

APPROVED BY

BUREAU OF EXPLOSIVES

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BATS

LOADING AND BRACING (TL & LTL) IN CLOSED OR OPEN TOP VAN TRAILERS OF THE MAIN ASSEMBLAGE IN 1-UNIT, 4-UNIT AND 8-UNIT PACKS

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THIS DOCUMENT INCLUDES OUTLOADING 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: THE PROCEDURES SHOWN HEREIN, FOR BOTH TYPES OF TRAILERS, ARE ONLY APPLICABLE FOR HIGHWAY MOVEMENTS; NOT FOR CONTAINER/TRAILER-ON-FLAT-CAR MOVEMENTS.

THE OUTLOADING PROCEDURES SPECIFIED WITHIN THIS DRAWING ARE ONLY APPLICABLE TO ITEMS WHICH ARE EMPTY. NOTICE: THE ITEM PACKAGING AND THE SPECIFIED LOADING AND BRACING PROCEDURES WILL NOT BE USED FOR SHIPPING ITEMS CONTAINING EXPLOSIVES.

DO NOT SCALE

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GENERAL NOTES

- A. THIS DOCUMENT HAS BEEN PREPARED AND ISSUED IN ACCORDANCE WITH AMCR 740-13, AND AUGMENTS TM 743-200-1 (CHAPTER 5).
- B. THE OUTLOADING PROCEDURES SPECIFIED HEREIN ARE APPLICABLE TO THE MAIN ASSEMBLAGE FOR THE BALLISTIC AERIAL TARGET SYSTEM (BATS) WHEN PACKAGED IN A SKIDDED WOODEN CONTAINER OF 1-UNIT, 4-UNIT AND 8-UNIT PACKS. SUBSEQUENT REFERENCE TO CONTAINER HEREIN MEANS THE CONTAINER WITH CONTENTS.
- C. LADING DATA:
(1) FOR DETAILS OF THE 1-UNIT PACK, SEE THE PICTORIAL VIEW ON PAGE 3. CONTAINER DIMENSIONS --- 213" LONG X 21" WIDE X 23-1/4" HIGH. GROSS WEIGHT ----- 460 POUNDS (APPROX).
(2) FOR DETAILS OF THE 4-UNIT PACK, SEE THE PICTORIAL VIEW ON PAGE 3. CONTAINER DIMENSIONS --- 215" LONG X 40-5/8" WIDE X 44" HIGH. GROSS WEIGHT ----- 1,625 POUNDS (APPROX).
(3) FOR DETAILS OF THE 8-UNIT PACK SEE THE PICTORIAL VIEW ON PAGE 3. CONTAINER DIMENSIONS --- 215" LONG X 40-5/8" WIDE X 80" HIGH. GROSS WEIGHT ----- 2,840 POUNDS (APPROX).
- D. SELECTION OF A VEHICLE TO BE USED TO TRANSPORT THE DESIGNATED ITEM MUST COMPLY WITH AR 55-355, CHAPTER 213, FOR EXPLOSIVES AND OTHER DANGEROUS ARTICLES, IN FULL.
- E. THE LOADS AS SHOWN HEREIN ARE BASED ON 40'-0" LONG TRAILERS OF ANY WIDTH, HAVING WOOD, OR WOOD AND METAL, OR METAL FLOORS, AND THEY ARE LIMITED TO THE HIGHWAY MOVEMENTS ONLY. THE DEPICTED LOADS ARE BASED ON TRAILERS OF THE CONVENTIONAL TYPE OR ARE BASED ON TRAILERS WHICH ARE EQUIPPED WITH VARIOUS TYPES OF SELF-CONTAINED MECHANICAL BRACING DEVICES (CROSS MEMBERS AND WALL MEMBERS).
- F. THE LOADS AS SHOWN ON PAGES 4 THRU 6 FOR 1-UNIT PACKS ARE BASED ON HIGH-VOLUME TRAILERS HAVING 8'-0" MINIMUM HIGH DOOR OPENINGS.
- G. THE LOAD AS SHOWN ON PAGES 12 AND 13 FOR 4-UNIT PACKS REQUIRES CONTAINER STACKS TO BE UNITIZED WITH STEEL STRAPPING. IN SOME INSTANCES CONTAINERS MAY ALREADY BE UNITIZED WHEN OFFERED FOR SHIPMENT. THESE UNITIZED STACKS SHOULD BE INSPECTED AND, AS REQUIRED, LOOSE OR BROKEN UNITIZING STRAPS MUST BE REPLACED.
- H. IF A TRAILER BEING USED CONTAINS A MECHANICAL LOAD-BLOCKING SYSTEM WHICH CONFORMS TO SPECIFICATIONS SET FORTH WITHIN THE BUREAU OF EXPLOSIVES PAMPHLET 6C AND THE APPENDICES THERETO, THE MECHANICAL SYSTEM MAY BE USED IN ACCORDANCE WITH PROCEDURES DELINEATED ON PAGES 5 AND 13 OF THIS DOCUMENT, IN LIEU OF REAR-OF-LOAD BLOCKING SPECIFIED FOR THE DEPICTED LOADS.
- J. VOIDS LENGTHWISE WITHIN A LOAD MUST BE HELD TO A MINIMUM. FOR CONVENTIONAL TRAILERS, REAR BLOCKING MUST CONTACT REAR DOORS OF THE TRAILER WHEN THEY ARE CLOSED. FOR TRAILERS EQUIPPED WITH MECHANICAL BRACING DEVICES, THE CROSS MEMBERS MUST BE PLACED AGAINST THE LADING AS TIGHTLY AS THE WALL MEMBER LOCKING HOLE SPACING PERMITS. CROSS MEMBERS WILL BE INSTALLED WITH EACH END ATTACHED AS NEARLY AS POSSIBLE IN "MATED" POSITIONS, AT EQUAL HEIGHTS AND AT EQUAL DISTANCES FROM THE END OF THE TRAILER.
- K. MECHANICAL 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.
- L. 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.
- M. THE APPROVED BLOCKING, BRACING, AND STAYING METHODS FOR THE LOADS SPECIFIED MUST BE FOLLOWED. THE NUMBER OF UNITS MAY BE ADJUSTED TO FIT THE SIZE OF THE VEHICLE TO BE LOADED OR THE QUANTITY TO BE SHIPPED. FOR A LOAD QUANTITY OTHER THAN SPECIFIED, THE APPROVED METHODS MUST BE FOLLOWED AS CLOSELY AS POSSIBLE.
- N. 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.

(CONTINUED AT RIGHT)

MATERIAL SPECIFICATIONS

LUMBER ----- : SEE TM 743-200-1, DUNNAGE LUMBER; FED SPEC MM-L-751.

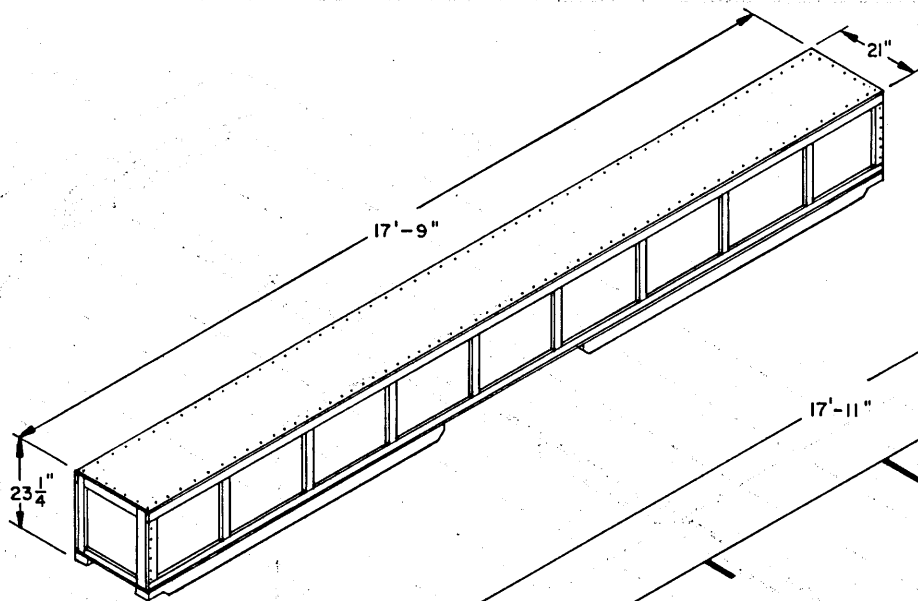
NAILS ----- : COMMON, CEMENT COATED OR CHEMICALLY ETCHED,
FED SPEC FF-N-105.
ALT: ANNULAR-RING TYPE NAIL OF THE SAME SIZE.

