LOADING AND BRACING (TL & LTL) IN CLOSED OR OPEN TOP VAN TRAILERS● OF GAU-8/A 30MM AMMUNITION PACKAGED IN AUTOMATIC LOADING SYSTEM (ALS) CNU-309/E AND/OR CNU-332/E CONTAINERS○

SEE COMPLETE INDEX ON PAGE 3.

● THIS DOCUMENT INCLUDES PROCEDURES FOR CONVENTIONAL TYPE TRAILERS AND FOR TRAILERS EQUIPPED WITH MECHANICAL BRACING DEVICES AS APPROVED BY THE BUREAU OF EXPLOSIVES, ASSOCIATION OF AMERICAN RAILROADS. CAUTION: PROCEDURES SHOWN HEREIN, FOR BOTH TYPES OF TRAILERS ARE ONLY APPLICABLE FOR HIGHWAY MOVEMENTS, NOT FOR CONTAINER/TRAILER-ON-FLAT-CAR MOVEMENTS.

○ THESE VAN TRAILER LOADING PROCEDURES ARE ALSO APPLICABLE FOR SHIPMENTS OF THE CNU-309A/E AND CNU-332A/E CONTAINERS.

U.S. ARMY MATERIEL COMMAND DRAWING

APPROVED, U.S. ARMY ARMAMENT, MUNITIONS AND CHEMICAL COMMAND

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MAY 1987

CLASS	DIVISION	DRAWING	FILE
19	48	7061	SP 11M6

REVISION NO. 3	FEBRUARY 1991
SEE THE REVISION LISTING ON PAGE 3	

DO NOT SCALE

PROJECT SP 112-78

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 TO GAU-8/A 30MM AMMUNITION IN AUTOMATIC LOADING SYSTEM (ALS) CNU-309/E AND/OR CNU-322/E CONTAINERS. THE SHIPPING AND STORAGE CONFIGURATION FOR THE CONTAINERS CONSISTS OF TWO CONTAINERS UNITIZED INTO ONE TWIN-PACK UNIT. SUBSEQUENT REFERENCE TO TWIN-PACK UNIT HEREIN MEANS TWO CNU-309/E OR CNU-332/E CONTAINERS WITH 30MM AMMUNITION UNITIZED TOGETHER. SEE THE PICTORIAL VIEW ON PAGE 4 FOR SIZE AND WEIGHT.

C. THIS ITEM IS A DOT CLASS "A" EXPLOSIVE. THE OUTLOADING PROCEDURES SPECIFIED HEREIN CAN ALSO BE UTILIZED FOR THE SHIPMENT OF THE DEPICTED CONTAINERS WHEN THEY ARE LOADED WITH AN ITEM WHICH IS IDENTIFIED DIFFERENTLY BY NOMENCLATURE THAN THE ITEM DESIGNATED WITHIN THE DRAWING TITLE. SEE GENERAL NOTE "R" AT RIGHT.

D. THE OUTLOADING PROCEDURES DEPICTED WITHIN THIS DOCUMENT "ISOMETRIC VIEWS" ON PAGES 6, 8, 10, 12, AND 14 ARE APPLICABLE FOR SHIPMENTS IN CONVENTIONAL TYPE VAN TRAILERS AND APPLY TO TRAILERS HAVING WOOD, OR WOOD AND METAL, OR ALL METAL FLOORS. THE PROCEDURES ARE ALSO APPLICABLE FOR TRAILERS WHICH ARE 89" THRU 98" IN WIDTH AND FOR TRAILERS OF LENGTHS UP TO AND INCLUDING 53'-0" LONG.

E. THE OUTLOADING PROCEDURES SPECIFIED IN THE "ISOMETRIC VIEWS" ON PAGES 16 AND 21 ARE FOR TRAILERS EQUIPPED WITH VARIOUS TYPES OF SELF-CONTAINED MECHANICAL BRACING DEVICES, AND ARE LIMITED TO HIGHWAY MOVEMENTS ONLY. THE HEIGHT REQUIREMENTS SPECIFIED WITHIN THIS DRAWING FOR THE INSTALLATION OF CROSS MEMBERS ARE IDENTICAL WITH THOSE RECOMMENDED BY THE BUREAU OF EXPLOSIVES PAMPHLET 6C, AND APPENDICES THERETO. CAUTION: TRAILERS EQUIPPED WITH WALL MEMBERS WHICH DO NOT MEET THE LOCATION REQUIREMENTS MUST NOT BE USED.

1. VOIDS LENGTHWISE WITHIN A LOAD SHOULD BE MINIMUM, CROSS MEMBERS MUST BE PLACED AGAINST THE LADING AS TIGHTLY AS THE WALL MEMBER LOCKING HOLE SPACING PERMITS. EACH CROSS MEMBER WILL BE INSTALLED WITH EACH END ATTACHED AS NEARLY AS POSSIBLE IN A "MATED" POSITION (AT EQUAL HEIGHTS, AND AT EQUAL DISTANCES FROM THE END OF THE TRAILER).

2. CROSS MEMBERS IN EMPTY TRAILERS AND THOSE UNUSED IN LOADED TRAILERS MUST BE "SECURED" FOR SHIPMENT. COMPONENTS ASSIGNED TO EACH TRAILER MUST REMAIN THEREWITH EVEN THOUGH UNUSED DURING SOME SHIPMENTS.

3. ONE CROSS MEMBER WILL BE REQUIRED FOR EACH 10,000 POUNDS OF LADING AND SHOULD NOT BE RELIED UPON TO RETAIN A GREATER WEIGHT. CROSS MEMBERS WILL NOT BE DOUBLED, THAT IS, TWO CROSS MEMBERS AT THE SAME HEIGHT LOCATION WILL NOT BE PLACED SIDE BY SIDE.

F. 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.

G. THE GROSS WEIGHT AND AXLE DISTRIBUTION OF WEIGHT FOR A LOAD WILL BE THE RESPONSIBILITY OF THE CARRIER. THE CARRIER WILL ADVISE THE SHIPPER OF THE APPLICABLE LOADING REQUIREMENTS, AND THE SHIPPER WILL LOAD ACCORDINGLY. THE TOTAL WEIGHT OF THE LADING, OF THE DUNNAGE, OF THE TRACTOR, AND OF THE SEMITRAILER CARRYING THE LADING MUST NOT EXCEED THE MAXIMUM GROSS WEIGHT ALLOWED FOR THE STATE OR STATES THRU WHICH THE LOAD IS TO BE TRANSPORTED BY MOTOR CARRIER. LIKEWISE, THE GROSS WEIGHT ON A SINGLE OR

(CONTINUED AT RIGHT)

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 - -: FED SPEC QQ-S-781; CLASS 1, TYPE I OR IV, HEAVY DUTY, FINISH A, B (GRADE 2), OR C.

SEAL, STRAP - - - -: FED SPEC QQ-S-781; TYPE D, STYLE I, II, OR IV, CLASS H, FINISH A, B (GRADE 2) OR C.

WIRE - - - - - - - - -: FED SPEC QQ-W-461; ANNEALED, BLACK.

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.

H. THE NUMBER OF LADING TWIN-PACK UNITS MAY BE ADJUSTED TO SUIT THE CAPACITY OF THE TRAILER BEING LOADED OR THE QUANTITY TO BE SHIPPED. HOWEVER, THE APPROVED METHODS SPECIFIED HEREIN MUST BE FOLLOWED AS CLOSELY AS POSSIBLE FOR BLOCKING, BRACING, AND STAYING OF THE LOADS.

J. 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.

K. FOR CONVENTIONAL TYPE VAN TRAILERS NOT EQUIPPED WITH REAR CORNER POSTS, NON-NAILED TYPE REAR BLOCKING FOR A LOAD MUST BE EXTENDED TO CONTACT THE REAR DOORS WHEN THEY ARE CLOSED.

L. TWIN-PACK UNITS OF CNU-309/E CONTAINERS SHOULD BE INSPECTED AND, AS REQUIRED, LOOSE UNITIZING STEEL STRAPPING MUST BE REPLACED OR RETENSIONED.

M. 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.

N. 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 ONTO OR RIGHT BESIDE A NAIL IN A LOWER PIECE.

O. PORTIONS OF THE TRAILERS, SUCH AS SIDEWALLS, END WALLS, AND ROOFS, HAVE NOT BEEN SHOWN IN THE LOAD VIEWS FOR CLARITY PURPOSES.

P. 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 24 FOR GUIDANCE.

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

R. CNU-309/E AND CNU-332/E CONTAINERS ARE CERTIFIED PACKAGING APPROVED IN ACCORDANCE WITH TITLE 49 OF THE CODE OF FEDERAL REGULATIONS PARAGRAPH 173.7 (a) BY CONTAINER CERTIFICATION NUMBER AF-78-51 AND DOT EXEMPTION 8101. A COPY OF THE DOT-E 8101 WILL BE PROVIDED THE CARRIER AT THE TIME OF LOADING FOR CARRIAGE ABOARD THE VEHICLE.

S. CONVERSION TO METRIC EQUIVALENTS: DIMENSIONS WITHIN THIS DOCUMENT ARE EXPRESSED IN INCHES, AND WEIGHTS ARE EXPRESSED IN POUNDS. WHEN NECESSARY, THE METRIC EQUIVALENTS MAY BE COMPUTED ON THE BASIS OF ONE INCH EQUALS 25.4MM AND ONE POUND EQUALS 0.454KG.

INDEX

REVISIONS

REVISION NO. 1, DATED MAY 1981, CONSISTS OF:

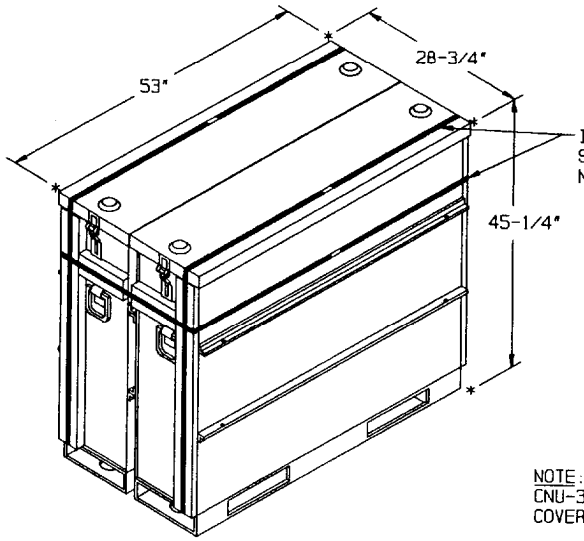
1. ADDING THE CNU-332/E TWIN-PACK UNIT TO THE DEPICTED PROCEDURES.
2. REMOVING THE LENGTHWISE LOAD WHICH WAS LATERALLY BRACED AT BOTH THE FLOOR AND AT THE TOP OF THE CONTAINERS.
3. ADDING NEW LOADS FOR CONVENTIONAL VAN, ONE FOR A NON-NAILABLE FLOOR AND ONE FOR A NAILABLE FLOOR.
4. CHANGING THE LOAD FOR TRAILERS EQUIPPED WITH MECHANICAL BRACING DEVICES.

REVISION NO 2. DATED MAY 1987. CONSISTS OF:

1. SHOWING A LOAD IN A 45 FOOT LONG TRAILER.
2. CHANGING NAILING OF FLOOR DUNNAGE FROM 12d TO 10d NAILS.
3. REMOVING BACK-UP CLEATS FROM THE LOADS ON PAGES 8 AND 12.
4. PROVIDING A SPACER ASSEMBLY FOR USE IN OBTAINING PROPER WEIGHT DISTRIBUTION.

REVISION NO. 3, DATED FEBRUARY 1991, CONSISTS OF:

1. ADDING NEW LOADS FOR 48'-0" CONVENTIONAL VAN, FOR A NAILABLE FLOOR.
2. REMOVING LTL BRACE FROM LOADS ON PAGES 9 AND 20.

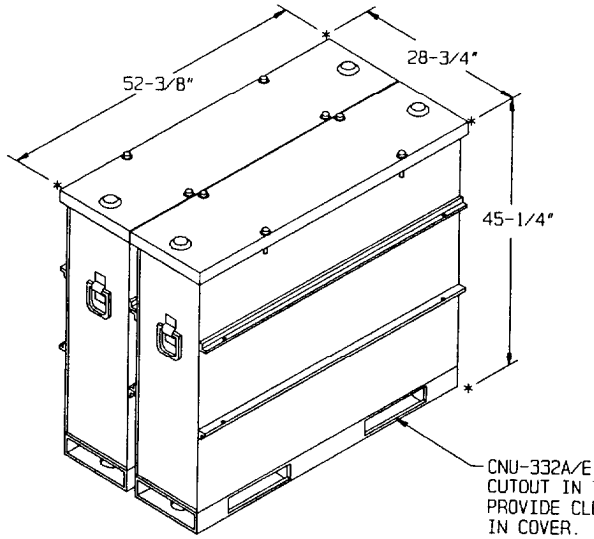


NOTE:
CNU-309A/E CONTAINER HAS A BOLTED COVER IN LIEU OF A LATCH ASSEMBLY.

