAINERS CAN BE ADDED IN A PARTIAL SIXTH LAYER. IF THE TRAILER IS THE "WESTERN" TYPE, WITH THE REAR TANDEMS AT THE EXTREME REAR OF THE TRAILER, CONTAINERS SHOULD BE ADDED PROGRESSING FROM THE REAR TO THE FRONT. UP TO THREE CONTAINERS CAN BE ADDED IF THE "DRIVE" AXLES DO NOT WEIGH MORE THAN 11,600 POUNDS AND THE TRAILER AXLES DO NOT WEIGH MORE THAN 9,700 POUNDS. IF THE TRAILER IS OTHER THAN A "WESTERN" TYPE, THE CONTAINERS SHOULD BE ADDED PROGRESSING FROM THE FRONT TO THE REAR. UP TO THREE CONTAINERS CAN BE ADDED IF THE "DRIVE" AXLES DO NOT WEIGH MORE THAN 12,600 POUNDS AND THE TRAILER AXLES DO NOT WEIGH MORE THAN 8,750 POUNDS. THESE FIGURES ARE APPROXIMATE AND ARE FOR GUIDANCE ONLY AND WILL VARY DEPENDING ON WHETHER THE TRAILER HAS ROUNDED FRONT CORNERS OR SQUARE. THE LOADED VEHICLE SHOULD BE WEIGHED TO ENSURE THAT IT WILL "SCALE".

BILL OF MATERIAL

LUMBER	LINEAR FEET	BOARD FEET
2" X 4" 2" X 6"	3 64	2 64
NAILS	**NO. REQD**	**POUNDS**
10d (3")	72	1-1/4
STEEL STRAPPING, 1-1/4" - - 252' REQD - - - - 36 LBS SEAL FOR 1-1/4" STRAPPING - - 24 REQD - - - - 1 LB		

LOAD AS SHOWN

ITEM	QUANTITY	WEIGHT (APPROX)
CONTAINER	30	41,400 LBS
DUNNAGE		171 LBS
TOTAL WEIGHT		41,571 LBS (APPROX)



ISOMETRIC VIEW

KEY NUMBERS

(1) FORWARD BLOCKING ASSEMBLY B (1 REQD). SEE THE DETAIL ON PAGE 14. SEE GENERAL NOTES "L" AND "M" ON PAGE 2. SEE SPECIAL NOTE 2 ON PAGE 11.

(2) UNITIZING STRAP, 1-1/4" X .035" OR .031" X 16'-0" LONG STEEL STRAPPING (4 REQD). INSTALL THRU THE FORK POCKET OF THE BOTTOM CONTAINER AND TO ENCIRCLE A STACK OF THREE CONTAINERS. SEE THE "UNITIZING AND HANDLING GUIDANCE" ON PAGE 3. SEE SPECIAL NOTE 3 ON PAGE 11.

(3) SEAL FOR 1-1/4" STEEL STRAPPING (8 REQD, 2 PER STRAP). DOUBLE CRIMP EACH SEAL. SEE GENERAL NOTE "J" ON PAGE 2.

(4) HEADER, 2" X 6" BY TRAILER WIDTH (CUT TO FIT) (2 REQD).

(5) LATERAL BRACING, 2" X 6" BY CUT TO FIT MINUS 1" (1 REQD). NAIL TO THE FORWARD HEADER, PIECE MARKED (4), W/4-10d NAILS.

(6) LATERAL BRACING, 2" X 4" BY CUT TO FIT MINUS 1" (1 REQD). NAIL TO THE 2" X 6" LATERAL BRACING, PIECE MARKED (5), W/4-10d NAILS.

(7) SIDE STRUT, 2" X 6" BY CUT TO FIT BETWEEN THE HEADERS, PIECES MARKED (4).

(8) SPLICE PIECE, 2" X 6" X 24" (AS REQD). POSITION SO AS TO CENTER ON THE JOINT OF THE SIDE STRUTS, PIECES MARKED (7), AND NAIL W/4-10d NAILS AT EACH END.

(9) CENTER CLEAT, 2" X 6" X 30" (1 REQD). NAIL TO THE FORWARD HEADER, PIECE MARKED (4), W/6-10d NAILS.

(CONTINUED AT LEFT)

(KEY NUMBERS CONTINUED)

(10) POCKET CLEAT, 2" X 6" X 12" (4 REQD). NAIL TO A SIDE STRUT, PIECE MARKED (7), W/5-10d NAILS. TOENAIL TO THE ADJACENT HEADER, PIECE MARKED (4), W/3-12d NAILS.