STRAPPING, STEEL : TYPE I OR IV, CLASS A OR B, FED SPEC QQ-5-781.

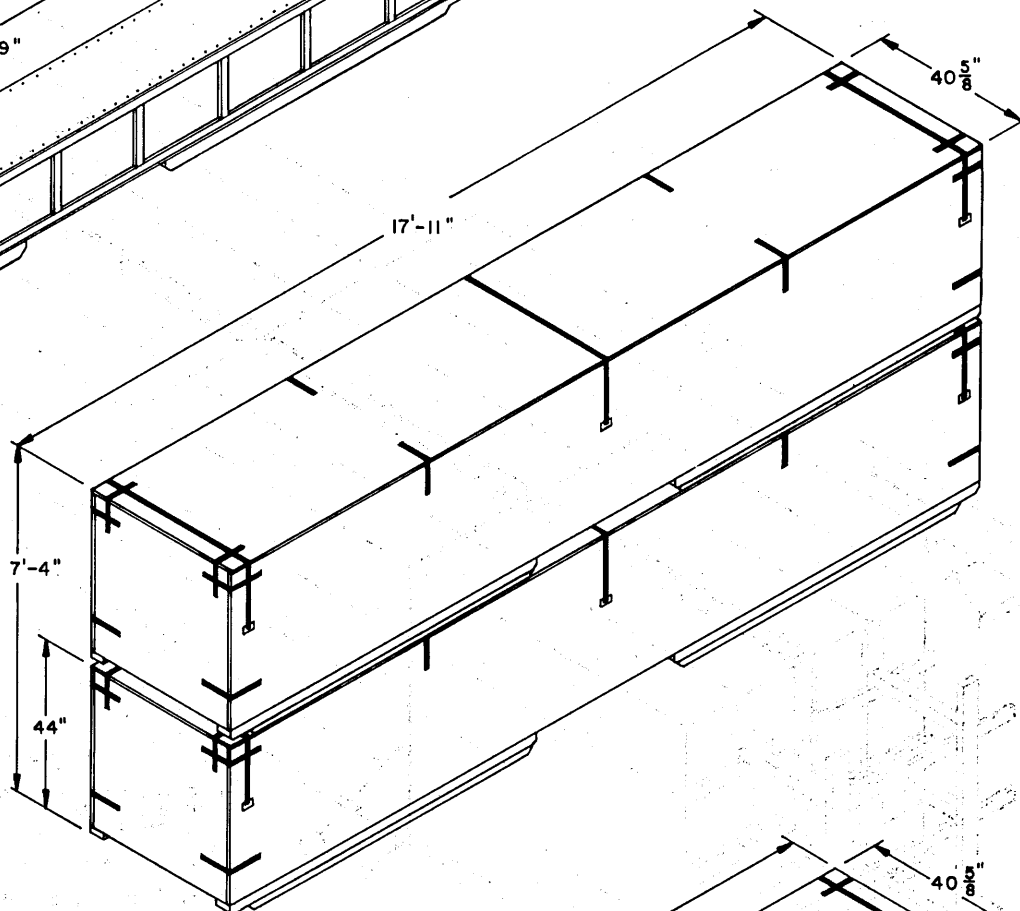
STRAP SEAL ----- : COMMERCIAL GRADE.

(GENERAL NOTES CONTINUED)

- O. WHEN ANY STRAP IS SEALED AT AN END-OVER-END LAP JOINT, A MINIMUM OF TWO (2) SEALS, BUTTED TOGETHER, WITH TWO (2) PAIR OF CRIMPS PER SEAL MUST BE USED TO SEAL THE JOINT.
- P. 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 OR 1-5/8" THICK BY 3-5/8" WIDE.
- Q. 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. 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.
- R. PORTIONS OF THE TRAILER BODIES DEPICTED WITHIN THIS PROCEDURAL DRAWING, SUCH AS ONE OF THE SIDEWALLS, HAVE NOT BEEN SHOWN IN THE LOAD VIEWS FOR CLARITY PURPOSES.
- S. FOR ADDITIONAL GUIDANCE, ATTENTION IS DIRECTED TO THE "SPECIAL NOTES" SECTIONS WHICH ARE IMMEDIATELY ADJACENT TO DEPICTED OUTLOADING METHODS.