TWIN-PACK UNIT (CNU-309/E CONTAINER)

TWIN-PACK UNIT DATA:

NUMBER OF CONTAINERS	TWO (2)
GROSS WEIGHT	2,350 LBS (APPROX)
CUBE	39.9 CUBIC FEET



TWIN-PACK UNIT (CNU-332/E CONTAINER)

TWIN-PACK UNIT DATA:

NUMBER OF CONTAINERS	TWO (2)
GROSS WEIGHT	2,350 LBS (APPROX)
CUBE	39.4 CUBIC FEET

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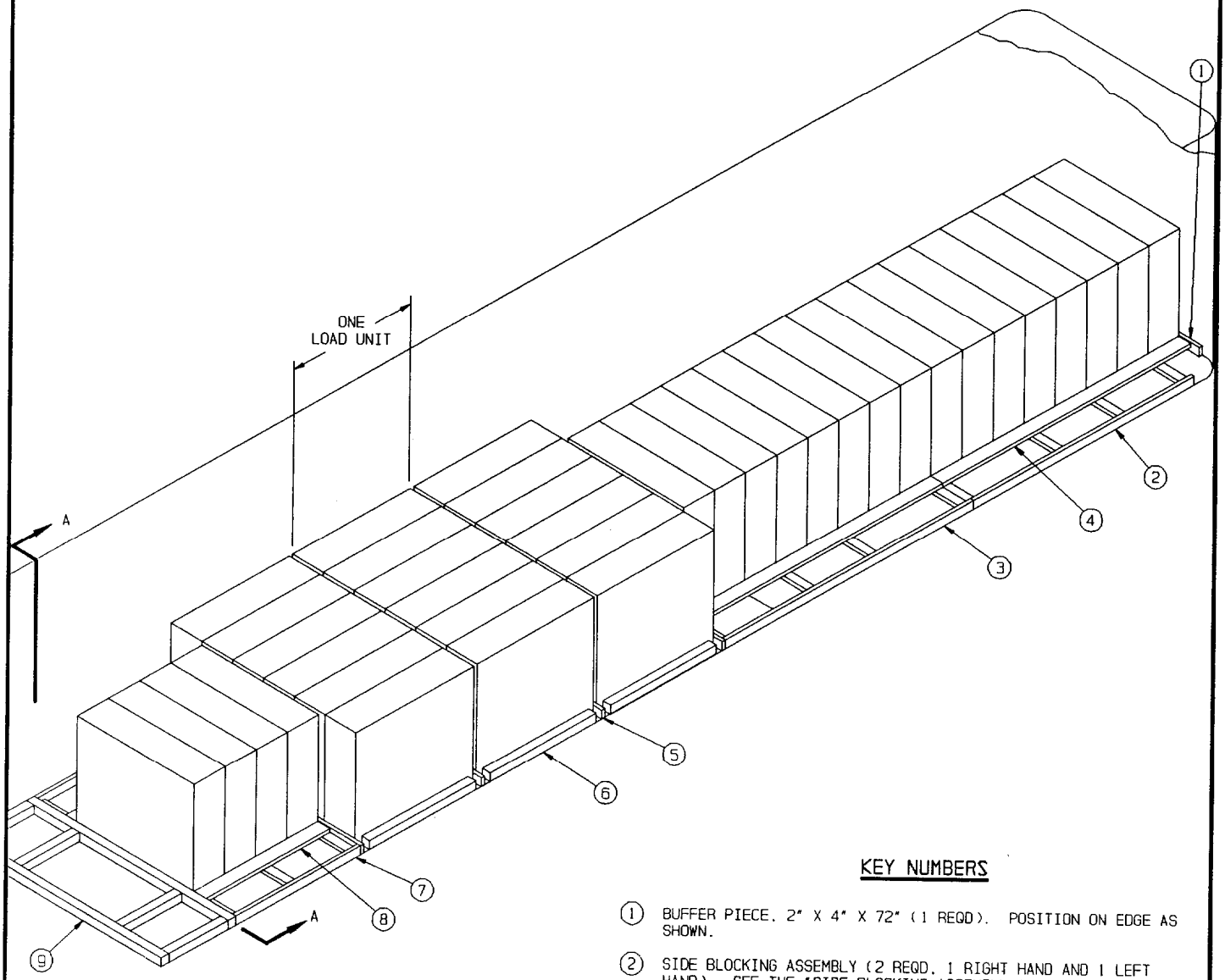
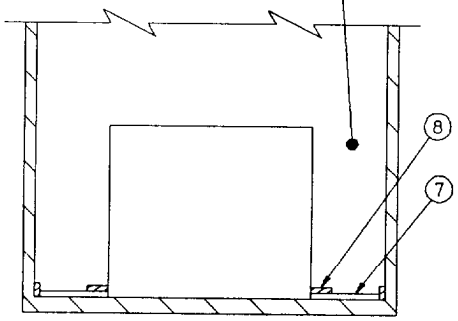


ISOMETRIC VIEW

THE LENGTHWISE CONTAINERS AND THE BLOCKING AND BRACING COMPONENTS FORWARD OF THE POINT AT WHICH THE SECTION VIEW IS CUT HAVE NOT BEEN SHOWN FOR CLARITY PURPOSES.



SECTION A-A

KEY NUMBERS

(1) BUFFER PIECE. 2" X 4" X 72" (1 REQD). POSITION ON EDGE AS SHOWN.

(2) SIDE BLOCKING ASSEMBLY (2 REQD. 1 RIGHT HAND AND 1 LEFT HAND). SEE THE "SIDE BLOCKING ASSEMBLY A" DETAIL ON PAGE 22. SEE SPECIAL NOTE 3 ON PAGE 7.

(3) SIDE BLOCKING ASSEMBLY (2 REQD). SEE THE "SIDE BLOCKING ASSEMBLY B" DETAIL ON PAGE 22.

(4) SIDE BEARING PIECE. 2" X 6" X 9'-0" (4 REQD). NAIL TO THE STRUTS OF A SIDE BLOCKING ASSEMBLY W/2-10d NAILS AT EACH JOINT. SEE SPECIAL NOTE 4 ON PAGE 7 AND GENERAL NOTE "N" ON PAGE 2.

(5) HEADER. 2" X 4" BY TRAILER WIDTH MINUS 1/2" IN LENGTH (4 REQD). SEE SPECIAL NOTE 5 ON PAGE 7. POSITION ON EDGE AS SHOWN.

(6) SIDE BLOCKING. 4" X 4" X 48" (6 REQD). POSITION BETWEEN TWIN-PACK UNIT AND TRAILER SIDEWALL.

(7) SIDE BLOCKING ASSEMBLY (2 REQD). SEE THE "SIDE BLOCKING ASSEMBLY C" DETAIL ON PAGE 22.

(8) SIDE BEARING PIECE. 2" X 6" X 55" (2 REQD). NAIL TO THE STRUTS OF A SIDE BLOCKING ASSEMBLY W/2-10d NAILS AT EACH JOINT.

(9) REAR BLOCKING ASSEMBLY (1 REQD). SEE THE DETAIL ON PAGE 23. SEE SPECIAL NOTES 6, 11, AND 12 ON PAGE 7.

19 TWIN-PACK UNIT LOAD IN A 40'-0" LONG CONVENTIONAL TYPE VAN TRAILER

SPECIAL NOTES:

1. A 19 TWIN-PACK UNIT LOAD IS SHOWN IN A 40'-0" LONG BY 7'-6" WIDE (INSIDE DIMENSION) CONVENTIONAL TYPE VAN TRAILER. TRAILERS OF OTHER DIMENSIONS CAN BE USED.

2. THE CNU-322/E CONTAINERS ARE SHOWN IN THE LOAD VIEW ON PAGE 6. THE PROCEDURES ARE ALSO APPLICABLE FOR SHIPMENTS OF CNU-309/E CONTAINERS. SEE SPECIAL NOTES 5 AND 10.

3. THE SIDE BLOCKING ASSEMBLY "A", SHOWN AS PIECE MARKED ②, IS APPLICABLE FOR USE IN A TRAILER WHICH HAS ROUNDED CORNERS AT THE FORWARD END. IF THE TRAILER BEING LOADED HAS A SQUARE FRONT, OMIT PIECES MARKED ② AND REPLACE THEM WITH PIECES MARKED ③.

4. THE SIDE BEARING PIECES, SHOWN AS PIECES MARKED ④, SHOULD BE PLACED AGAINST THE CONTAINERS AND NAILED TO A SIDE BLOCKING ASSEMBLY AFTER THE ASSEMBLY HAS BEEN FABRICATED AND POSITIONED AGAINST THE TRAILER SIDEWALL.

5. A HEADER, SHOWN AS PIECE MARKED ⑤, IS ONLY REQUIRED WHEN SHIPPING THE CNU-332/E CONTAINERS. THE HEADER IS TO BE PLACED BETWEEN ADJACENT CROSSWISE AND LENGTHWISE POSITIONED CONTAINERS AND ALSO BETWEEN ALL LOAD UNITS OF LENGTHWISE-POSITIONED CONTAINERS. THE HEADERS ARE NOT REQUIRED WHEN SHIPPING THE CNU-309/E CONTAINERS.

6. IF THE TRAILER BEING LOADED IS EQUIPPED WITH REAR CORNER POSTS, SOLID FILL MUST BE ADDED TO THE REAR BLOCKING ASSEMBLY, PIECE MARKED ⑨, TO FILL THE EXCESS SPACE BETWEEN THE REAR BLOCKING AND THE REAR DOORS OF THE TRAILER WHEN THEY ARE CLOSED. SEE THE "REAR BLOCKING ASSEMBLY" DETAIL ON PAGE 23 FOR GUIDANCE.

7. THE LOCATION OF THE LOAD UNITS OF LENGTHWISE-POSITIONED CONTAINERS MAY BE ADJUSTED AS NECESSARY TO PROVIDE FOR PROPER WEIGHT DISTRIBUTION.

8. THE DEPICTED LOAD MAY BE DECREASED, AS NECESSARY TO SUIT A QUANTITY TO BE SHIPPED OR TO MEET WEIGHT LIMIT REQUIREMENTS, BY OMITTING ONE OR MORE LOAD UNITS OF 3-WIDE TWIN-PACKS AND REPLACING THEM WITH THE REQUIRED QUANTITY OF CROSSWISE TWIN-PACK UNITS.

9 THE LADING WEIGHT IN THE "LOAD AS SHOWN" IS BASED ON THE TWIN-PACK UNIT AT THE MAXIMUM WEIGHT OF 2,350 POUNDS EACH. IF THE ITEM BEING SHIPPED IS NEAR TO BEING THAT HEAVY IT MAY BE NECESSARY TO REDUCE THE DEPICTED LOAD. SEE SPECIAL NOTE 8 FOR GUIDANCE.

10. BOTH THE CNU-309/E CONTAINERS AND THE CNU-332/E CONTAINERS MAY BE SHIPPED IN THE SAME TRAILER. CNU-309/E CONTAINERS AND CNU-332/E CONTAINERS MAY BE MIXED WITHIN THE CROSSWISE PORTIONS OF THE LOAD AT THE FRONT AND REAR OF THE TRAILER, HOWEVER, ALL CONTAINERS WITHIN A LENGTHWISE LOAD UNIT MUST BE OF THE SAME MODEL. A HEADER, PIECE MARKED ⑤, IS REQUIRED BETWEEN ADJACENT LENGTHWISE LOAD UNITS OF UNLIKE CONTAINER MODELS. A HEADER IS ALSO REQUIRED BETWEEN A LENGTHWISE LOAD UNIT OF THE CNU-332/E CONTAINERS AND A CROSSWISE TWIN-PACK UNIT OF CNU-309/E CONTAINERS.

11. IF THE SPACE AT THE REAR OF THE LOAD IS LESS THAN 12", OMIT THE REAR HEADER AND THE STRUTS FROM THE REAR BLOCKING ASSEMBLY, PIECE MARKED ⑨. LAMINATE 4" WIDE BY TRAILER WIDTH MINUS 1/2" IN LENGTH BY AN APPROPRIATE THICKNESS MATERIAL TO THE REMAINING 4" X 4" HEADER W/1 APPLICABLY SIZED NAIL EVERY 12".

12. IF THE STRUTS OF THE REAR BLOCKING ASSEMBLY ARE LONGER THAN 7'-0", STRUT BRACING MUST BE APPLIED. POSITION SO AS TO PROVIDE EQUAL SPACES NOT GREATER THAN 7'-0" BETWEEN THE STRUT BRACING PIECE AND THE HEADERS AND/OR BETWEEN ADJACENT STRUT BRACING PIECES. SEE THE "REAR BLOCKING ASSEMBLY" DETAIL ON PAGE 23 FOR GUIDANCE.

13. ALL CONTAINERS SHOWN IN THE LOAD VIEW ON PAGE 6 ARE TWIN-PACK UNITS. IF IT IS DESIRED TO SHIP A SINGLE CONTAINER FROM A TWIN-PACK UNIT, THE SINGLE CONTAINER MUST BE LOCATED EITHER AT THE FRONT OF THE LOAD OR WITHIN THE FORWARD PORTION OF THE LOAD. A SINGLE CONTAINER MUST NOT BE LOCATED AT THE REAR OF THE LOAD NOR WITHIN THE LENGTHWISE PORTION. ADJUST THE LENGTH OF THE APPLICABLE SIDE BLOCKING ASSEMBLY TO SUIT.

LOAD AS SHOWN

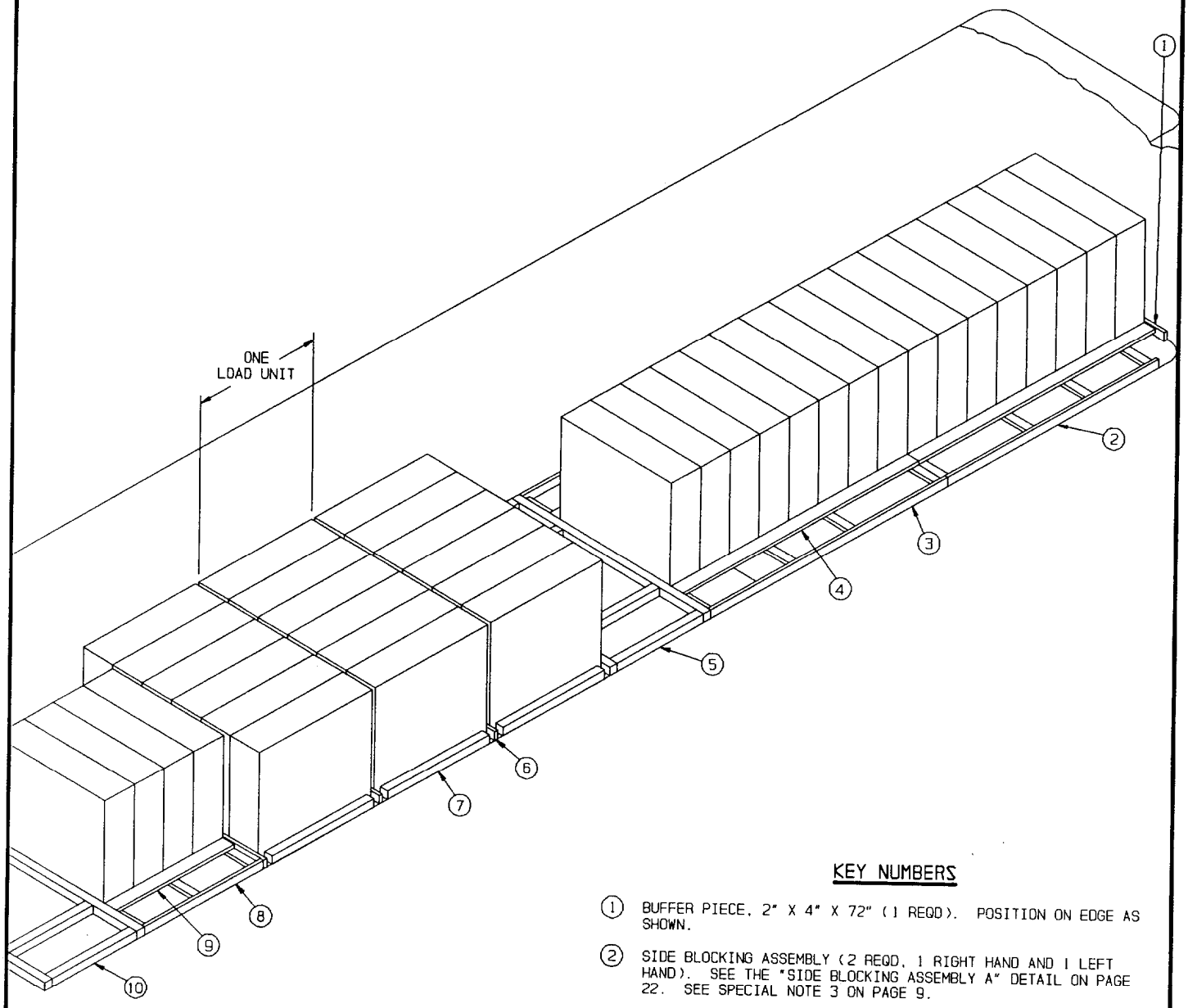
ITEM	QUANTITY	WEIGHT (APPROX) *
TWIN-PACK UNIT	19	44,650 LBS
DUNNAGE		374 LBS
TOTAL WEIGHT		45,024 LBS (APPROX)

* SEE SPECIAL NOTE 9 ABOVE.