(11) 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, PIECE MARKED (4), AND/OR THE SIDE STRUT, PIECE MARKED (7), W/2-16d NAILS AT EACH END.

(12) BACK-UP CLEAT, 2" X 6" X 24" (2 REQD). NAIL TO A SIDE STRUT, PIECE MARKED (7), W/8-10d NAILS.

(13) STRUT BRACE RETAINER CLEAT, 2" X 4" X 12" (AS REQD). NAIL TO A SIDE STRUT, PIECE MARKED (7), W/3-10d NAILS. SEE SPECIAL NOTE 4 ON PAGE 11.

(14) STRUT BRACE, 2" X 4" BY TRAILER WIDTH MINUS 3" (CUT TO FIT) (MINIMUM OF ONE REQD). NAIL TO THE POCKET CLEATS, PIECES MARKED (10), AND/OR TO THE STRUT BRACE RETAINER CLEATS, PIECES MARKED (13), W/2-12d NAILS AT EACH END.

SPECIAL NOTES:

1. A 6-UNIT LOAD IS SHOWN IN A 7'-8" WIDE (INSIDE DIMENSION) VAN TRAILER. TRAILERS OF OTHER WIDTHS CAN BE USED.

2. A TRAILER EQUIPPED WITH A SQUARE FRONT IS SHOWN. IF THE TRAILER TO BE LOADED HAS ROUNDED FRONT CORNERS, THE FORWARD BLOCKING ASSEMBLY "A" MUST BE USED.

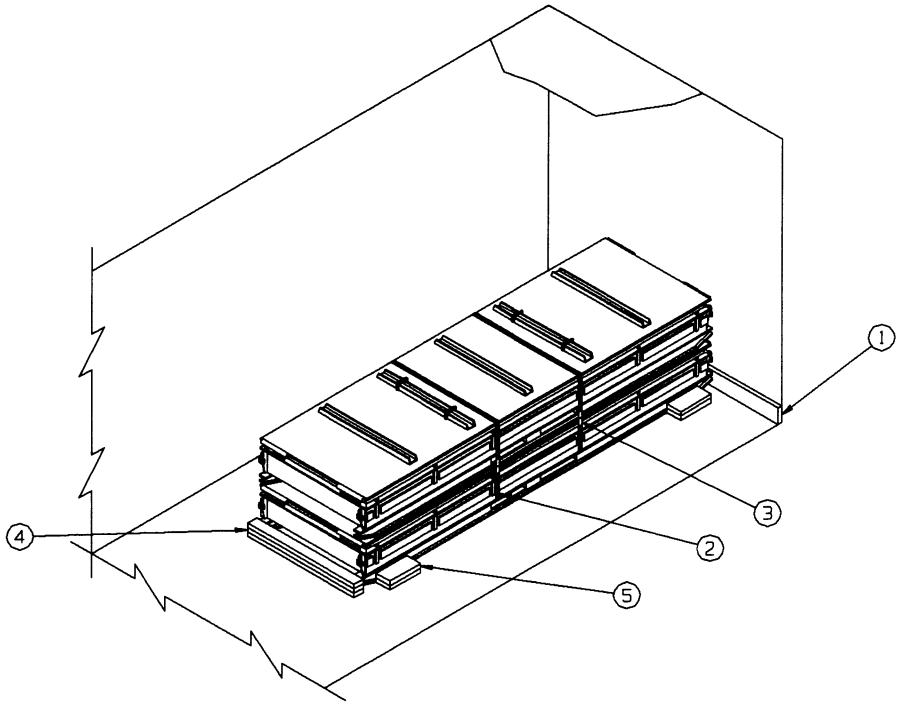
3. CONTAINERS MUST BE UNITIZED INTO STACKS OF THREE CONTAINERS PRIOR TO LOADING INTO THE VAN TRAILER. THE STACKS WILL BE FORMED AT THE REAR OF THE TRAILER BY POSITIONING THE CONTAINERS WITH ONE END RESTING JUST INSIDE THE REAR OF THE TRAILER. ONE CONTAINER WILL BE POSITIONED ON TOP OF ANOTHER UNTIL THE DESIRED STACK HEIGHT IS REACHED. THE UNITIZING STRAPS WILL BE INSTALLED AND THE STACK CAN THEN BE PARTIALLY LIFTED FROM THE REAR AND PUSHED INTO THE TRAILER. USE CAUTION SO AS NOT TO DAMAGE THE CONTAINERS.