1-UNIT PACK

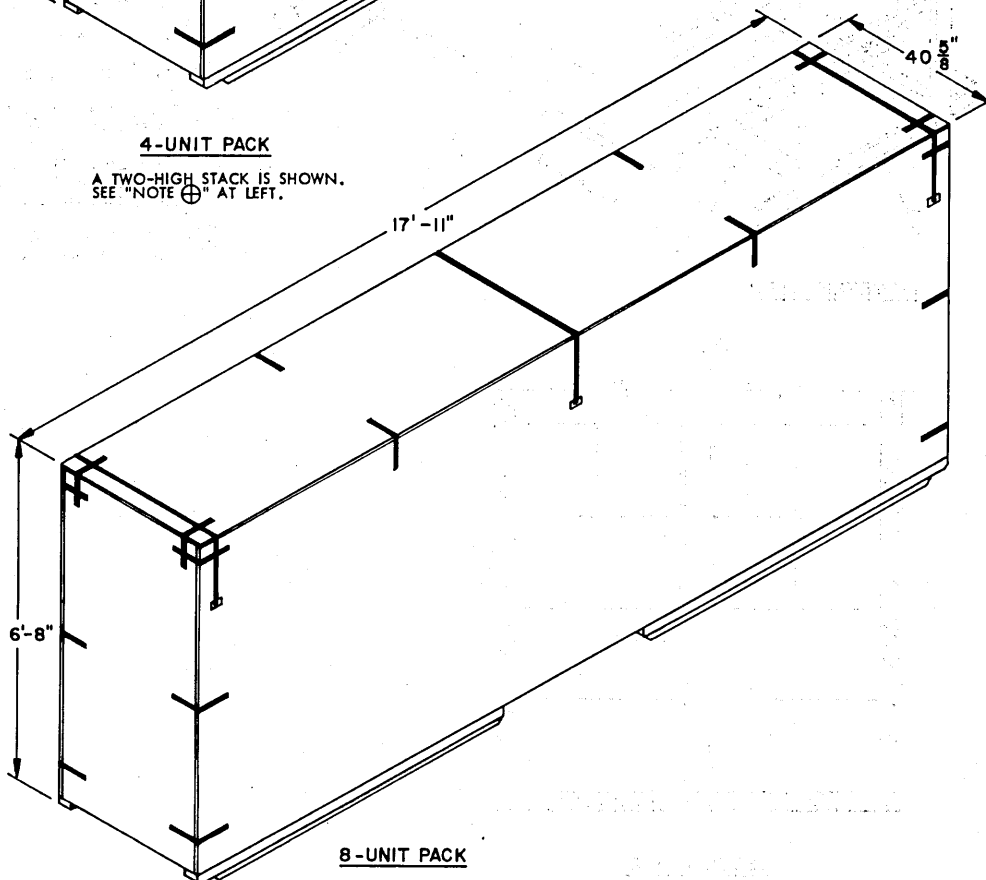


4-UNIT PACK

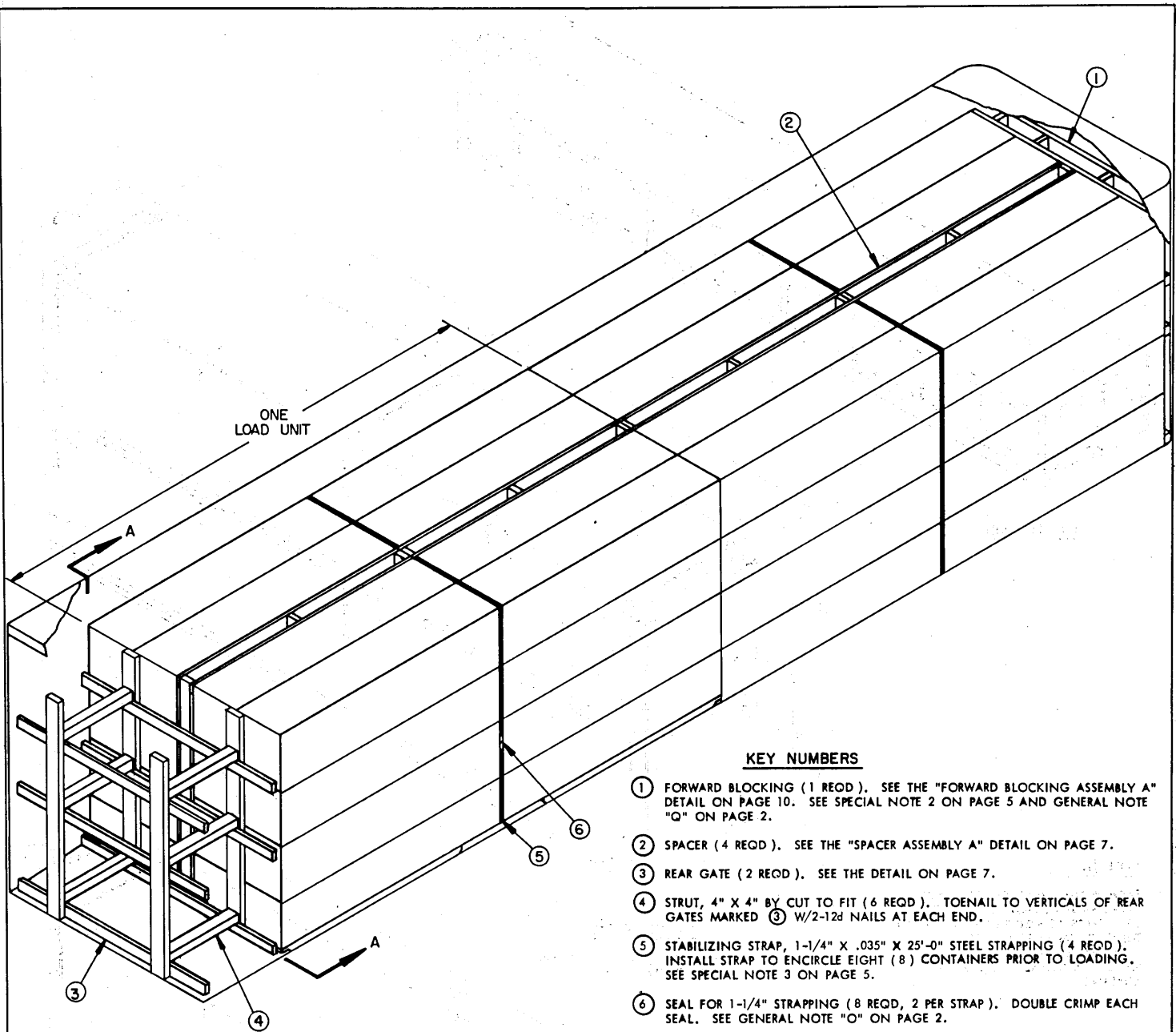
A TWO-HIGH STACK IS SHOWN.
SEE "NOTE ⊕" AT LEFT.

NOTE ⊕:

EACH TWO-HIGH STACK OF 4-UNIT PACKS MUST BE UNITIZED WITH THREE (3) STRAPS AS SPECIFIED IN THE LOAD DEPICTED ON PAGE 12. TO FACILITATE HANDLING, UNITIZING STRAPS SHOULD BE INSTALLED PRIOR TO LOADING.



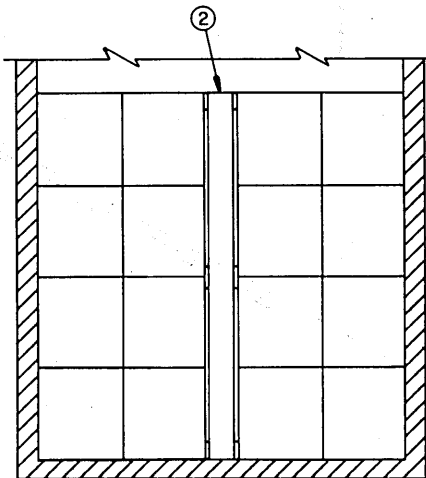
8-UNIT PACK



ISOMETRIC VIEW

KEY NUMBERS

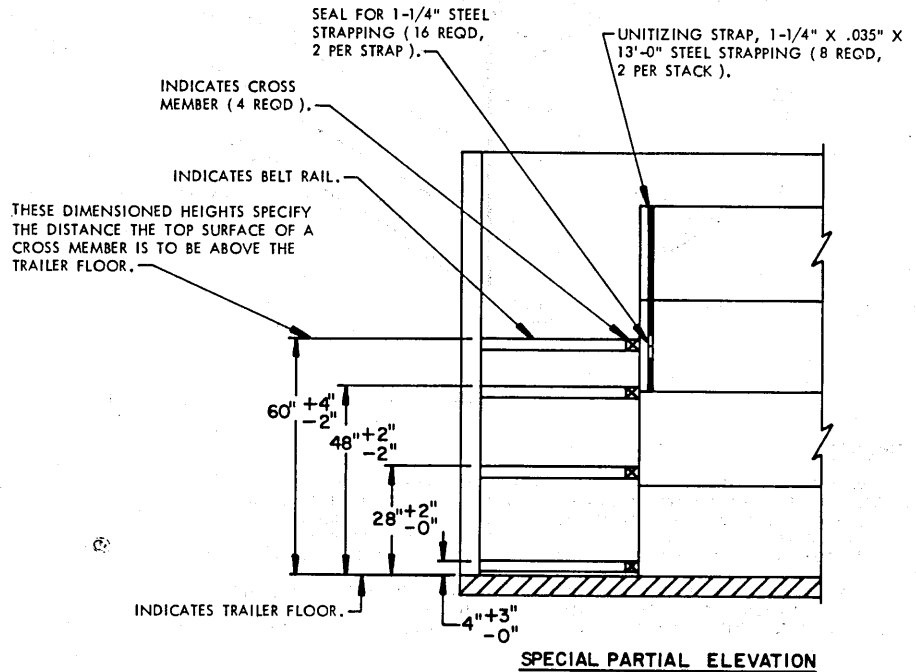
- ① FORWARD BLOCKING (1 REQD). SEE THE "FORWARD BLOCKING ASSEMBLY A" DETAIL ON PAGE 10. SEE SPECIAL NOTE 2 ON PAGE 5 AND GENERAL NOTE "O" ON PAGE 2.
- ② SPACER (4 REQD). SEE THE "SPACER ASSEMBLY A" DETAIL ON PAGE 7.
- ③ REAR GATE (2 REQD). SEE THE DETAIL ON PAGE 7.
- ④ STRUT, 4" X 4" BY CUT TO FIT (6 REQD). TOENAIL TO VERTICALS OF REAR GATES MARKED ③ W/2-12d NAILS AT EACH END.
- ⑤ STABILIZING STRAP, 1-1/4" X .035" X 25'-0" STEEL STRAPPING (4 REQD). INSTALL STRAP TO ENCIRCLE EIGHT (8) CONTAINERS PRIOR TO LOADING. SEE SPECIAL NOTE 3 ON PAGE 5.
- ⑥ SEAL FOR 1-1/4" STRAPPING (8 REQD, 2 PER STRAP). DOUBLE CRIMP EACH SEAL. SEE GENERAL NOTE "O" ON PAGE 2.