BILL OF MATERIAL

LUMBER	LINEAR FEET	BOARD FEET
2" X 4"	111	74
2" X 6"	45	45
4" X 4"	50	67
NAILS	**NO. REQD**	**POUNDS**
10d (3")	86	1-1/2
16d (3-1/2")	16	1/2

19 TWIN-PACK UNIT LOAD IN A 40'-0" LONG CONVENTIONAL TYPE VAN TRAILER



ISOMETRIC VIEW

KEY NUMBERS

(1) BUFFER PIECE, 2" X 4" X 72" (1 REQD). POSITION ON EDGE AS SHOWN.

(2) SIDE BLOCKING ASSEMBLY (2 REQD, 1 RIGHT HAND AND 1 LEFT HAND). SEE THE "SIDE BLOCKING ASSEMBLY A" DETAIL ON PAGE 22. SEE SPECIAL NOTE 3 ON PAGE 9.

(3) SIDE BLOCKING ASSEMBLY (2 REQD). SEE THE "SIDE BLOCKING ASSEMBLY B" DETAIL ON PAGE 22.

(4) SIDE BEARING PIECE, 2" X 6" X 9'-0" (4 REQD). NAIL TO THE STRUTS OF A SIDE BLOCKING ASSEMBLY W/2-10d NAILS AT EACH JOINT. SEE SPECIAL NOTE 4 ON PAGE 9 AND GENERAL NOTE "N" ON PAGE 2.

(5) SPACER ASSEMBLY (1 REQD). POSITION AS SHOWN. SEE THE DETAIL ON PAGE 24. SEE SPECIAL NOTES 5 AND 13 ON PAGE 9.

(6) HEADER, 2" X 4" BY TRAILER WIDTH MINUS 1/2" IN LENGTH (3 REQD). SEE SPECIAL NOTE 5 ON PAGE 7. POSITION ON EDGE AS SHOWN.

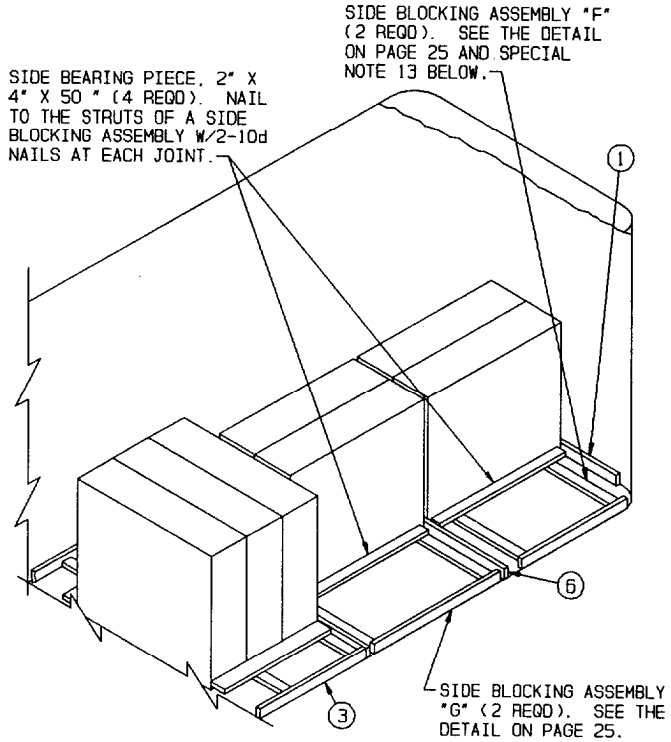
(7) SIDE BLOCKING, 4" X 4" X 48" (6 REQD). POSITION BETWEEN TWIN-PACK UNIT AND TRAILER SIDEWALL.

(8) SIDE BLOCKING ASSEMBLY (2 REQD). SEE THE "SIDE BLOCKING ASSEMBLY C" DETAIL ON PAGE 22.

(9) SIDE BEARING PIECE, 2" X 6" X 55" (2 REQD). NAIL TO THE STRUTS OF A SIDE BLOCKING ASSEMBLY W/2-10d NAILS AT EACH JOINT.

(10) REAR BLOCKING ASSEMBLY (1 REQD). SEE THE DETAIL ON PAGE 23. SEE SPECIAL NOTE 11 ON PAGE 9 AND SPECIAL NOTES 6 AND 12 ON PAGE 7.

19 TWIN-PACK UNIT LOAD IN A 45'-0" LONG BY 7'-8" WIDE CONVENTIONAL TYPE VAN TRAILER



ALTERNATIVE METHOD

THIS VIEW DEPICTS AND ALTERNATIVE POSITIONING OF THE CONTAINERS AT THE FRONT OF A TRAILER WHICH CAN BE USED IN CONJUNCTION WITH OR WITHOUT THE SPACER ASSEMBLY, PIECE MARKED ⑤ ON PAGE 8, IN PROVIDING FOR PROPER WEIGHT DISTRIBUTION OF A LOAD.

(SPECIAL NOTES CONTINUED)

13. IN LIEU OF USING THE SPACER ASSEMBLY, SHOWN AS PIECE MARKED ⑤, THE "ALTERNATIVE METHOD" SHOWN ABOVE MAY BE USED TO PROVIDE FOR WEIGHT DISTRIBUTION. ONE (1) OR TWO (2) TWIN-PACKS CAN BE POSITIONED LENGTHWISE AT THE FRONT OF THE TRAILER TO INCREASE THE LOAD LENGTH APPROXIMATELY 24" OR 48", RESPECTIVELY. OMIT PIECES MARKED ② AND ④ FROM THE FRONT OF THE LOAD AND SUBSTITUTE AN APPROPRIATELY SIZED PIECES MARKED ③ AND ④. TWO (2) ADDITIONAL HEADERS, PIECE MARKED ⑥, MUST BE USED, ONE BETWEEN ADJACENT LENGTHWISE CONTAINERS AND ONE BETWEEN THE LENGTHWISE AND CROSSWISE CONTAINERS. PROVIDE LATERAL BRACING BY INSTALLING TWO EACH SIDE BLOCKING ASSEMBLY "F" AND TWO EACH SIDE BLOCKING ASSEMBLY "G" IF THE TRAILER HAS ROUNDED CORNERS. IF A SQUARE FRONT TRAILER IS BEING LOADED, USE FOUR EACH SIDE BLOCKING ASSEMBLY "G". SEE THE DETAILS ON PAGE 25.

BILL OF MATERIAL		
LUMBER	LINEAR FEET	BOARD FEET
2" X 4" 2" X 6" 4" X 4"	105 46 96	70 46 128
NAILS	NO. REQD	POUNDS
10d (3") 16d (3-1/2")	88 32	1-1/2 3/4

SPECIAL NOTES:

1. A 19 TWIN-PACK UNIT LOAD IS SHOWN IN A 45'-0" LONG BY 7'-8" WIDE (INSIDE DIMENSION) CONVENTIONAL TYPE VAN TRAILER. TRAILERS OF OTHER DIMENSIONS CAN BE USED.
2. THE CNU-322/E CONTAINERS ARE SHOWN IN THE LOAD VIEW ON PAGE 8. THE PROCEDURES ARE ALSO APPLICABLE FOR SHIPMENTS OF CNU-309/E CONTAINERS. SEE SPECIAL NOTES 6 AND 10.
3. THE SIDE BLOCKING ASSEMBLY "A", SHOWN AS PIECE MARKED ②, IS APPLICABLE FOR USE IN A TRAILER WHICH HAS ROUNDED CORNERS AT THE FORWARD END. IF THE TRAILER BEING LOADED HAS A SQUARE FRONT, OMIT PIECES MARKED ② AND REPLACE THEM WITH PIECES MARKED ③.
4. THE SIDE BEARING PIECES, SHOWN AS PIECES MARKED ④, SHOULD BE PLACED AGAINST THE CONTAINERS AND NAILED TO A SIDE BLOCKING ASSEMBLY AFTER THE ASSEMBLY HAS BEEN FABRICATED AND POSITIONED AGAINST THE TRAILER SIDEWALL.
5. THE SPACER ASSEMBLY, SHOWN AS PIECE MARKED ⑤ IN THE LOAD ON PAGE 8, IS USED FOR THE PURPOSE OF PROVIDING FOR PROPER WEIGHT DISTRIBUTION AND IS SHOWN AS TYPICAL ONLY. IF THE TRAILER TO BE LOADED IS LONGER THAN 45', THE LOCATION OF THE ASSEMBLY, AND/OR THE STRUT LENGTHS OF THE ASSEMBLY, MAY BE DIFFERENT FROM WHAT IS SHOWN. SEE SPECIAL NOTE 13.
6. A HEADER, SHOWN AS PIECE MARKED ⑥, IS ONLY REQUIRED WHEN SHIPPING THE CNU-332/E OR THE 309A/E CONTAINERS. THE HEADER IS TO BE PLACED BETWEEN ADJACENT CROSSWISE AND LENGTHWISE-POSITIONED CONTAINERS AND ALSO BETWEEN ALL LOAD UNITS OF LENGTHWISE-POSITIONED CONTAINERS. THE HEADERS ARE NOT REQUIRED WHEN SHIPPING THE CNU-309/E CONTAINERS.
7. THE LOCATION OF THE LOAD UNITS OF LENGTHWISE-POSITIONED CONTAINERS MAY BE ADJUSTED AS NECESSARY TO PROVIDE FOR PROPER WEIGHT DISTRIBUTION.
8. THE DEPICTED LOAD MAY BE DECREASED, AS NECESSARY TO SUIT A QUANTITY TO BE SHIPPED OR TO MEET WEIGHT LIMIT REQUIREMENTS, BY OMITTING ONE OR MORE LOAD UNITS OF 3-WIDE TWIN-PACKS AND REPLACING THEM WITH THE REQUIRED QUANTITY OF CROSSWISE TWIN-PACK UNITS.
9. THE LADING WEIGHT IN THE "LOAD AS SHOWN" IS BASED ON THE TWIN-PACK UNIT AT THE MAXIMUM WEIGHT OF 2,350 POUNDS EACH. IF THE ITEM BEING SHIPPED IS NEAR TO BEING THAT HEAVY IT MAY BE NECESSARY TO REDUCE THE DEPICTED LOAD. SEE SPECIAL NOTE 8 FOR GUIDANCE.
10. ALL CONTAINERS CAN BE MIXED WITHIN THE CROSSWISE PORTIONS OF THE LOAD AT THE FRONT AND REAR OF THE TRAILER, HOWEVER, WITHIN THE CONTAINERS LENGTHWISE PORTION OF THE LOAD, ALL CONTAINERS WHICH HAVE END DUNNAGE ASSEMBLIES MUST BE POSITIONED IN ONE LOAD UNIT, AND TWIN-PACKS WITHOUT DUNNAGE MUST BE POSITIONED IN A DIFFERENT LOAD UNIT. A HEADER, PIECE MARKED ⑥, IS REQUIRED BETWEEN ADJACENT LENGTHWISE LOAD UNITS OF UNLIKE CONTAINER MODELS. A HEADER IS ALSO REQUIRED BETWEEN A LENGTHWISE LOAD UNIT OF TWIN-PACK CONTAINERS WITHOUT DUNNAGE ASSEMBLIES AND AN ADJACENT CROSSWISE LOAD UNIT.
11. IF THE SPACE AT THE REAR OF THE LOAD IS LESS THAN 12", OMIT THE REAR HEADER AND THE STRUTS FROM THE REAR BLOCKING ASSEMBLY, PIECE MARKED ⑩. LAMINATE 4" WIDE BY TRAILER WIDTH MINUS 1/2" IN LENGTH BY AN APPROPRIATE THICKNESS MATERIAL TO THE REMAINING 4" X 4" HEADER W/1 APPLICABLY SIZED NAIL EVERY 12".
12. ALL CONTAINERS SHOWN IN THE LOAD VIEW ON PAGE 8 ARE TWIN-PACK UNITS. IF IT IS DESIRED TO SHIP A SINGLE CONTAINER FROM A TWIN-PACK UNIT, THE SINGLE CONTAINER MUST BE LOCATED EITHER AT THE FRONT OF THE LOAD OR WITHIN THE FORWARD PORTION OF THE LOAD. A SINGLE CONTAINER MUST NOT BE LOCATED AT THE REAR OF THE LOAD NOR WITHIN THE LENGTHWISE PORTION. ADJUST THE LENGTH OF THE APPLICABLE SIDE BLOCKING ASSEMBLY TO SUIT.

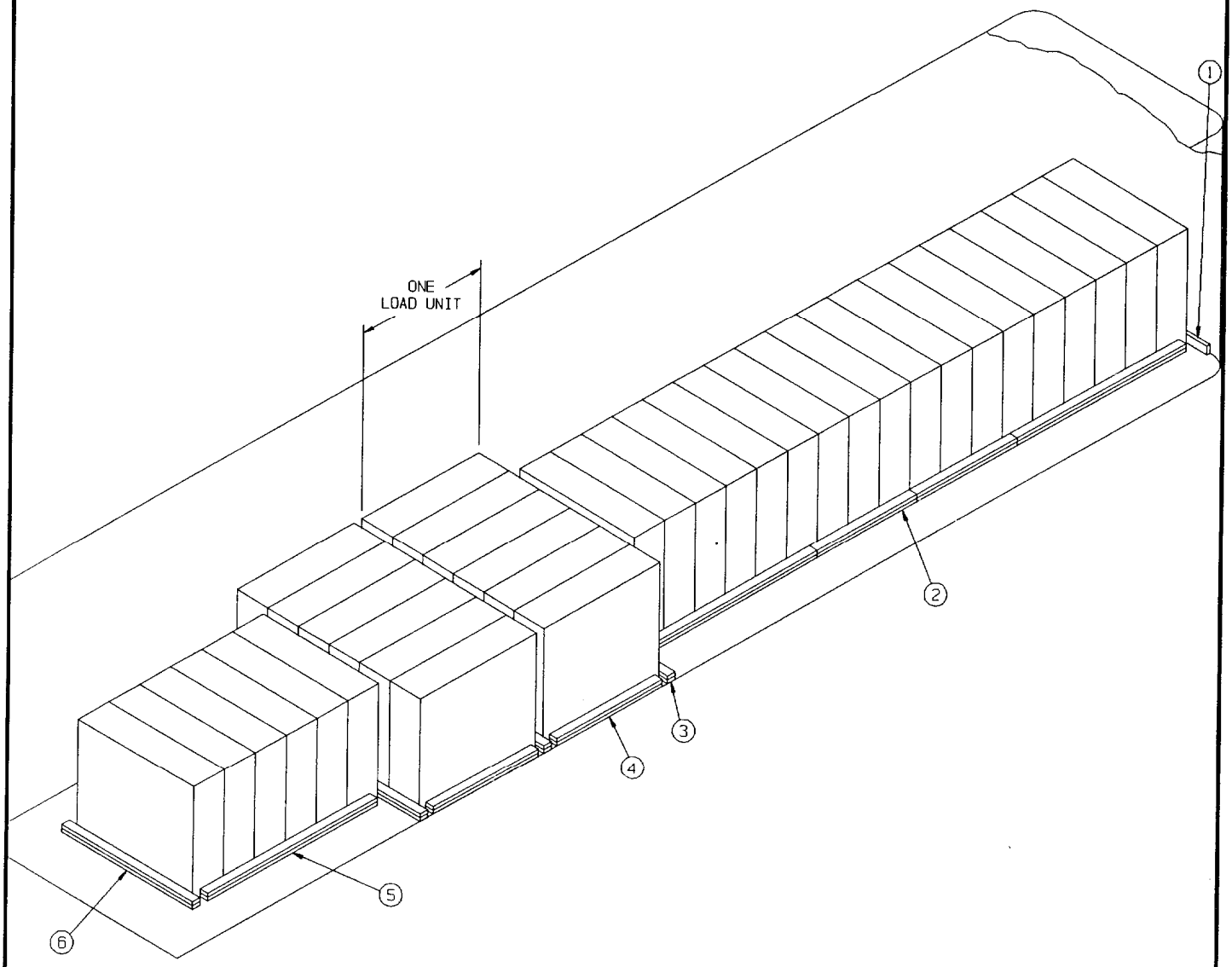
(CONTINUED AT LEFT)

LOAD AS SHOWN

ITEM	QUANTITY	WEIGHT (APPROX) *
TWIN-PACK UNIT	19	44,650 LBS
DUNNAGE		491 LBS
TOTAL WEIGHT		45,141 LBS (APPROX)

* SEE SPECIAL NOTE 9 ABOVE.