4. 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 ⑩. IF THE SIDE STRUTS, PIECES MARKED ⑦, ARE LONGER THAN 7'-0", AN ADDITIONAL STRUT BRACE, PIECE MARKED ⑭, AND TWO STRUT BRACE RETAINING CLEATS, PIECES MARKED ⑬, MUST BE APPLIED FOR EVERY 7'-0" OF SIDE STRUT LENGTH.

4. THE K-BRACE BLOCKING, SHOWN AS PIECES MARKED ④ AND PIECES MARKED ⑦ THRU ⑭, IS ADEQUATE FOR RETAINING A MAXIMUM OF 18 CNU-310/E 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 ④ AND PIECES MARKED ⑦ THRU ⑭. SEE PIECE MARKED ④ OR ⑦ ON PAGE 6 FOR GUIDANCE. A HEADER WILL BE NAILED WITH NOT LESS THAN 6-10d NAILS IN EACH LAYER. A HEADER WITH 6 NAILS IS ADEQUATE FOR AN LTL LOAD OF NOT MORE THAN 10 CONTAINERS. ADD ANOTHER NAIL IN EACH LAYER OF THE HEADER FOR EACH TWO CONTAINERS ADDED TO THE LOAD.

TYPICAL LTL (6-UNIT LOAD)



ISOMETRIC VIEW

SPECIAL NOTES:

1. A 2-UNIT LOAD IS SHOWN IN A 7'-8" WIDE (INSIDE DIMENSION) VAN TRAILER. TRAILERS OF OTHER WIDTHS MAY BE USED.

2. THE CONTAINERS MUST BE UNITIZED PRIOR TO BEING MOVED INTO THE TRAILER. THE STACKS WILL BE FORMED AT THE REAR OF THE TRAILER BY POSITIONING THE CONTAINERS WITH ONE END RESTING JUST INSIDE THE REAR OF THE TRAILER. ONE CONTAINER WILL BE POSITIONED ON TOP OF ANOTHER UNTIL THE DESIRED STACK HEIGHT IS REACHED. THE UNITIZING STRAPS WILL BE INSTALLED AND THE STACK CAN THEN BE PARTIALLY LIFTED FROM THE REAR AND PUSHED INTO THE TRAILER. USE CAUTION SO AS NOT TO DAMAGE THE CONTAINERS.

KEY NUMBERS

(1) HEADER, 2" X 6" BY TRAILER WIDTH FOR A SQUARE FRONT TRAILER OR THE LENGTH OF THE FLAT PORTION OF THE FRONT WALL OF A ROUNDED CORNER TRAILER (1 REQD). POSITION ON EDGE.

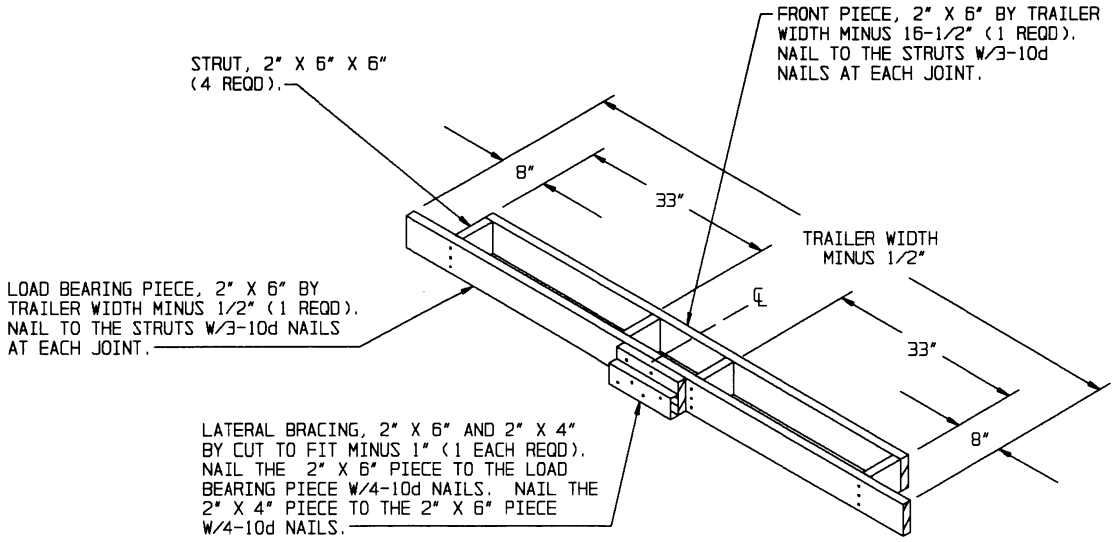
(2) UNITIZING STRAP, 1-1/4" X .035" OR .031" X 13'-0" LONG STEEL STRAPPING (2 REQD). INSTALL THRU THE FORK POCKET OF THE BOTTOM CONTAINER AND TO ENCIRCLE A STACK OF TWO CONTAINERS. SEE THE "UNITIZING AND HANDLING GUIDANCE" ON PAGE 3. SEE SPECIAL NOTE 2 AT LEFT.