SECTION A-A

SPECIAL NOTES:

1. A 32-CONTAINER LOAD OF THE 1-UNIT PACK IS SHOWN IN A 40'-0" LONG BY 7'-8" WIDE (INSIDE DIMENSION) HIGH VOLUME VAN TRAILER. A NARROWER OR WIDER TRAILER MAY BE USED. THE DOOR OPENING OF A TRAILER MUST BE AT LEAST 8'-0" HIGH FOR SHIPMENT OF A 4-HIGH LOAD. IF OTHER THAN A HIGH VOLUME VAN TRAILER IS USED OR IF THE DOOR OPENING HEIGHT IS LESS THAN 8'-0" THE LOAD WILL BE LIMITED TO 3 LAYERS HIGH.
2. A TRAILER WITH ROUNDED CORNERS AT THE FORWARD END IS SHOWN IN THE LOAD VIEW. IF THE TRAILER BEING USED HAS A SQUARE FRONT WALL, OMIT THE FORWARD BLOCKING, MARKED ① AND POSITION THE CONTAINERS DIRECTLY AGAINST THE FRONT WALL OF THE TRAILER.
3. STABILIZING STRAPS, PIECES MARKED ⑤, ARE ONLY REQUIRED TO FACILITATE LOADING OPERATIONS WHEN MATERIAL HANDLING EQUIPMENT DOES NOT PERMIT LOADING OF CONTAINERS INDIVIDUALLY.
4. FOR SHIPMENT OF LESS-THAN-FULL-LOAD QUANTITY, ONE OR MORE CONTAINERS MAY BE OMITTED FROM THE TOP LAYER AND TWO (2) "FILLER ASSEMBLIES", AS DETAILED ON PAGE 11, SUBSTITUTED IN THE PLACE OF EACH OMITTED CONTAINER. HOWEVER, IN LIEU OF USING "FILLER ASSEMBLIES", THE "PROCEDURES FOR OMITTED CONTAINER" SPECIFIED ON PAGE 6 MAY BE APPLIED.
5. IF A 28-CONTAINER LOAD IS TO BE SHIPPED, OMIT THE FOUR (4) CONTAINERS IN THE TOP LAYER OF THE REAR LOAD UNIT AND UNITIZE THE UPPER TWO (2) CONTAINERS OF EACH STACK IN THE FORWARD LOAD UNIT AS DEPICTED ON PAGE 6. REDUCE THE HEIGHT OF THE REAR GATES MARKED ③ TO THAT REQUIRED FOR A 3-HIGH LOAD AS SHOWN IN THE "REAR GATE" DETAIL ON PAGE 7.
6. IF THE TRAILER BEING OUTLOADED CONTAINS MECHANICAL BRACING DEVICES, SUCH AS WALL BELT RAILS AND LOAD BLOCKING CROSS MEMBERS, WHICH CONFORM TO SPECIFICATIONS SET FORTH WITHIN THE BUREAU OF EXPLOSIVES PAMPHLET 6C AND THE APPENDICES THERETO, THEY MAY BE USED AT THE REAR OF THE LOAD AT SPECIFIED HEIGHTS. PIECES MARKED ③ AND ④ WILL BE OMITTED AND PROCEDURES USED AS SPECIFIED IN THE "SPECIAL PARTIAL ELEVATION" VIEW SHOWN BELOW. THE TRAILER EQUIPPED WITH MECHANICAL BRACING DEVICES MUST HAVE A SYSTEM LENGTH OF NOT LESS THAN 36'-6" AS MEASURED FROM THE FRONT WALL OF THE TRAILER. SEE GENERAL NOTES "H", "J", AND "K" ON PAGE 2.



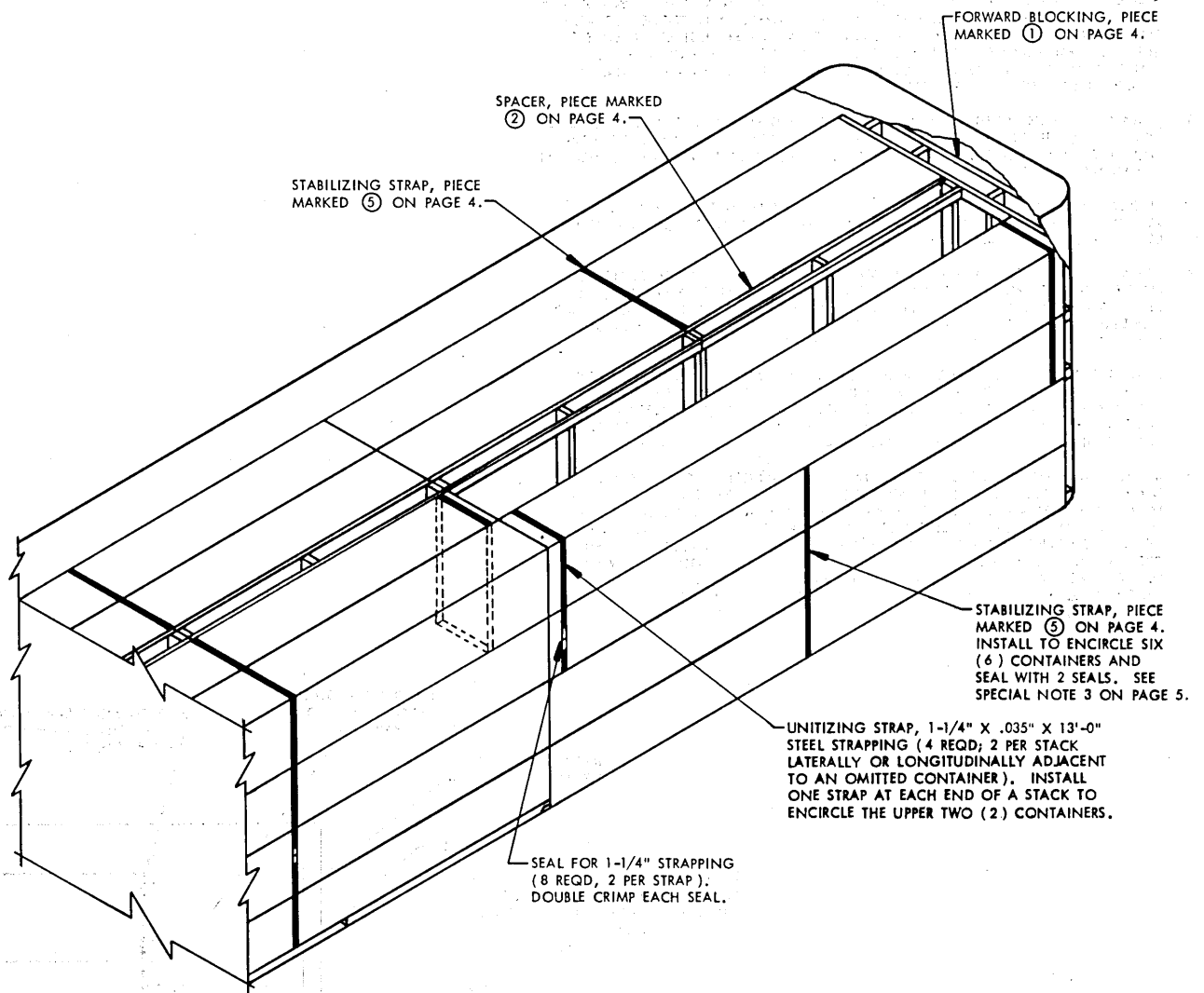
SPECIAL PARTIAL ELEVATION

SEE SPECIAL NOTE 6 ABOVE.