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



ISOMETRIC VIEW

KEY NUMBERS

(1) BUFFER PIECE, 2" X 4" X 72" (1 REQD). POSITION ON EDGE AS SHOWN.

(2) SIDE BLOCKING, 2" X 4" BY LENGTH TO SUIT (DOUBLED). RANDOM LENGTHS MAY BE USED. NAIL THE FIRST PIECE TO THE TRAILER FLOOR W/1-10d NAIL EVERY 8". NAIL THE SECOND PIECE TO THE FIRST IN A LIKE MANNER. SEE GENERAL NOTE "N" ON PAGE 2.

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

(4) SIDE BLOCKING, 2" X 4" X 48" (DOUBLED) (4 REQD). NAIL THE FIRST PIECE TO THE TRAILER FLOOR W/6-10d NAILS. NAIL THE SECOND PIECE TO THE FIRST IN A LIKE MANNER.

(5) SIDE BLOCKING, 2" X 4" X 6'-5" (DOUBLED) (2 REQD). NAIL THE FIRST PIECE TO THE TRAILER FLOOR W/7-10d NAILS. NAIL THE SECOND PIECE TO THE FIRST IN A LIKE MANNER.

(6) HEADER, 2" X 4" X 60" (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

NAILABLE FLOOR METHOD
18 TWIN-PACK UNIT LOAD IN A 40'-0" LONG CONVENTIONAL TYPE VAN TRAILER

PROJECT SP 112-78

SPECIAL NOTES:

1. AN 18 TWIN-PACK UNIT LOAD IS SHOWN IN A 40'-0" LONG BY 7'-6" WIDE (INSIDE DIMENSION) CONVENTIONAL TYPE VAN TRAILER. TRAILERS OF OTHER DIMENSIONS CAN BE USED.

2. THE PROCEDURES ARE APPLICABLE FOR SHIPMENTS OF EITHER THE CNU-309/E TWIN-PACK UNIT OR THE CNU-332/E TWIN-PACK UNIT OR A COMBINATION OF THE TWO. SEE SPECIAL NOTE 8.

3. THE LOCATION OF THE LOAD UNITS OF LENGTHWISE-POSITIONED CONTAINERS MAY BE ADJUSTED AS NECESSARY TO PROVIDE FOR PROPER WEIGHT DISTRIBUTION.

4. THE DEPICTED LOAD MAY BE INCREASED BY ONE TWIN-PACK UNIT, LOAD LIMIT PERMITTING, BY OMITTING TWO CROSSWISE TWIN-PACK UNITS AND REPLACING THEM WITH A 3-WIDE LOAD UNIT OF LENGTHWISE-POSITIONED CONTAINERS. ONE ADDITIONAL HEADER, PIECE MARKED ③, AND TWO MORE SIDE BLOCKING PIECES, PIECE MARKED ④, WILL BE REQUIRED. REPEAT AS REQUIRED.

5. THE DEPICTED LOAD MAY BE DECREASED TO SUIT A QUANTITY TO BE SHIPPED. THE LOAD CAN BE DECREASED BY ONE TWIN-PACK UNIT BY OMITTING A 3-WIDE LOAD UNIT OF LENGTHWISE-POSITIONED CONTAINERS AND REPLACING THEM WITH TWO CROSSWISE TWIN-PACK UNITS. OMIT ONE HEADER, PIECE MARKED ③, AND TWO SIDE BLOCKING PIECES, PIECES MARKED ④. REPEAT AS REQUIRED.

6. ALL CONTAINERS SHOWN IN THE LOAD VIEW ON PAGE 10 ARE TWIN-PACK UNITS. IF IT IS DESIRED TO SHIP A SINGLE CONTAINER FROM A TWIN-PACK UNIT, THE SINGLE CONTAINER MUST BE LOCATED EITHER AT THE FRONT OF THE LOAD OR WITHIN THE FORWARD PORTION OF THE LOAD. A SINGLE CONTAINER MUST NOT BE LOCATED AT THE REAR OF THE LOAD NOR WITHIN THE LENGTHWISE PORTION.

7. A SPACER ASSEMBLY, SHOWN IN THE LOAD VIEW ON PAGE 8 AS PIECE MARKED ⑤, MAY BE USED WITHIN THE LOAD TO OBTAIN PROPER WEIGHT DISTRIBUTION. IF THE ASSEMBLY IS USED WITHIN THE CROSSWISE TWIN-PACK PORTION OF THE LOAD, TWO (2) TWIN-PACK UNITS IMMEDIATELY TO THE REAR OF THE SPACER ASSEMBLY MUST BE ENCIRCLED WITH A 1-1/4" X .035" OR .031" X 20'-0" LONG BUNDLING STRAP. POSITION THE STRAP ABOVE THE UPPER LOCKING ANGLE ON THE CONTAINER.

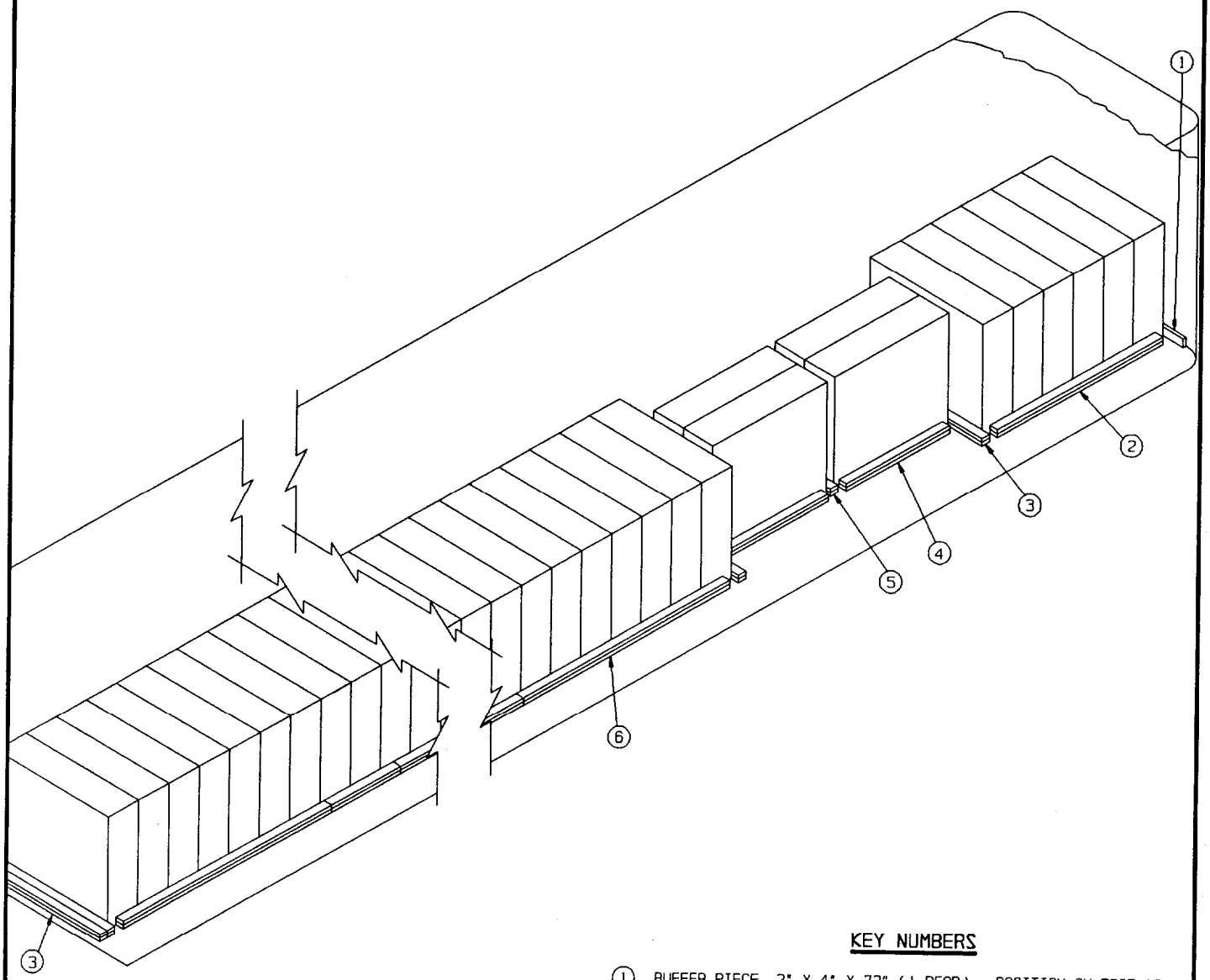
8. ALL CONTAINERS MAY BE MIXED WITHIN THE CROSSWISE PORTIONS OF THE LOAD AT THE FRONT AND REAR OF THE TRAILER, HOWEVER, WITHIN THE CONTAINERS LENGTHWISE PORTION OF THE LOAD ALL CONTAINERS WHICH HAVE END DUNNAGE ASSEMBLIES MUST BE POSITIONED IN ONE LOAD UNIT. TWIN-PACKS WITHOUT DUNNAGE MUST BE POSITIONED IN A DIFFERENT LOAD UNIT. EITHER A HEADER, PIECE MARKED ③ ON PAGE 10, OR A HEADER, PIECE MARKED ⑥ ON PAGE 8, IS REQUIRED BETWEEN ADJACENT LOAD UNITS OF UNLIKE CONTAINER MODELS.

BILL OF MATERIAL		
LUMBER	LINEAR FEET	BOARD FEET
2" X 4"	216	144
NAILS	NO. REQD	POUNDS
10d (3")	256	4

LOAD AS SHOWN

ITEM	QUANTITY	WEIGHT (APPROX)
TWIN-PACK UNIT	18	42,300 LBS
DUNNAGE		292 LBS
TOTAL WEIGHT		42,592 LBS (APPROX)

NAILABLE FLOOR METHOD
18 TWIN-PACK UNIT LOAD IN A 40'-0" LONG CONVENTIONAL TYPE VAN TRAILER



ISOMETRIC VIEW

KEY NUMBERS

(1) BUFFER PIECE. 2" X 4" X 72" (1 REQD). POSITION ON EDGE AS SHOWN.

(2) SIDE BLOCKING. 2" X 4" X 6'-5" (DOUBLED) (2 REQD). NAIL THE FIRST PIECE TO THE TRAILER FLOOR W/7-10d NAILS. NAIL THE SECOND PIECE TO THE FIRST IN A LIKE MANNER. SEE GENERAL NOTE "N" ON PAGE 2.

(3) HEADER, 2" X 4" X 60" (DOUBLED) (4 REQD). NAIL THE FIRST PIECE TO THE TRAILER FLOOR W/8-10d NAILS. NAIL THE SECOND PIECE TO THE FIRST IN A LIKE MANNER.

(4) SIDE BLOCKING. 2" X 4" X 48" (DOUBLED) (4 REQD). NAIL THE FIRST PIECE TO THE TRAILER FLOOR W/6-10d NAILS. NAIL THE SECOND PIECE TO THE FIRST IN A LIKE MANNER.

(5) HEADER. 2" X 4" X 32" (DOUBLED) (1 REQD). NAIL THE FIRST PIECE TO THE TRAILER FLOOR W/4-10d NAILS. NAIL THE SECOND PIECE TO THE FIRST IN A LIKE MANNER

(6) SIDE BLOCKING. 2" X 4" BY LENGTH TO SUIT (DOUBLED). RANDOM LENGTHS MAY BE USED. NAIL THE FIRST PIECE TO THE TRAILER FLOOR W/1-10d NAIL EVERY 8". NAIL THE SECOND PIECE TO THE FIRST IN A LIKE MANNER.

NAILABLE FLOOR METHOD "A"
19 TWIN-PACK UNIT LOAD IN A 48'-0" LONG CONVENTIONAL TYPE VAN TRAILER

PROJECT SP 112-78

SPECIAL NOTES:

1. AN 18 TWIN-PACK 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 CNU-322/E CONTAINERS ARE SHOWN IN THE LOAD VIEW ON PAGE 12. THE PROCEDURES ARE ALSO APPLICABLE FOR SHIPMENTS OF CNU-309/E CONTAINERS.

3. THE LOCATION OF THE LOAD UNITS OF LENGTHWISE-POSITIONED CONTAINERS MAY BE ADJUSTED AS NECESSARY TO PROVIDE FOR PROPER WEIGHT DISTRIBUTION.

4. THE DEPICTED LOAD MAY BE DECREASED, AS NECESSARY TO SUIT A QUANTITY TO BE SHIPPED OR TO MEET WEIGHT LIMIT REQUIREMENTS. ONE OR BOTH TWIN-PACK UNITS MAY BE OMITTED FROM THE LENGTHWISE PORTION OF THE LOAD, OR TWIN-PACK UNITS MAY BE OMITTED FROM EITHER PORTION OF THE CROSSWISE TWIN-PACK UNITS.

5. THE DEPICTED LOAD MAY BE INCREASED BY ONE TWIN-PACK UNIT, LOAD LIMIT PERMITTING, BY OMITTING ONE LENGTHWISE TWIN-PACK UNIT AND REPLACING IT WITH TWO CROSSWISE TWIN-PACK UNITS. OMIT TWO SIDE BLOCKING PIECES, PIECE MARKED ④, AND THE HEADER, PIECE MARKED ⑤.