(3) SEAL FOR 1-1/4" STEEL STRAPPING (4 REQD, 2 PER STRAP). DOUBLE CRIMP EACH SEAL. SEE THE "END-OVER-END LAP JOINT DETAILS" ON PAGE 15. SEE GENERAL NOTE "J" ON PAGE 2.

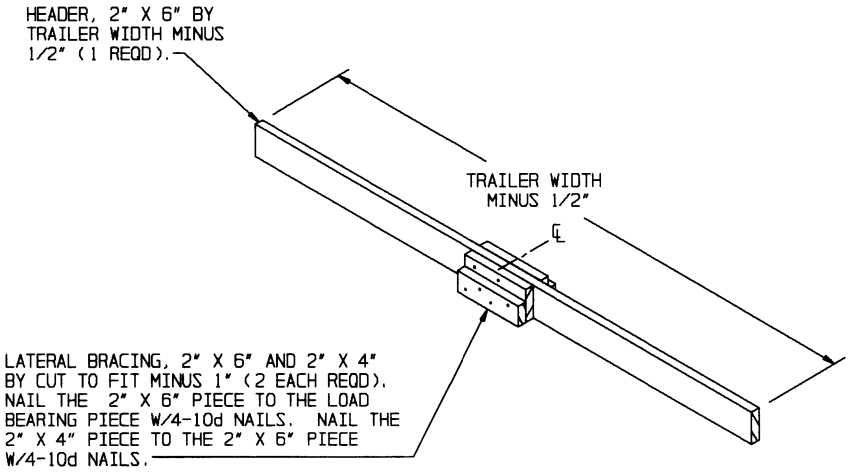
(4) HEADER, 2" X 4" X 42" (TRIPLED) (1 REQD). NAIL THE FIRST PIECE TO THE TRAILER FLOOR W/3-10d NAILS. NAIL EACH ADDITIONAL PIECE IN A LIKE MANNER. SEE GENERAL NOTE "L" ON PAGE 2.

(5) SIDE BLOCKING, 2" X 6" X 12" (DOUBLED) (4 REQD). POSITION NEAR END OF CONTAINER AND NAIL THE FIRST PIECE TO THE TRAILER FLOOR W/4-10d NAILS. NAIL THE SECOND PIECE TO THE FIRST IN A LIKE MANNER.

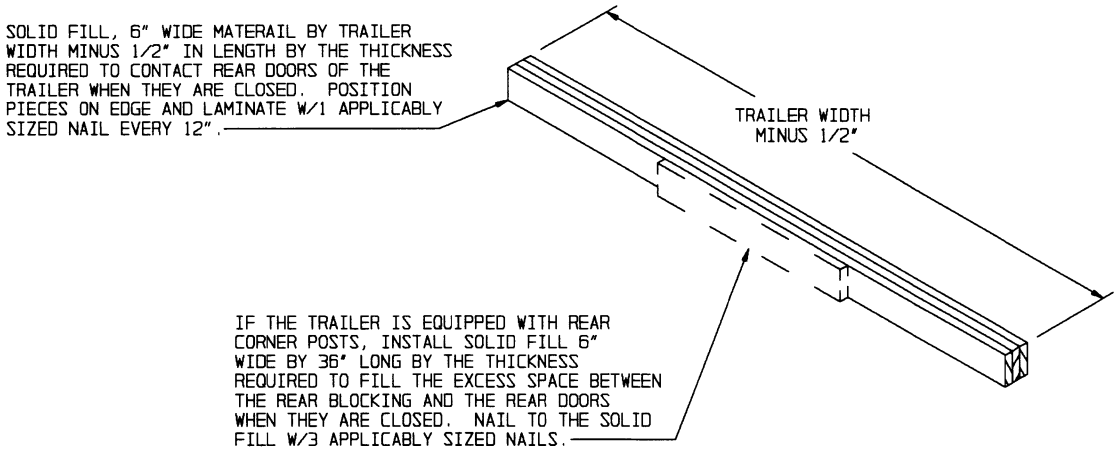
TYPICAL LTL (2-UNIT LOAD)