BILL OF MATERIAL		
LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	142	48
1" X 6"	71	36
2" X 4"	133	89
2" X 6"	124	124
4" X 4"	20	27
NAILS	NO. REQD	POUNDS
6d (2")	168	1
10d (3")	100	1-1/2
12d (3-1/4")	24	1/2
STEEL STRAPPING, 1-1/4" X .035" -----	100' REQD -----	14 LBS
SEAL FOR 1-1/4" STRAPPING -----	8 REQD -----	1/2 LB

LOAD AS SHOWN

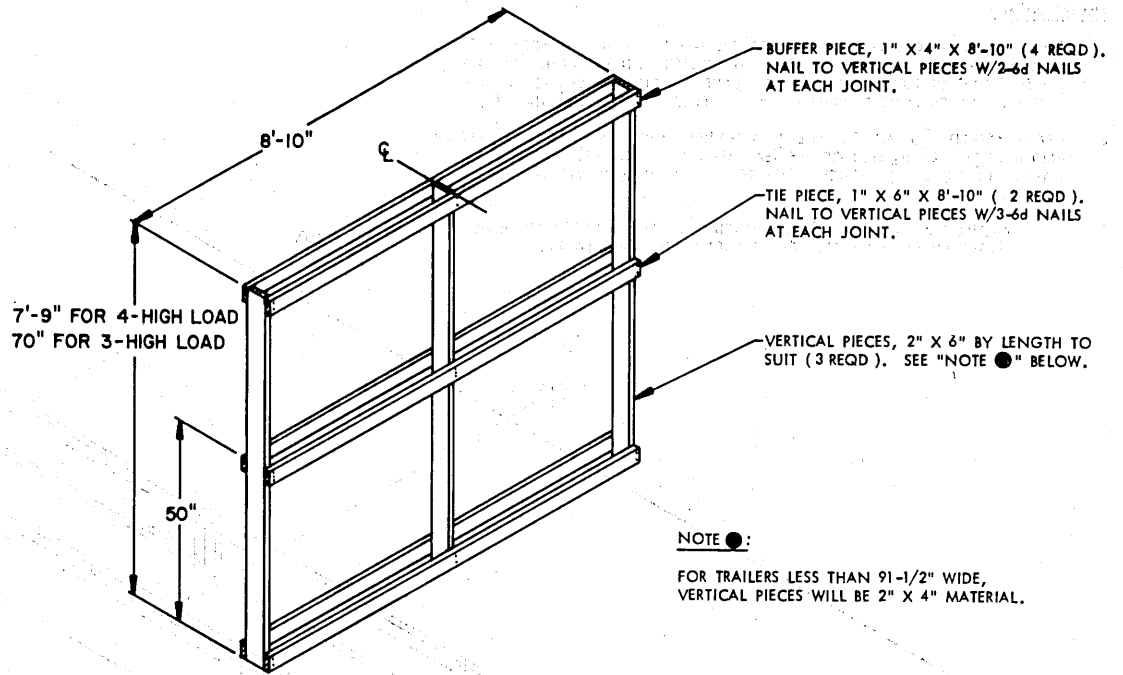
ITEM	QUANTITY	WEIGHT (APPROX)
CONTAINER (1-UNIT PACK) -----	32 -----	14,720 LBS
DUNNAGE -----		828 LBS
TOTAL WEIGHT -----		15,548 LBS



ISOMETRIC VIEW

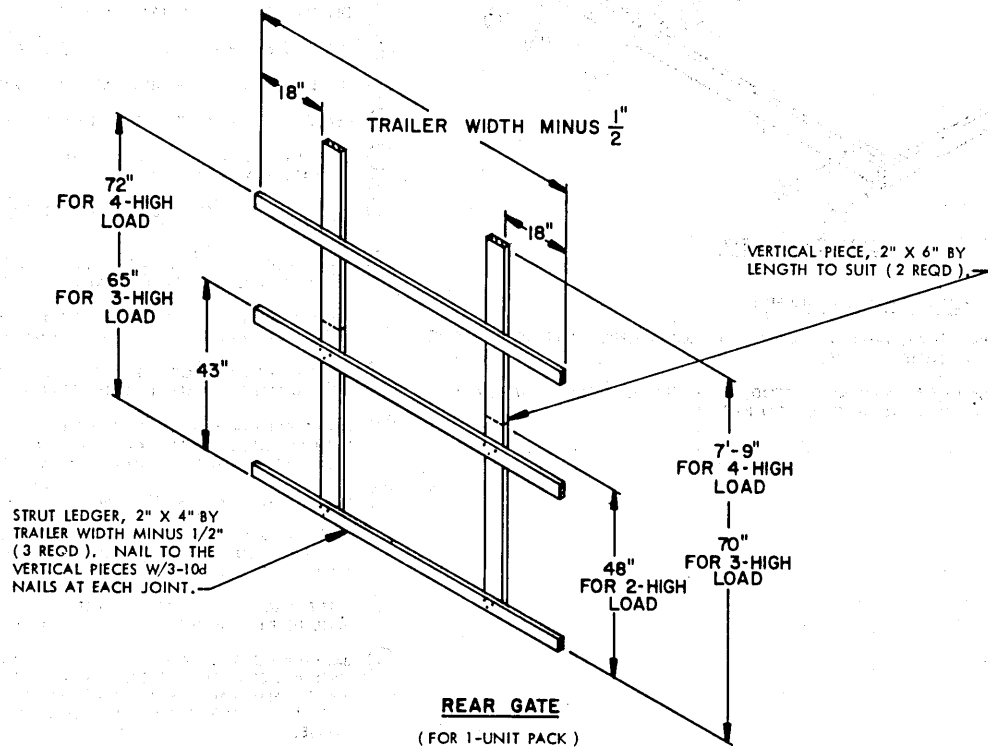
SPECIAL NOTES:

1. THESE PROCEDURES SPECIFY TYPICAL REQUIREMENTS FOR OMITTING ONE OR MORE CONTAINERS WITHIN THE TOP LAYER OF THE LOAD DEPICTED ON PAGE 4. NOTE THAT THE UPPER TWO (2) CONTAINERS OF EACH STACK WHICH IS LATERALLY OR LONGITUDINALLY ADJACENT TO A STACK HAVING AN OMITTED CONTAINER MUST BE UNITIZED WITH TWO (2) STRAPS (ONE AT EACH END OF CONTAINERS) AS SHOWN.
2. IF DESIRED, IN LIEU OF USING THE UNITIZING PROCEDURES SPECIFIED ABOVE, TWO (2) "FILLER ASSEMBLIES" AS DETAILED ON PAGE 11 MAY BE USED IN THE PLACE OF EACH OMITTED CONTAINER AND UNITIZING STRAPPING WILL NOT BE REQUIRED.