6. ALL CONTAINERS SHOWN IN THE LOAD VIEW ON PAGE 12 ARE TWIN-PACK UNITS. IF IT IS DESIRED TO SHIP A SINGLE CONTAINER FROM A TWIN-PACK UNIT, THE SINGLE CONTAINER MUST BE LOCATED EITHER IN THE CROSSWISE PORTION AT THE FRONT OF THE LOAD OR WITHIN THE CROSSWISE PORTION AT THE REAR OF THE LOAD. A SINGLE CONTAINER MUST NOT BE LOCATED AT THE REAR OF THE LOAD NOR WITHIN THE LENGTHWISE PORTION. ADJUST THE LENGTH OF THE APPLICABLE SIDE BLOCKING TO SUIT.

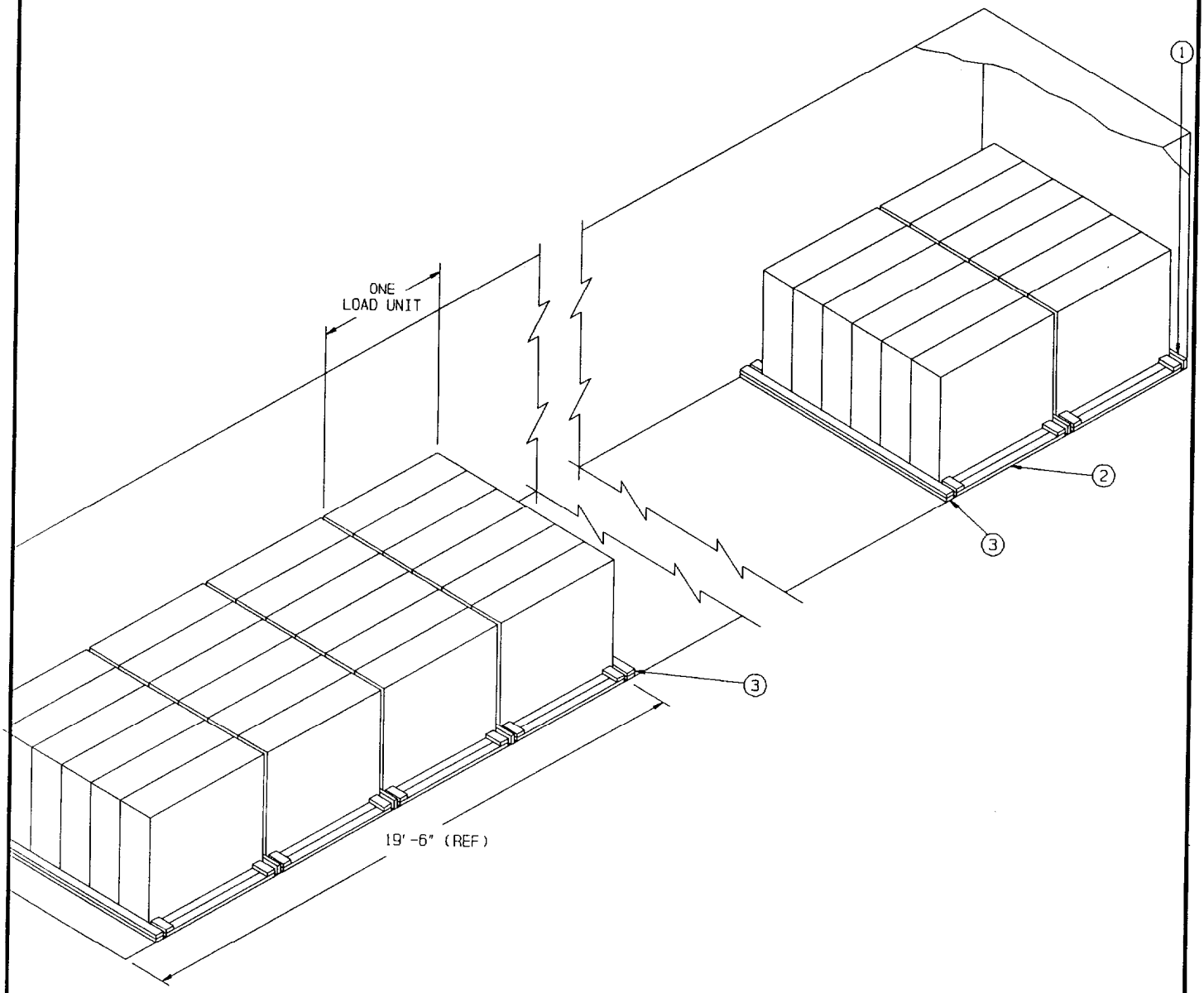
7. THE LENGTH OF THE LOAD MAY BE DECREASED APPROXIMATELY 24" BY REPLACING A LENGTHWISE TWIN-PACK UNIT WITH A CROSSWISE UNIT, IF REQUIRED TO SUIT THE LENGTH OF THE TRAILER FURNISHED FOR LOADING.

BILL OF MATERIAL		
LUMBER	LINEAR FEET	BOARD FEET
2" X 4"	202	135
NAILS	NO. REQD	POUNDS
10d (3")	316	5

LOAD AS SHOWN

ITEM	QUANTITY	WEIGHT (APPROX)
TWIN-PACK UNIT	18	42,300 LBS
DUNNAGE		275 LBS
TOTAL WEIGHT		42,575 LBS (APPROX)

NAILABLE FLOOR METHOD "A"
18 TWIN-PACK UNIT LOAD IN A 48'-0" LONG CONVENTIONAL TYPE VAN TRAILER



ISOMETRIC VIEW

KEY NUMBERS

(1) BUFFER PIECE, 2" X 4" BY TRAILER WIDTH MINUS 1/2" IN LENGTH (5 REQD). POSITION ON EDGE AS SHOWN. SEE SPECIAL NOTE 3 ON PAGE 15.

(2) SIDE BLOCKING ASSEMBLY (12 REQD). SEE THE "SIDE BLOCKING ASSEMBLY E" DETAIL ON PAGE 25. SEE SPECIAL NOTE 4 ON PAGE 15.

(3) HEADER, 2" X 4" BY TRAILER WIDTH MINUS 1/2" IN LENGTH (DOUBLED) (3 REQD). NAIL THE FIRST PIECE TO THE TRAILER FLOOR W/12-10d NAILS. NAIL THE SECOND PIECE TO THE FIRST IN A LIKE MANNER.

NAILABLE FLOOR METHOD "B"
18 TWIN-PACK UNIT LOAD IN A 48'-0" LONG CONVENTIONAL TYPE VAN TRAILER

SPECIAL NOTES:

1. AN 18 TWIN-PACK 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 CNU-322/E CONTAINERS ARE SHOWN IN THE LOAD VIEW ON PAGE 14. THE PROCEDURES ARE ALSO APPLICABLE FOR SHIPMENTS OF CNU-309/E CONTAINERS. SEE SPECIAL NOTE 5.

3. THE BUFFER PIECE, SHOWN AS PIECE MARKED ①, WHICH IS POSITIONED ON EDGE BETWEEN LONGITUDINALLY ADJACENT LOAD UNITS AND AT THE FRONT OF THE LOAD IS NOT REQUIRED WHEN SHIPPING THE CNU-309/E CONTAINERS.

4. IF DESIRED, IN LIEU OF USING THE SIDE BLOCKING ASSEMBLIES, PIECE MARKED ②, NAILED SIDE BLOCKING AS SHOWN BY PIECE MARKED ④ ON PAGE 10 MAY BE USED.

5. ALL CONTAINERS WHICH HAVE END DUNNAGE ASSEMBLIES MUST BE POSITIONED IN ONE LOAD UNIT AND TWIN-PACKS WITHOUT DUNNAGE MUST BE POSITIONED IN A DIFFERENT LOAD UNIT. A BUFFER PIECE, PIECE MARKED ①, IS REQUIRED BETWEEN ADJACENT UNLIKE LOAD UNITS.

6. THE 19-6" (REF) LOCATION DIMENSION FOR THE REAR PORTION OF THE LOAD MAY BE ADJUSTED AS NECESSARY TO PROVIDE FOR PROPER WEIGHT DISTRIBUTION. ALSO, THE NUMBER OF LOAD UNITS IN EACH GROUP MAY BE CHANGED, AS DESIRED. HOWEVER, IF THE REAR PORTION OF THE LOAD IS TO CONSIST OF MORE THAN FOUR (4) LOAD UNITS, AN ADDITIONAL HEADER, PIECE MARKED ③, MUST BE INSTALLED BETWEEN THE THIRD AND FOURTH LOAD UNIT.

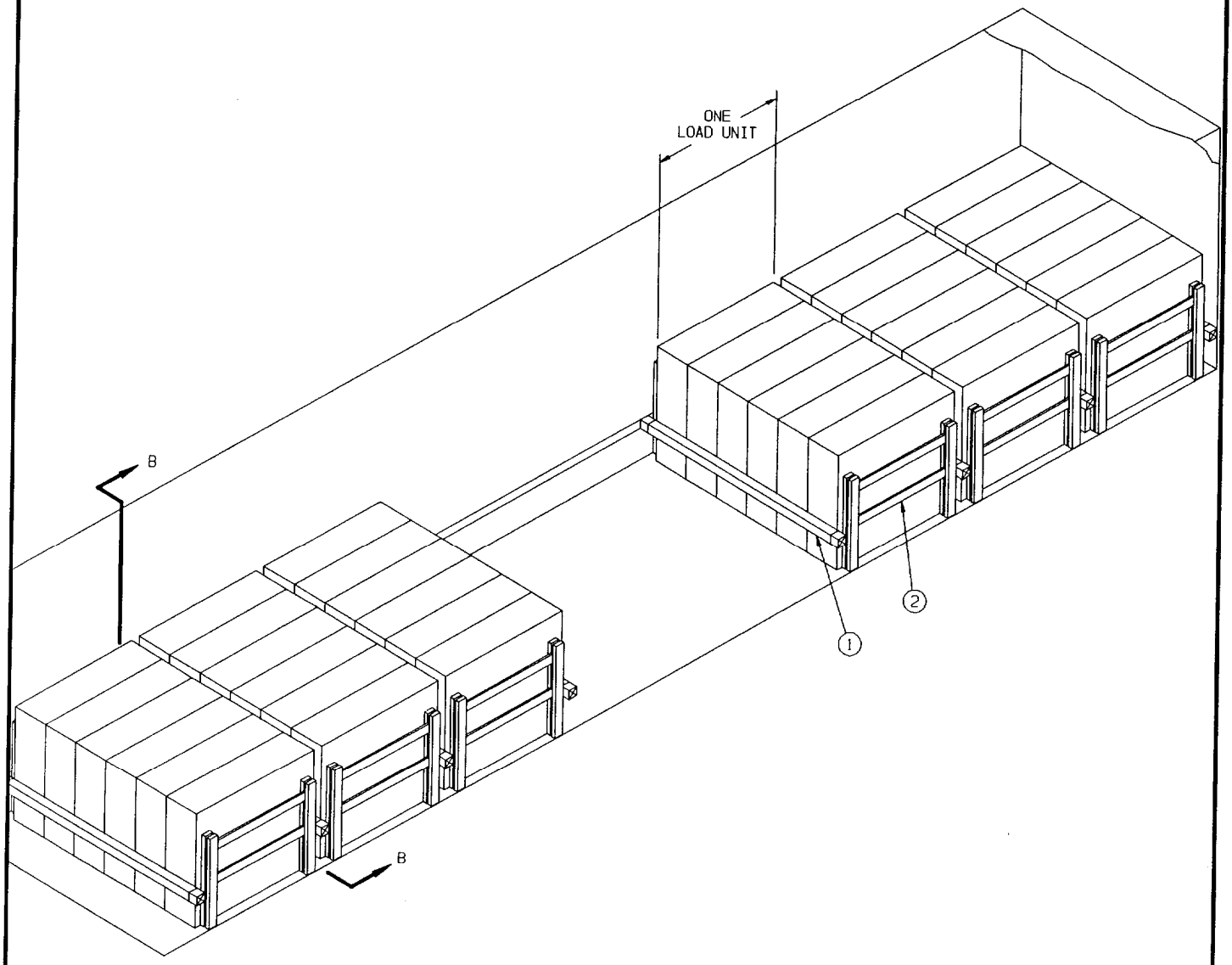
7. ALL CONTAINERS SHOWN IN THE LOAD VIEW ON PAGE 14 ARE TWIN-PACK UNITS. IF IT IS DESIRED TO SHIP A SINGLE CONTAINER FROM A TWIN-PACK UNIT, THE SINGLE CONTAINER MUST BE LOCATED IN THE CENTER OF THE TRAILER WIDTH BETWEEN TWO FULL TWIN-PACK UNITS. A SINGLE CONTAINER MUST NOT BE LOCATED AT THE SIDE OF THE LOAD.

BILL OF MATERIAL		
LUMBER	LINEAR FEET	BOARD FEET
2" X 4"	205	137
NAILS	NO. REQD	POUNDS
10d (3")	216	3-1/2

LOAD AS SHOWN

ITEM	QUANTITY	WEIGHT (APPROX)
TWIN-PACK UNIT	18	42,300 LBS
DUNNAGE		278 LBS
TOTAL WEIGHT		42,578 LBS (APPROX)

NAILABLE FLOOR METHOD "B"
18 TWIN-PACK UNIT LOAD IN A 48'-0" LONG CONVENTIONAL TYPE VAN TRAILER

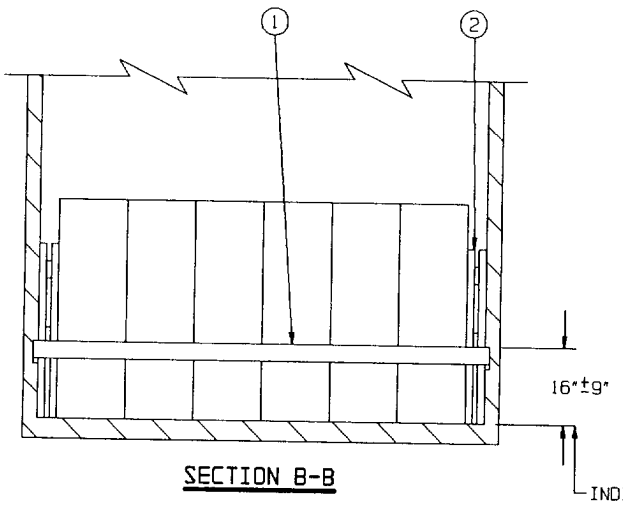


ISOMETRIC VIEW

KEY NUMBERS

(1) CROSS MEMBER (8 REQD). POSITION AT THE HEIGHT AS SPECIFIED BY THE "SECTION B-B" VIEW BELOW. SEE GENERAL NOTE "E" ON PAGE 2.

(2) SIDE BLOCKING ASSEMBLY (12 REQD). SEE THE "SIDE BLOCKING ASSEMBLY D" DETAIL ON PAGE 23.