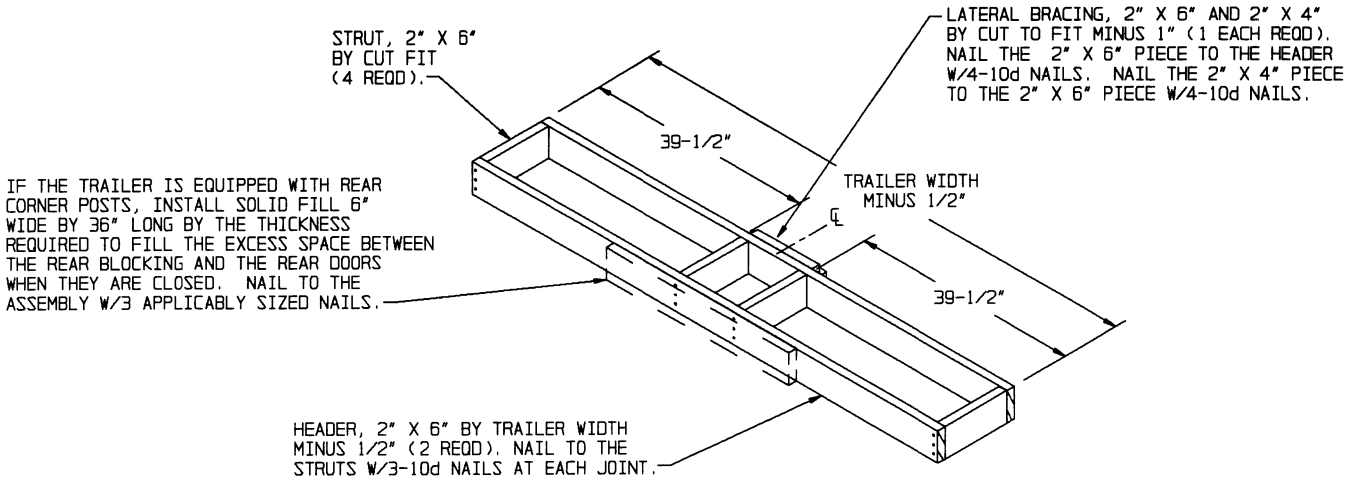
FORWARD BLOCKING ASSEMBLY A



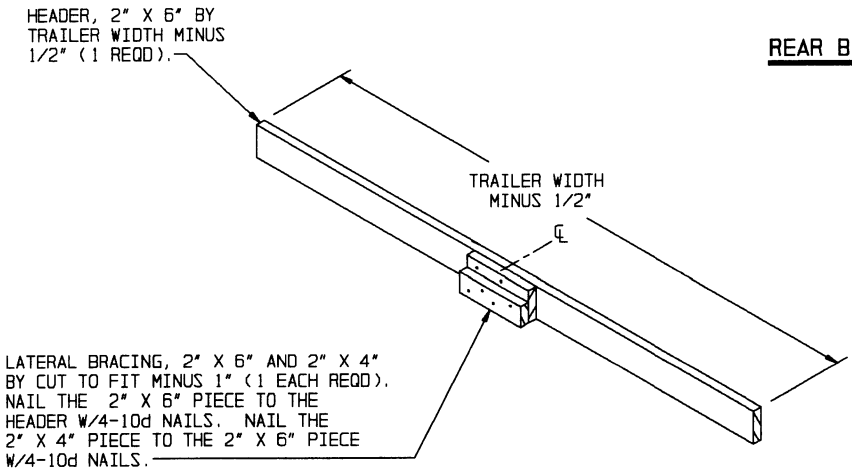
HEADER ASSEMBLY



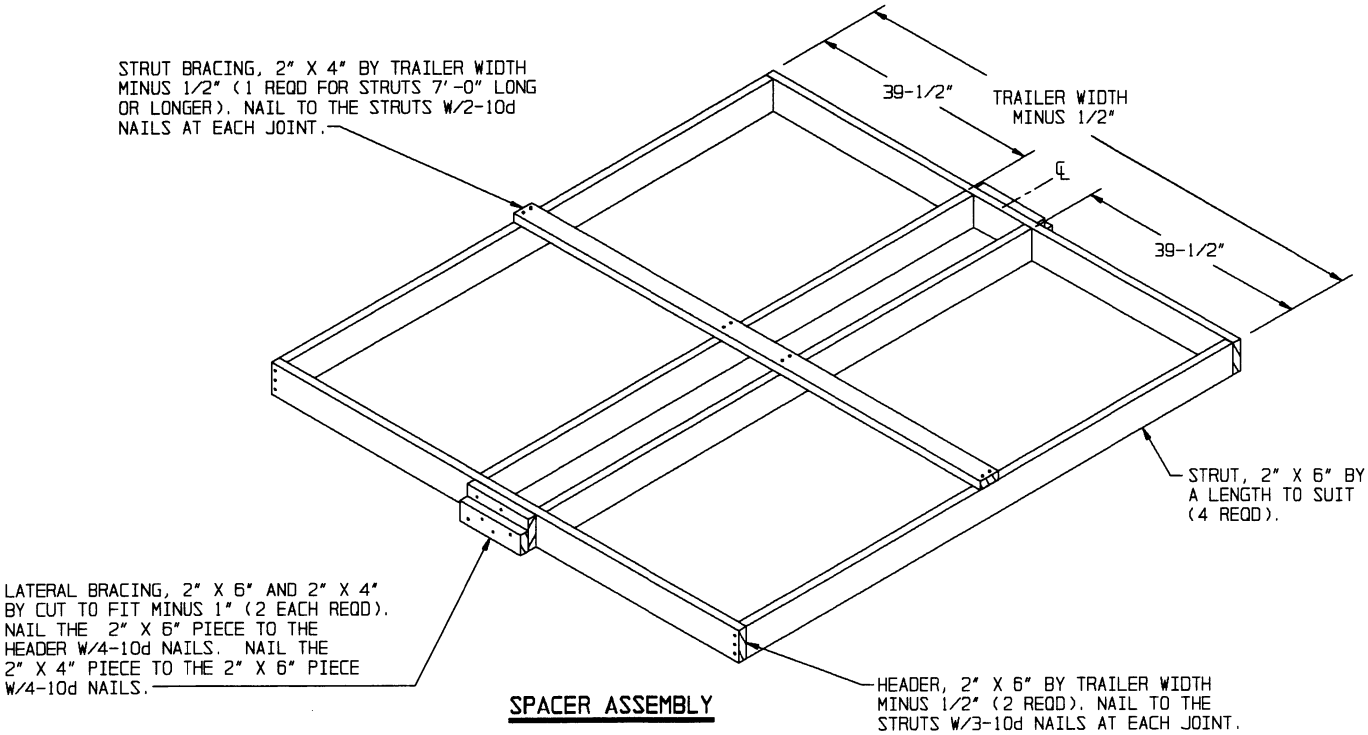
REAR BLOCKING ASSEMBLY A



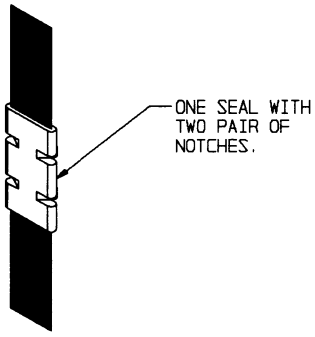
REAR BLOCKING ASSEMBLY B



FORWARD BLOCKING ASSEMBLY B

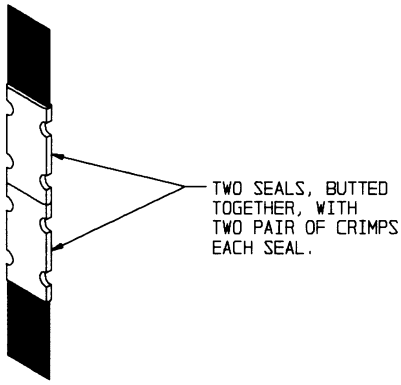


SPACER ASSEMBLY



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