SPACER ASSEMBLY A

(FOR 1-UNIT PACK)

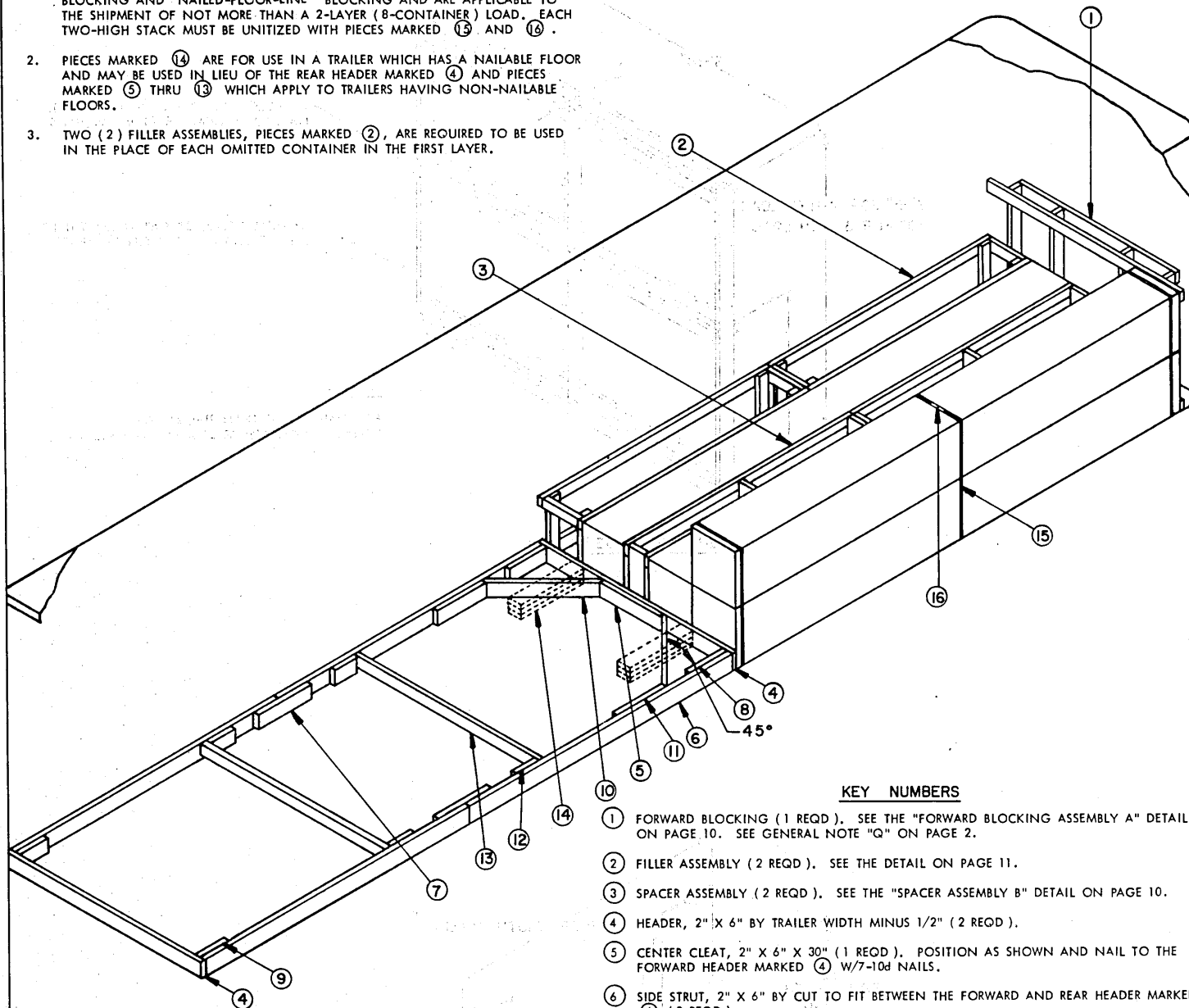


REAR GATE

(FOR 1-UNIT PACK)

SPECIAL NOTES:

1. THESE OUTLOADING PROCEDURES DEPICT THE USE OF BOTH "K-BRACE" TYPE BLOCKING AND "NAILED-FLOOR-LINE" BLOCKING AND ARE APPLICABLE TO THE SHIPMENT OF NOT MORE THAN A 2-LAYER (8-CONTAINER) LOAD. EACH TWO-HIGH STACK MUST BE UNITIZED WITH PIECES MARKED ⑮ AND ⑯.
2. PIECES MARKED ⑭ ARE FOR USE IN A TRAILER WHICH HAS A NAILABLE FLOOR AND MAY BE USED IN LIEU OF THE REAR HEADER MARKED ④ AND PIECES MARKED ⑤ THRU ⑬ WHICH APPLY TO TRAILERS HAVING NON-NAILABLE FLOORS.
3. TWO (2) FILLER ASSEMBLIES, PIECES MARKED ②, ARE REQUIRED TO BE USED IN THE PLACE OF EACH OMITTED CONTAINER IN THE FIRST LAYER.



ISOMETRIC VIEW

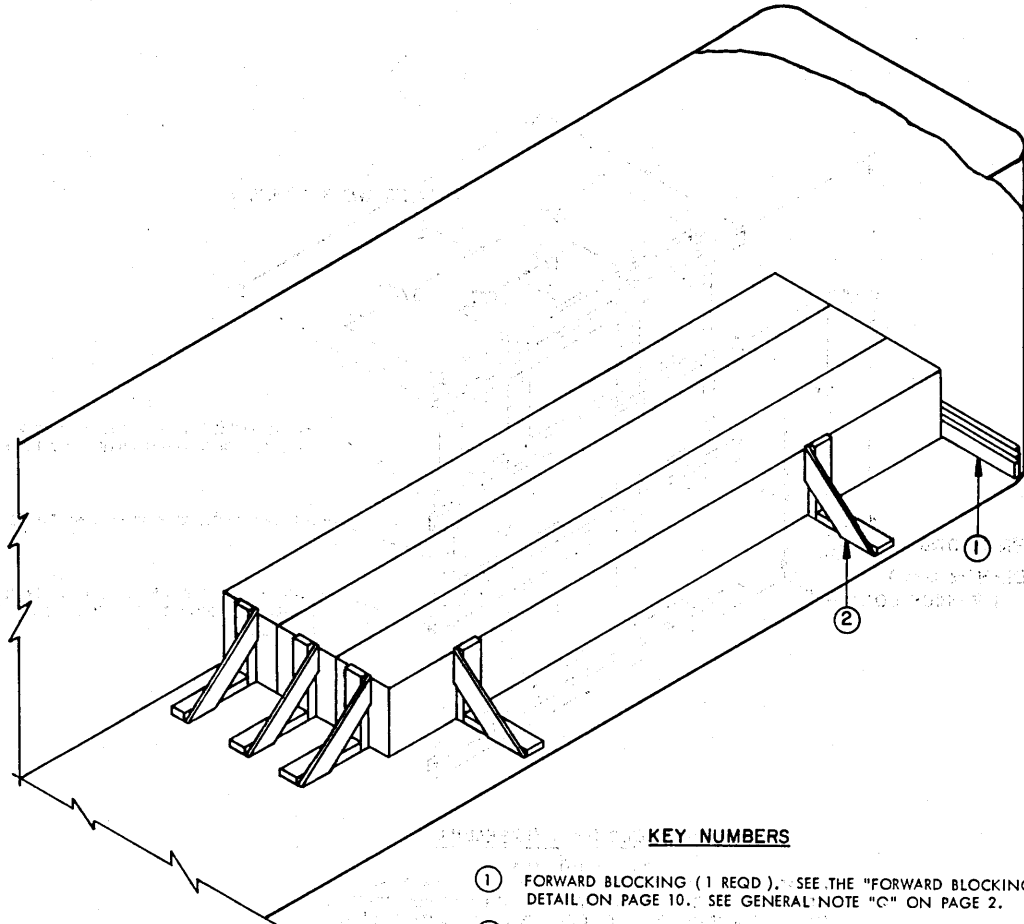
(KEY NUMBERS CONTINUED)

KEY NUMBERS

- ⑮ UNITIZING STRAP, 1-1/4" X .035" X 13'-0" LONG STEEL STRAPPING (3 REQD). SEE SPECIAL NOTE 1 ABOVE.
- ⑯ SEAL FOR 1-1/4" STRAPPING (6 REQD, 2 PER STRAP). DOUBLE CRIMP EACH SEAL. SEE GENERAL NOTE "O" ON PAGE 2.