SECTION B-B

1B TWIN-PACK UNIT LOAD IN A 40'-0" LONG TRAILER EQUIPPED WITH MECHANICAL BRACING DEVICES

PROJECT SP 112-78

SPECIAL NOTES:

1. AN 18 TWIN-PACK UNIT LOAD IS SHOWN IN A 40'-0" LONG BY 7'-6" WIDE (INSIDE DIMENSION) VAN TRAILER EQUIPPED WITH MECHANICAL BRACING DEVICES. TRAILERS OF OTHER DIMENSIONS CAN BE USED.

2. THE DEPICTED PROCEDURES ARE APPLICABLE FOR SHIPMENTS OF EITHER THE CNU-309/E TWIN-PACK UNIT OR THE CNU-332/E TWIN-PACK UNIT OR A COMBINATION OF THE TWO. CAUTION: A LOAD UNIT MUST CONSIST OF ALL ONE MODEL OF CONTAINERS. THE TWO MODELS MUST NOT BE MIXED WITHIN A LOAD UNIT.

3. THE LOCATION OF THE LOAD UNITS MAY BE ADJUSTED AS NECESSARY TO PROVIDE FOR PROPER WEIGHT DISTRIBUTION. THE DEPICTED LOCATION IS APPLICABLE FOR A TRAILER HAVING THE REAR TANDEMS IN THE "WESTERN" POSITION. FOR TRAILERS HAVING THE REAR TANDEMS IN OTHER POSITIONS IT MAY BE NECESSARY TO LOCATE THE REAR THREE LOAD UNITS IN A MORE FORWARD LOCATION, OR ELSE THE FOREMOST LOAD UNIT OF THE REAR PORTION OF THE LOAD CAN BE PLACED AT THE REAR OF THE FRONT PORTION.

4. THE DEPICTED LOAD MAY BE INCREASED BY ONE OR TWO TWIN-PACK UNITS, LOAD LIMIT PERMITTING, BY EMPLOYING THE TYPICAL LTL PROCEDURES SHOWN ON PAGE 21. THE LOAD MAY ALSO BE DECREASED BY USING THE SAME LTL PROCEDURES.

5. REFER TO SPECIAL NOTE 10 ON PAGE 19 AND THE LOAD VIEW ON PAGE 18 FOR AN ALTERNATIVE LOADING METHOD.

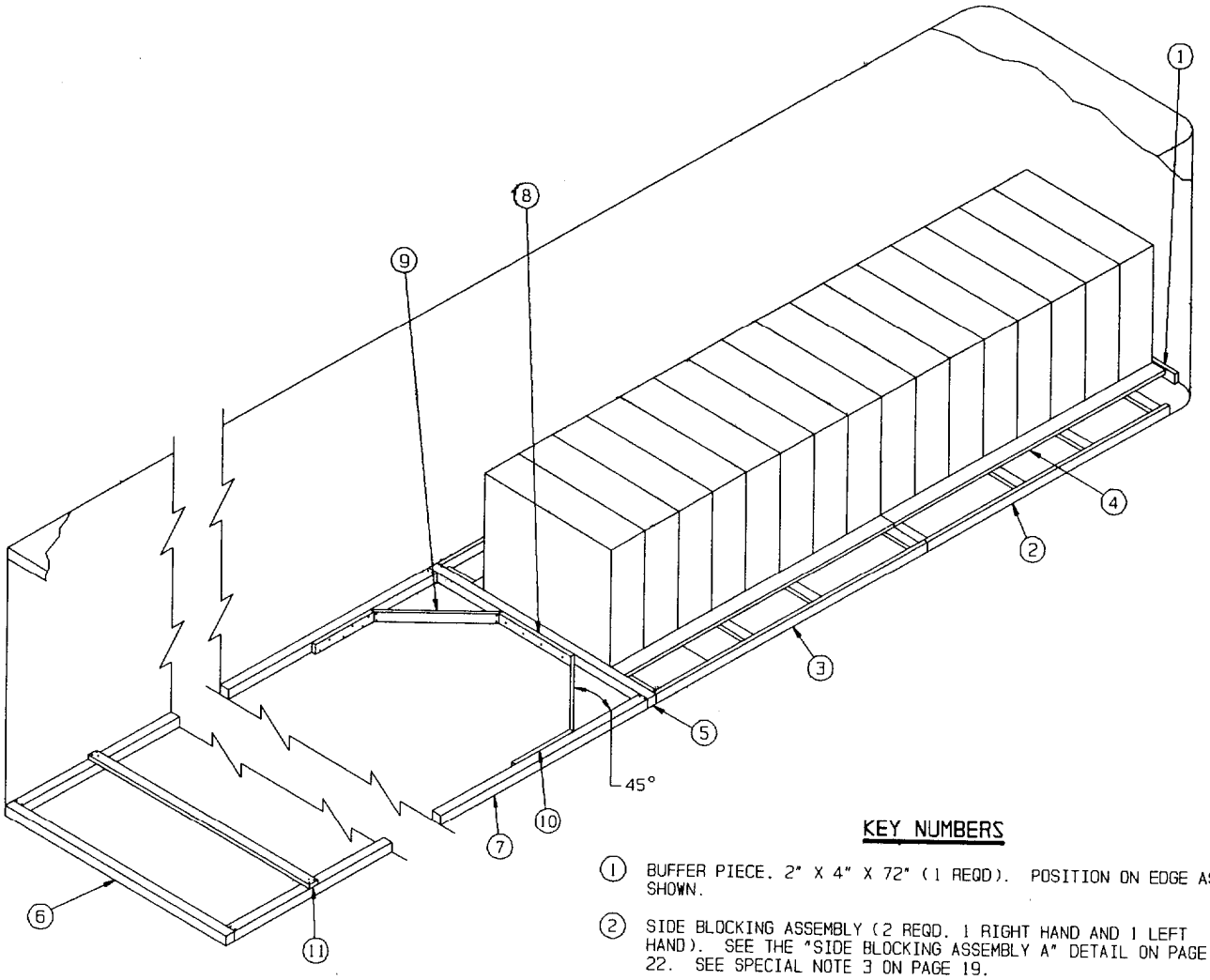
6. ALL CONTAINERS SHOWN IN THE LOAD VIEW ON PAGE 16 ARE TWIN-PACK UNITS. IF IT IS DESIRED TO SHIP A SINGLE CONTAINER FROM A TWIN-PACK UNIT, THE SIDE BLOCKING ASSEMBLY, PIECE MARKED ②, ON ONE SIDE OF THE LOAD MUST BE REPLACED WITH THE ASSEMBLY SHOWN ON PAGE 21 AS PIECES MARKED ② THRU ⑤. THE LOCATION OF THE SINGLE CONTAINER WITHIN A LOAD IS OPTIONAL.

BILL OF MATERIAL		
LUMBER	LINEAR FEET	BOARD FEET
1" X 4" 2" X 4"	96 144	32 96
NAILS	NO. REQD	POUNDS
6d (2") 10d (3")	96 96	3/4 1-1/2

LOAD AS SHOWN

ITEM	QUANTITY	WEIGHT (APPROX)
TWIN-PACK UNIT	18	42,300 LBS
DUNNAGE		258 LBS
TOTAL WEIGHT		42,558 LBS (APPROX)

18 TWIN-PACK UNIT LOAD IN A 40'-0" LONG TRAILER EQUIPPED WITH MECHANICAL BRACING DEVICES



ISOMETRIC VIEW

KEY NUMBERS

(1) BUFFER PIECE, 2" X 4" X 72" (1 REQD). POSITION ON EDGE AS SHOWN.

(2) SIDE BLOCKING ASSEMBLY (2 REQD, 1 RIGHT HAND AND 1 LEFT HAND). SEE THE "SIDE BLOCKING ASSEMBLY A" DETAIL ON PAGE 22. SEE SPECIAL NOTE 3 ON PAGE 19.

(3) SIDE BLOCKING ASSEMBLY (2 REQD). SEE THE "SIDE BLOCKING ASSEMBLY B" DETAIL ON PAGE 22.

(4) SIDE BEARING PIECE, 2" X 6" X 9'-0" (4 REQD). NAIL TO THE STRUTS OF A SIDE BLOCKING ASSEMBLY W/2-10d NAILS AT EACH JOINT. SEE SPECIAL NOTE 4 ON PAGE 19 AND GENERAL NOTE "N" ON PAGE 2.

(5) FORWARD HEADER, 4" X 4" BY TRAILER WIDTH MINUS 1/2" IN LENGTH (1 REQD).

(6) REAR HEADER, 4" X 4" BY TRAILER WIDTH MINUS 1/2" IN LENGTH (1 REQD). POSITION AGAINST REAR CORNER POSTS IF THE TRAILER IS SO EQUIPPED, OR POSITION TO CONTACT REAR DOORS OF THE TRAILER WHEN THEY ARE CLOSED. SEE SPECIAL NOTE 5 ON PAGE 19.

(7) SIDE STRUT, 4" X 4" BY CUT TO FIT BETWEEN PIECES MARKED (5) AND (6) (2 REQD). TOENAIL TO PIECES MARKED (5) AND (6) W/2-16d NAILS AT EACH END.

(8) CENTER CLEAT, 2" X 4" X 30" (1 REQD). NAIL TO PIECE MARKED (5) W/4-12d NAILS.

(9) DIAGONAL BRACE, 2" X 4" BY CUT TO FIT (2 REQD). DOUBLE BEVEL EACH END WITH 45° CUTS. INSTALL AT A 45° ANGLE AS SHOWN AND TOENAIL TO PIECES MARKED (5) AND (7) W/2-16d NAILS AT EACH END.

(10) BACK-UP CLEAT, 2" X 4" X 24" (2 REQD). NAIL TO PIECE MARKED (7) W/6-12d NAILS.

(11) STRUT BRACING, 2" X 4" BY TRAILER WIDTH (CUT TO FIT) (MINIMUM OF 1 REQD). INSTALL ONE (1) NEAR REAR END OF STRUTS MARKED (7) AS SHOWN. ONE (1) ADDITIONAL PIECE REQUIRED FOR EVERY 7'-0" OF STRUT LENGTH. NAIL TO PIECES MARKED (7) W/3-12d NAILS AT EACH END.

TYPICAL LTL 8 TWIN-PACK UNIT LOAD IN A CONVENTIONAL TYPE VAN TRAILER

SPECIAL NOTES:

1. THESE OUTLOADING PROCEDURES DEPICT THE USE OF "K-BRACE" TYPE FLOORLINE BLOCKING IN A 7'-6" WIDE (INSIDE DIMENSION) VAN TRAILER WHICH IS EQUIPPED WITH OR WITHOUT NAILABLE FLOORS AND REAR CORNER POSTS. TRAILERS OF OTHER DIMENSIONS CAN BE USED.

2. THE DEPICTED PROCEDURES ARE APPLICABLE FOR SHIPMENT OF CNU-309/E TWIN-PACK UNIT OR THE CNU-332/E TWIN-PACK UNIT OR A COMBINATION OF THE TWO.

3. THE SIDE BLOCKING ASSEMBLY "A", SHOWN AS PIECE MARKED ②, IS APPLICABLE FOR USE IN A TRAILER WHICH HAS ROUNDED CORNERS AT THE FORWARD END. IF THE TRAILER BEING LOADED HAS A SQUARE FRONT, OMIT PIECES MARKED ② AND REPLACE THEM WITH PIECES MARKED ③.

4. THE SIDE BEARING PIECES, SHOWN AS PIECES MARKED ④, SHOULD BE PLACED AGAINST THE CONTAINERS AND NAILED TO A SIDE BLOCKING ASSEMBLY AFTER THE ASSEMBLY HAS BEEN FABRICATED AND POSITIONED AGAINST THE TRAILER SIDEWALL.

5. THE "K-BRACE" BLOCKING, SHOWN AS PIECES MARKED ⑤ THRU ⑪, IS ADEQUATE FOR RETAINING A MAXIMUM LTL LOAD OF 26,000 POUNDS. THIS WOULD BE NOT MORE THAN ELEVEN (11) TWIN-PACKS UNITS WHICH ARE AT OR NEAR THE MAXIMUM WEIGHT.

6. ALL LTL LOADS, REGARDLESS OF THEIR SIZE, REQUIRE ONE STRUT BRACE POSITIONED AT THE REAR OF THE TRAILER AND NAILED TO PIECE MARKED ⑦. IF THE SIDE STRUTS, PIECES MARKED ⑦, ARE LONGER THAN 7'-0", AN ADDITIONAL STRUT BRACE, PIECE MARKED ⑪, MUST BE APPLIED FOR EVERY 7'-0" OF SIDE STRUT LENGTH.

7. DEPENDING ON THE NUMBER OF TWIN-PACK UNITS BEING LOADED, EACH OF THE SIDE STRUTS, PIECE MARKED ⑦, MAY NEED TO BE FORMED FROM MORE THAN ONE PIECE OF MATERIAL. IF SUCH IS THE CASE, THE SIDE STRUTS MUST BE SPLICED. SPLICING CAN BE ACCOMPLISHED BY CENTERING A 2" X 4" X 24" PIECE ON THE JOINT OF THE SIDE STRUTS AND NAILING IT TO THE SIDE STRUTS W/4-10d NAILS AT EACH END.

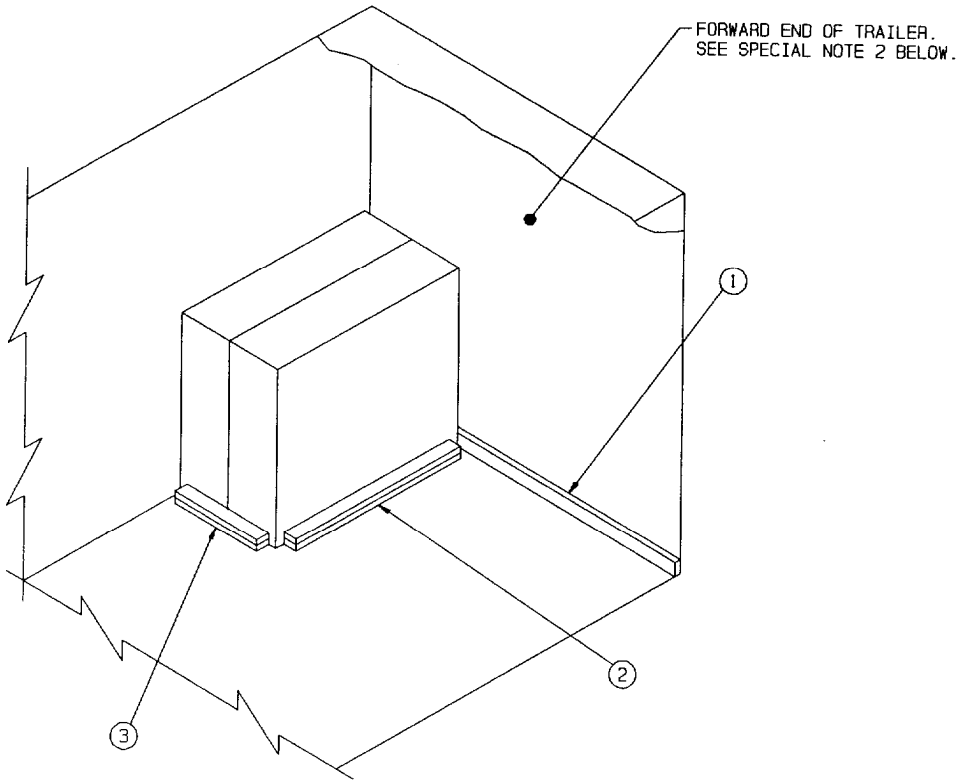
8. IF DESIRED IN TRAILERS EQUIPPED WITH NAILABLE FLOORS, SIDE BLOCKING SHOWN AS PIECE MARKED ② ON PAGE 10 MAY BE USED IN LIEU OF PIECES MARKED ②, ③, AND ④.

9. IF THE TRAILER BEING LOADED IS EQUIPPED WITH A NAILABLE FLOOR AND IT IS DESIRED TO USE NAILED REAR BLOCKING, OMIT PIECES MARKED ⑤ THRU ⑪. IN LIEU OF PIECE MARKED ⑤ USE A TRAILER WIDTH MINUS 1/2" IN LENGTH DOUBLED 2" X 4" PIECE. NAIL THE FIRST PIECE TO THE TRAILER FLOOR W/1-10d NAIL EVERY 6" (15 NAILS). LAMINATE THE SECOND PIECE TO THE FIRST IN A LIKE MANNER. THIS REAR BLOCKING IS ADEQUATE TO RETAIN THE MAXIMUM SIZE LOAD.

10. IF THE TRAILER BEING OUTLOADED CONTAINS MECHANICAL BRACING DEVICES AS DESCRIBED IN GENERAL NOTE "E" ON PAGE 2, THEY MAY BE USED IN LIEU OF PIECES MARKED ⑤ THRU ⑪. POSITION THE CROSS MEMBERS AT THE 4" AND 28" HEIGHT DIMENSIONS FOR THE LOAD SHOWN. INSTALL CROSS MEMBERS TIGHTLY AGAINST THE TWIN-PACK UNIT. NOTE THAT TWO CROSS MEMBERS WILL RETAIN NOT MORE THAN 20,000 POUNDS OR EIGHT (8) TWIN-PACK UNITS. IF A LARGE LOAD IS TO BE SHIPPED, THE LOAD MUST BE DIVIDED INTO BAYS, WITH EACH BAY BRACED WITH TWO CROSS MEMBERS.

11. ALL CONTAINERS SHOWN IN THE LOAD VIEW ON PAGE 18 ARE TWIN-PACK UNITS. IF IT IS DESIRED TO SHIP A SINGLE CONTAINER FROM A TWIN-PACK UNIT, THE SINGLE CONTAINER MUST BE LOCATED EITHER AT THE FRONT OF THE LOAD OR WITHIN THE LOAD. A SINGLE CONTAINER MUST NOT BE LOCATED AT THE REAR OF THE LOAD; AT LEAST TWO (2) TWIN-PACK UNITS MUST BE BETWEEN THE SINGLE CONTAINER AND THE REAR BLOCKING. ADJUST THE LENGTH OF THE APPLICABLE SIDE BLOCKING ASSEMBLY TO SUIT.

TYPICAL LTL 8 TWIN-PACK UNIT LOAD IN A CONVENTIONAL TYPE VAN TRAILER



ISOMETRIC VIEW

SPECIAL NOTES:

1. THESE OUTLOADING PROCEDURES DEPICT THE USE OF FLOOR-LINE BLOCKING IN A 7'-6" WIDE (INSIDE DIMENSION) VAN TRAILER WHICH IS EQUIPPED WITH A NAILABLE FLOOR. TRAILERS OF OTHER DIMENSIONS CAN BE USED.

2. IF THE TRAILER HAS ROUNDED CORNERS AT THE FORWARD END, THE TWIN-PACK UNIT SHOULD BE CENTERED IN THE WIDTH OF THE TRAILER AND RETAINED BY AN ADDITIONAL PIECE MARKED (2) PLACED AGAINST THE CONTAINERS. NOTE THAT PIECE MARKED (1) IS ONLY REQUIRED FOR THE CNU-332/E CONTAINERS AND ONLY IN A SQUARE FRONT TRAILER, AS SHOWN, OR IN A TRAILER HAVING ROUNDED CORNERS, IN WHICH CASE IT SHOULD BE 72" LONG.

3. IF THE TRAILER BEING OUTLOADED CONTAINS MECHANICAL BRACING DEVICES, AS DESCRIBED IN GENERAL NOTE "E" ON PAGE 2, SEE PAGE 21 FOR ALTERNATIVE METHOD.

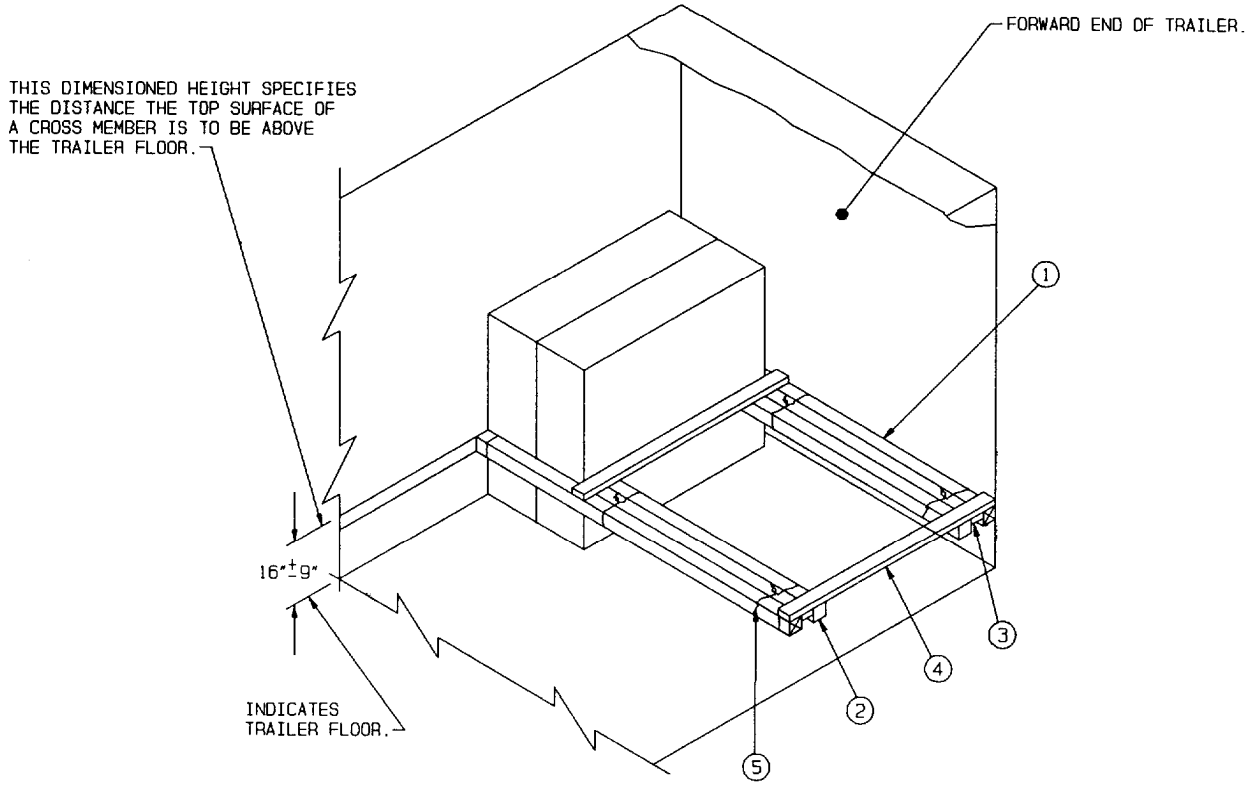
KEY NUMBERS

(1) BUFFER PIECE, 2" X 4" BY TRAILER WIDTH MINUS 1/2" IN LENGTH (1 REQD). POSITION ON EDGE AS SHOWN. SEE SPECIAL NOTE 2 AT LEFT.

(2) SIDE BLOCKING, 2" X 4" X 48" DOUBLED (1 REQD). NAIL THE FIRST PIECE TO THE TRAILER FLOOR W/4-10d NAILS. NAIL THE SECOND PIECE TO THE FIRST IN A LIKE MANNER.

(3) HEADER, 2" X 4" X 24" (DOUBLED) (1 REQD). 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 1 TWIN-PACK UNIT LOAD IN A CONVENTIONAL TYPE VAN TRAILER



ISOMETRIC VIEW

SPECIAL NOTES:

1. A 7'-6" WIDE (INSIDE DIMENSION) VAN TRAILER EQUIPPED WITH MECHANICAL BRACING DEVICES IS SHOWN. TRAILERS OF OTHER DIMENSIONS CAN BE USED.
2. IN ADDITION TO BEING USED FOR SHIPMENTS OF ONE TWIN-PACK UNIT, THE DEPICTED PROCEDURES CAN BE USED IN CONJUNCTION WITH THE OUTLOADING PROCEDURES ON PAGES 16 AND 17 FOR THE ADJUSTMENT OF A LOAD QUANTITY.
3. FOUR PIECES OF NO. 14 GAGE WIRE MAY BE USED IN LIEU OF THE NO. 8 GAGE WIRE. WHEN USING THE NO. 14 GAGE WIRE, INSTALL TWO COMPLETE LOOPS AROUND THE CROSS MEMBER, SIDE BLOCKING, AND SPACER.
4. A TWIN-PACK UNIT IS SHOWN. THE DEPICTED PROCEDURES ARE ALSO APPLICABLE FOR THE SHIPMENT OF A SINGLE CONTAINER FROM A TWIN-PACK UNIT.

KEY NUMBERS

(1) CROSS MEMBER (2 REQD). POSITION IN TWO BLOCKING STATIONS AT THE HEIGHT SPECIFIED IN THE ISOMETRIC VIEW ABOVE. SEE GENERAL NOTE "E" ON PAGE 2.

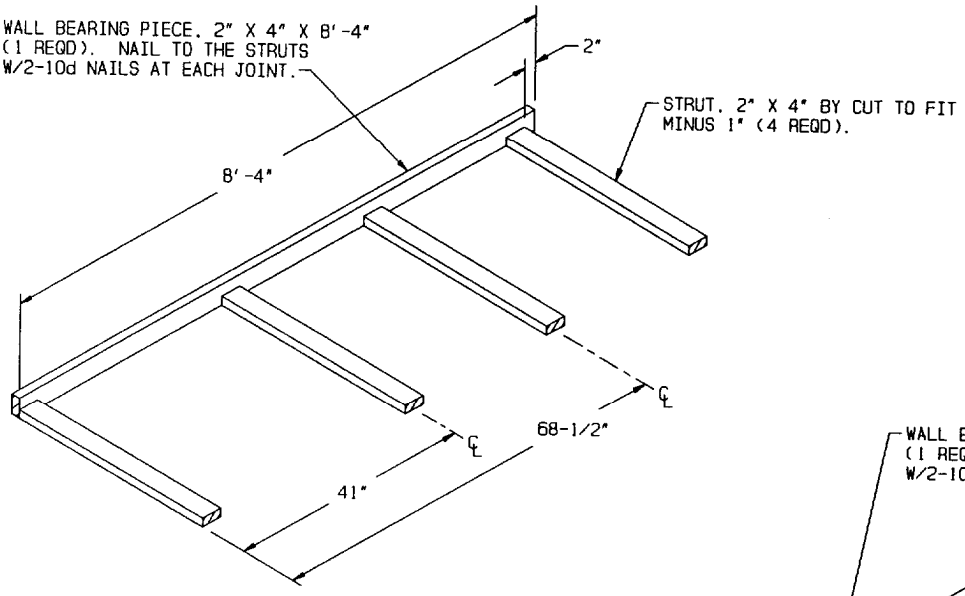
(2) SIDE BLOCKING, 4" X 4" BY CUT TO FIT BETWEEN THE TWIN-PACK UNIT AND THE TRAILER SIDE WALL (2 REQD).

(3) SPACER, 2" X 4" BY CUT TO FIT BETWEEN THE TWIN-PACK UNIT AND THE TRAILER SIDEWALL (2 REQD).

(4) SUPPORT PIECE, 2" X 4" X 60" (2 REQD). NAIL TO PIECES MARKED (3) W/3-10d NAILS AT EACH JOINT. NAIL TO PIECES MARKED (2) W/3-12d NAILS AT EACH JOINT.

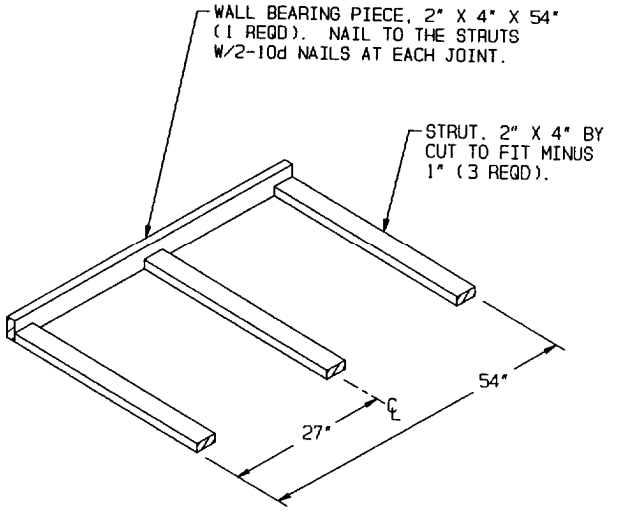
(5) TIE WIRE, NO. 8 GAGE BLACK ANNEALED WIRE 36" LONG (4 REQD). INSTALL TO FORM A COMPLETE LOOP AROUND THE CROSS MEMBER, PIECE MARKED (1), AND PIECES MARKED (2) AND (3). BRING ENDS TOGETHER AND TWIST TAUT. SEE SPECIAL NOTE 3 AT LEFT.

TYPICAL LTL 1 TWIN-PACK UNIT LOAD IN A TRAILER EQUIPPED WITH MECHANICAL BRACING DEVICES



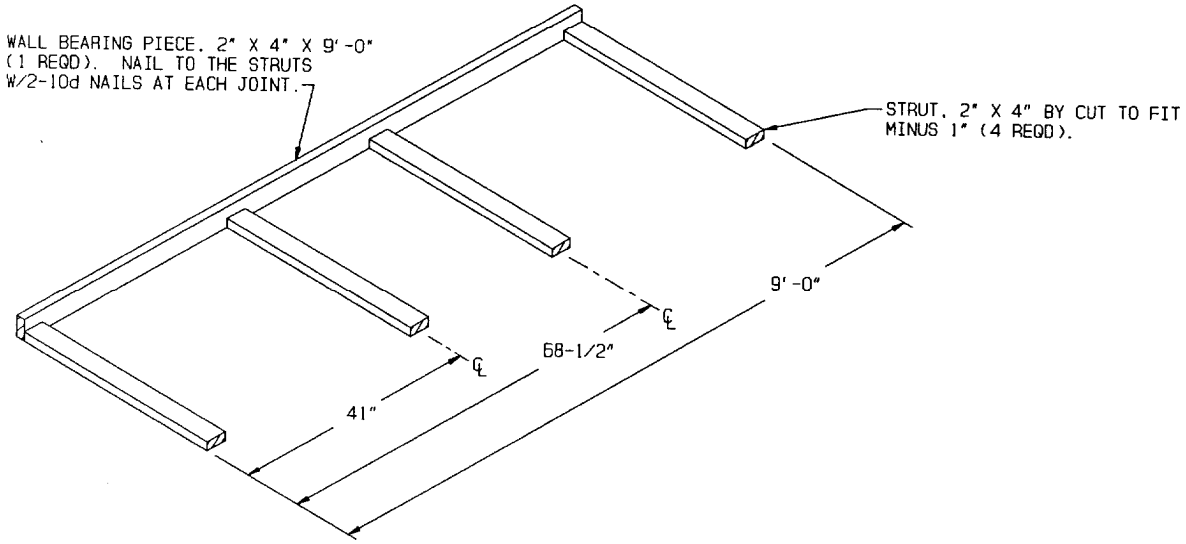
SIDE BLOCKING ASSEMBLY A

THIS ASSEMBLY IS DESIGNED FOR THE LATERAL BRACING OF THE 4-LONG GROUP OF TWIN-PACK CONTAINERS POSITIONED CROSSWISE AT THE FORWARD END OF THE LOADS SHOWN ON PAGES 6, 8 AND 18. ONE RIGHT HAND AND ONE LEFT HAND ASSEMBLY ARE REQUIRED FOR A LOAD. A LEFT HAND ASSEMBLY IS SHOWN. SEE SPECIAL NOTE 3 ON PAGE 7, 9, OR 19.



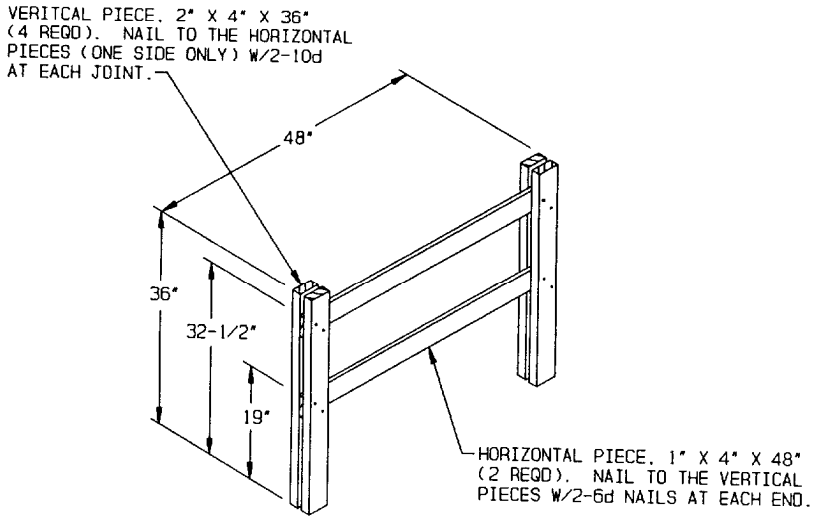
SIDE BLOCKING ASSEMBLY C

THIS ASSEMBLY IS DESIGNED FOR THE LATERAL BRACING OF THE 2-LONG GROUP OF TWIN-PACK CONTAINERS POSITIONED CROSSWISE AS SHOWN IN THE LOADS ON PAGES 6 AND 8.



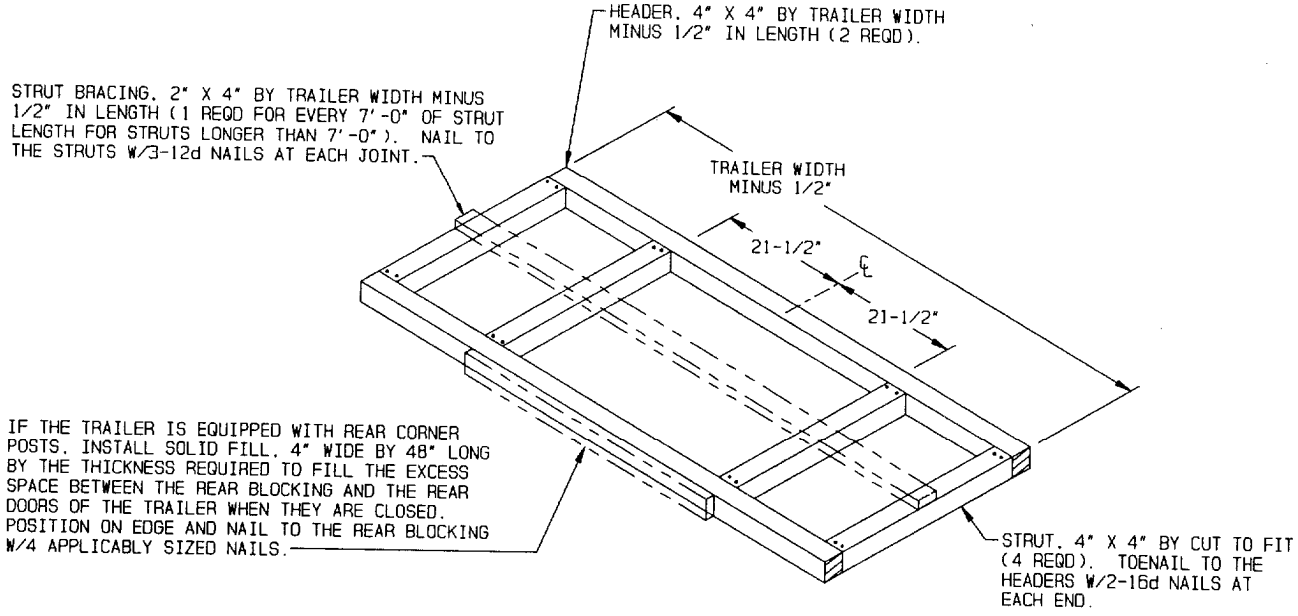
SIDE BLOCKING ASSEMBLY B

THIS ASSEMBLY IS DESIGNED FOR THE LATERAL BRACING OF THE 4-LONG GROUP OF TWIN-PACK CONTAINERS POSITIONED CROSSWISE AS SHOWN IN THE LOADS ON PAGES 6 AND 8. AN ASSEMBLY FOR A 3-LONG GROUP, IF REQUIRED, WILL BE 6'-9" LONG, WITH THE INTERMEDIATE STRUTS LOCATED AT 27" AND 54" FROM ONE END.



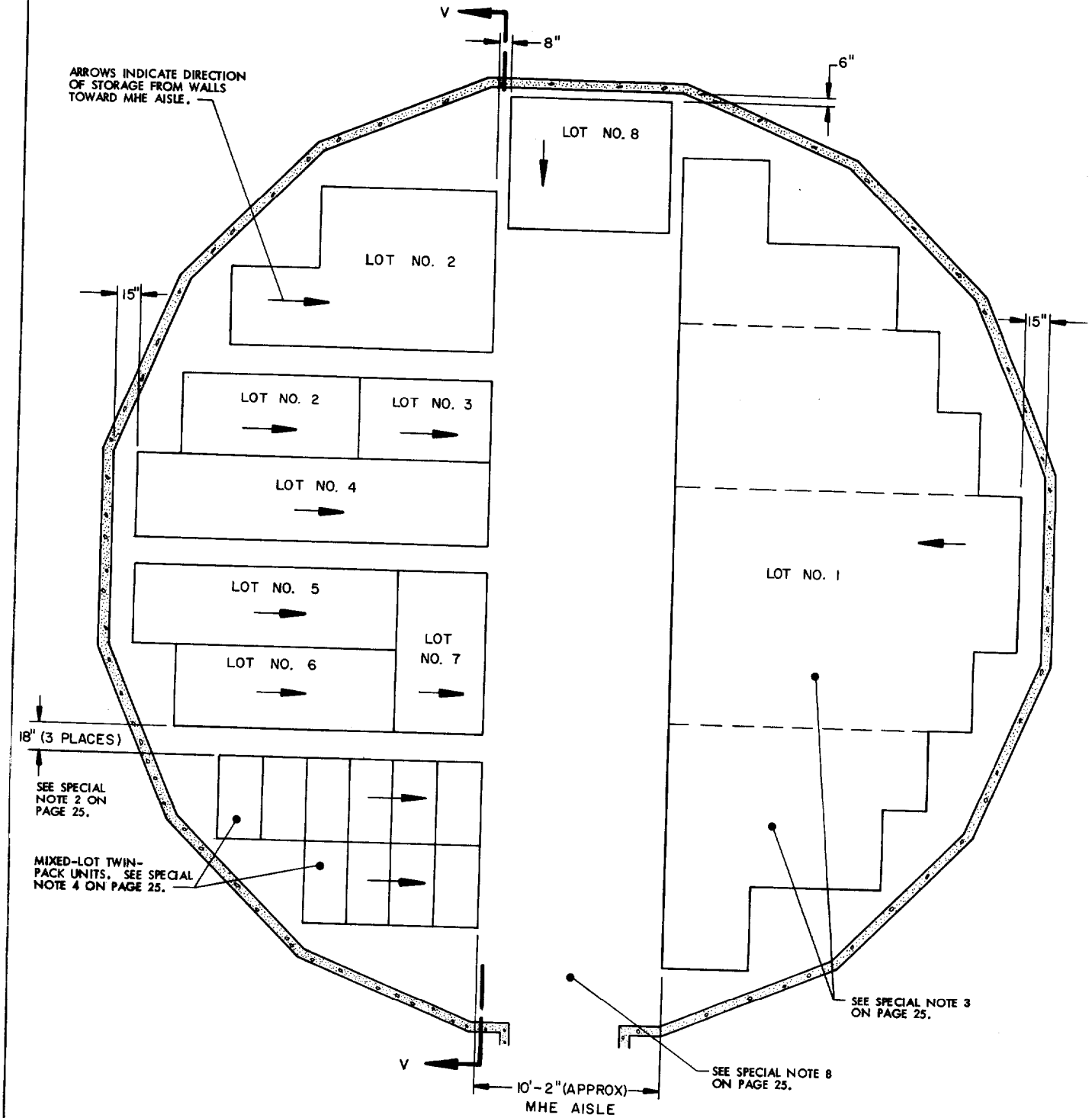
SIDE BLOCKING ASSEMBLY D

THIS ASSEMBLY IS DESIGNED FOR THE LATERAL BRACING OF A 3-WIDE LOAD UNIT IN A TRAILER EQUIPPED WITH MECHANICAL BRACING DEVICES AS SHOWN ON PAGE 16.



REAR BLOCKING ASSEMBLY

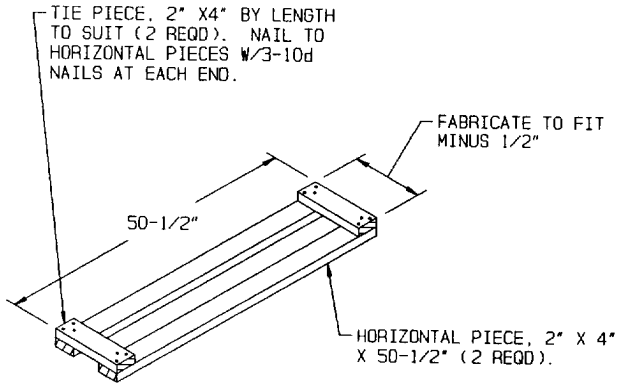
THIS REAR BLOCKING ASSEMBLY IS DESIGNED FOR USE AT THE REAR OF A LOAD OF TWIN-PACK UNITS WHEN THE DISTANCE BETWEEN THE REAR OF THE LOAD AND THE REAR DOORS WHEN THEY ARE CLOSED MEASURES 12" OR MORE. THIS BLOCKING IS ONLY FOR USE IN THE LOADS SHOWN ON PAGES 6 AND 8.



PLAN VIEW

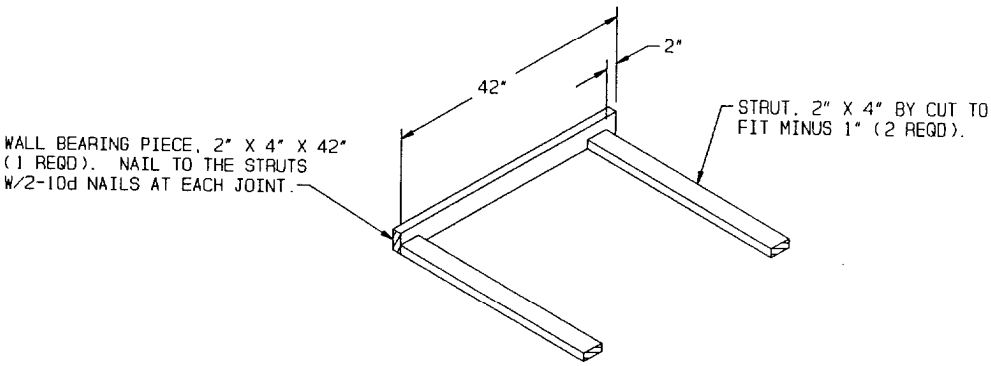
TYPICAL MULTIPLE-LOT STORAGE IN CORBETTA TYPE MAGAZINE

PROJECT SP 111-78



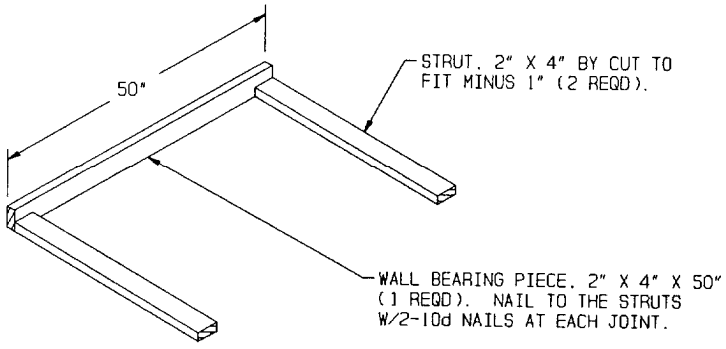
SIDE BLOCKING ASSEMBLY E

FOR USE IN THE LOAD ON PAGE 14.



SIDE BLOCKING ASSEMBLY F

THIS ASSEMBLY IS DESIGNED FOR THE LATERAL BRACING OF THE FRONT TWIN-PACK CONTAINERS IN THE "ALERNATIVE METHOD" SHOWN ON PAGE 9. ONE RIGHT HAND AND ONE LEFT HAND ASSEMBLY ARE REQUIRED FOR A LOAD. A LEFT HAND ASSEMBLY IS SHOWN. SEE SPECIAL NOTE 13 ON PAGE 9.



SIDE BLOCKING ASSEMBLY G

THIS ASSEMBLY IS DESIGNED FOR THE LATERAL BRACING OF THE SECOND TWIN-PACK CONTAINERS IN THE "ALTERNATIVE METHOD" SHOWN ON PAGE 9.