- ① FORWARD BLOCKING (1 REQD). SEE THE "FORWARD BLOCKING ASSEMBLY A" DETAIL ON PAGE 10. SEE GENERAL NOTE "Q" ON PAGE 2.
- ② FILLER ASSEMBLY (2 REQD). SEE THE DETAIL ON PAGE 11.
- ③ SPACER ASSEMBLY (2 REQD). SEE THE "SPACER ASSEMBLY B" DETAIL ON PAGE 10.
- ④ HEADER, 2" X 6" BY TRAILER WIDTH MINUS 1/2" (2 REQD).
- ⑤ CENTER CLEAT, 2" X 6" X 30" (1 REQD). POSITION AS SHOWN AND NAIL TO THE FORWARD HEADER MARKED ④ W/7-10d NAILS.
- ⑥ SIDE STRUT, 2" X 6" BY CUT TO FIT BETWEEN THE FORWARD AND REAR HEADER MARKED ④ (2 REQD).
- ⑦ SPLICE PIECE, 2" X 6" X 24" (2 REQD). CENTER ON A JOINT OF PIECES MARKED ⑥ AND NAIL W/5-10d NAILS AT EACH END.
- ⑧ POCKET CLEAT, 2" X 6" X 18" (2 REQD). NAIL TO PIECE MARKED ⑥ W/5-10d NAILS. TOENAIL TO THE ADJACENT HEADER MARKED ④ W/3-12d NAILS.
- ⑨ STRUT RETAINING BLOCK, 2" X 6" X 12" (2 REQD). NAIL TO PIECE MARKED ⑥ W/3-10d NAILS. TOENAIL TO THE REAR HEADER MARKED ④ W/3-12d NAILS.
- ⑩ DIAGONAL BRACE, 2" X 6" BY CUT TO FIT (2 REQD). DOUBLE BEVEL EACH END WITH 45° CUTS. INSTALL AT 45° ANGLE AS SHOWN AND TOENAIL TO THE ADJACENT PIECE MARKED ④ AND TO PIECE MARKED ⑥ W/2-12d NAILS AT EACH END.
- ⑪ SIDE CLEAT, 2" X 6" X 24" (2 REQD). NAIL TO PIECE MARKED ⑥ W/8-10d NAILS.
- ⑫ STRUT BRACING SUPPORT PIECE, 2" X 6" X 12" (4 REQD). POSITION SO THAT PIECES MARKED ⑬ ARE EQUALLY SPACED ON THE LENGTH OF PIECE MARKED ⑥. NAIL TO PIECE MARKED ⑥ W/3-10d NAILS.
- ⑬ STRUT BRACING, 2" X 4" BY TRAILER WIDTH MINUS 3-1/4" (CUT TO FIT) (2 REQD). NAIL TO PIECE MARKED ⑫ W/2-12d NAILS AT EACH END.
- ⑭ BACK-UP CLEAT, 2" X 6" X 30" (TRIPLED) (2 REQD). ALIGN WITH THE JOINTS OF TWO ADJACENT CONTAINERS. NAIL THE FIRST PIECE TO THE TRAILER FLOOR W/7-12d NAILS. NAIL EACH ADDITIONAL PIECE IN A LIKE MANNER. TOENAIL THE TOP PIECE TO THE FORWARD HEADER MARKED ④ W/2-12d NAILS. SEE SPECIAL NOTE 2 ABOVE.

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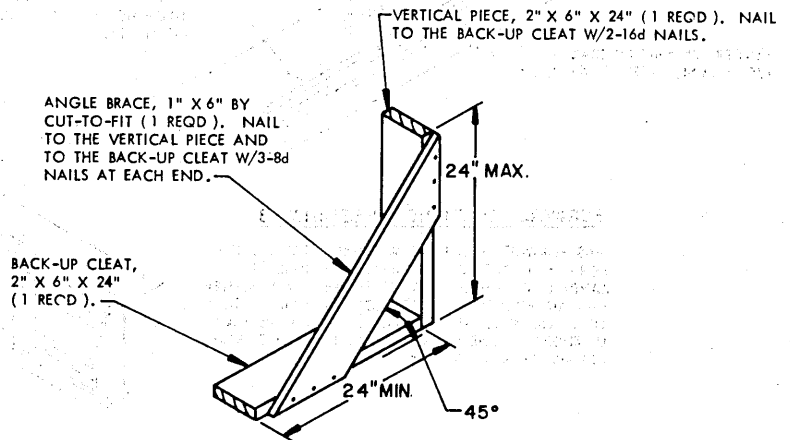
ISOMETRIC VIEW

KEY NUMBERS

- ① FORWARD BLOCKING (1 REQD). SEE THE "FORWARD BLOCKING ASSEMBLY B" DETAIL ON PAGE 10. SEE GENERAL NOTE "C" ON PAGE 2.
- ② LTL BRACE (5 REQD). SEE DETAIL BELOW. NAIL TO THE TRAILER FLOOR W/6-12d NAILS.

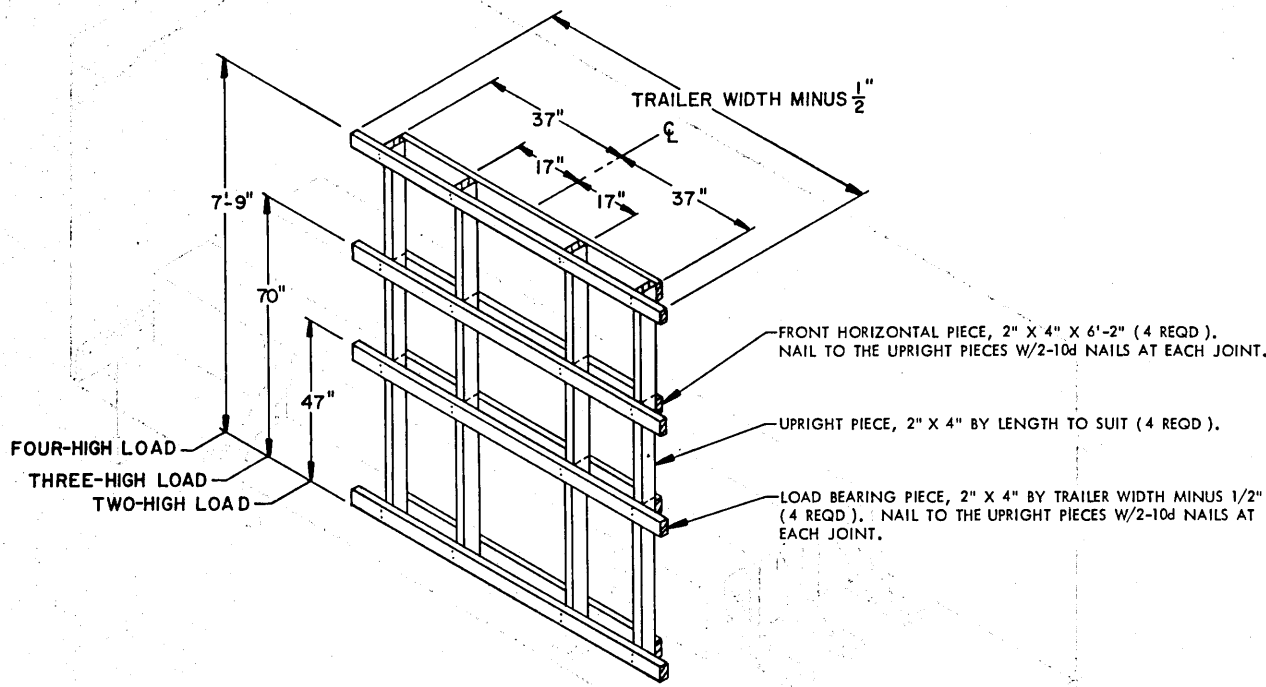
SPECIAL NOTES:

- 1. A 3-UNIT LOAD IS SHOWN. THESE OUTLOADING PROCEDURES DEPICT THE USE OF "LTL BRACE" TYPE BLOCKING IN A VAN TRAILER WHICH IS EQUIPPED WITH A NAILABLE FLOOR.
- 2. EACH "LTL BRACE" AS SPECIFIED WILL RETAIN 2,000 POUNDS OF LADING LONGITUDINALLY. A MINIMUM OF TWO (2) BRACES MUST BE USED AGAINST A CONTAINER SIDE.



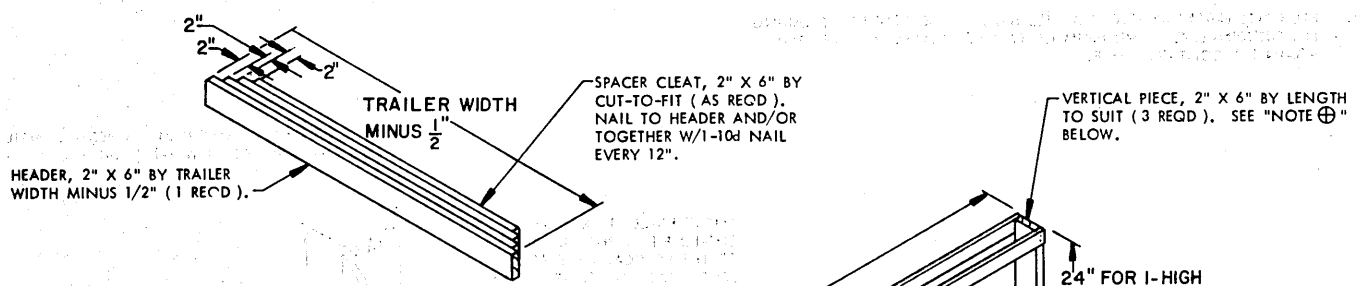
LTL BRACE
(FOR 1-UNIT PACK)

TYPICAL LTL (3-CONTAINER LOAD) (1-UNIT PACK)



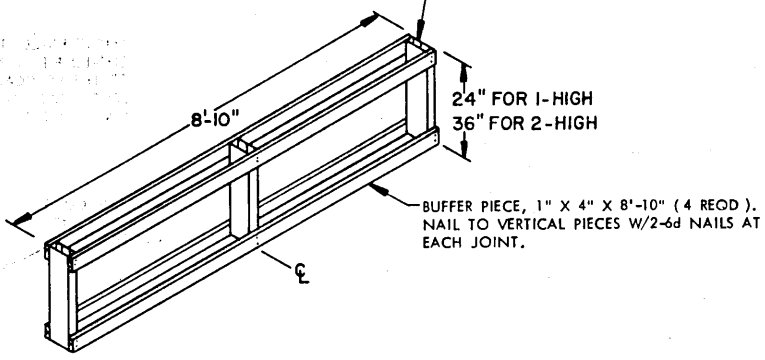
FORWARD BLOCKING ASSEMBLY A

(FOR 1-UNIT PACK)
 THIS ASSEMBLY IS DESIGNED FOR USE AT THE FORWARD END OF A TRAILER HAVING ROUNDED CORNERS WITH A RADIUS OF 6" OR LESS. FOR A TRAILER HAVING CORNERS WITH A RADIUS OF MORE THAN 6", LAMINATE 4" WIDE MATERIAL TO THE FRONT HORIZONTAL PIECES. ALSO, 2" X 6" MATERIAL MAY BE USED FOR UPRIGHT PIECES.



FORWARD BLOCKING ASSEMBLY B

THIS FORWARD BLOCKING ASSEMBLY IS DESIGNED FOR USE AT THE FORWARD END OF A ONE (1) LAYER LOAD WHICH IS TO BE SHIPPED IN A TRAILER HAVING ROUNDED CORNERS OF AN INSIDE RADIUS OF 6" OR LESS. ADDITIONAL LAMINATIONS MAY BE ADDED TO THE SPACER CLEATS TO COMPENSATE FOR LARGER RADIUS CORNERS.

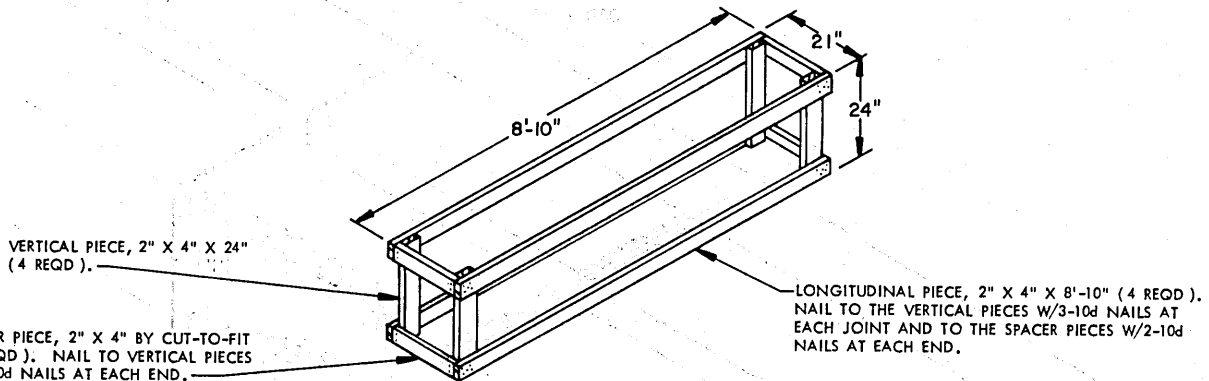


SPACER ASSEMBLY B

(FOR 1-UNIT PACK)

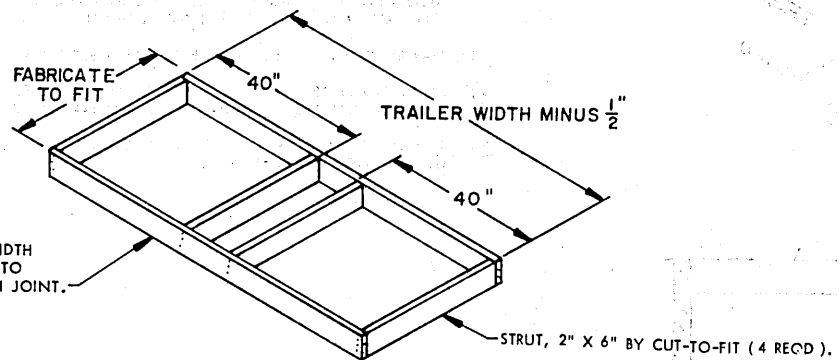
NOTE ⊕:

FOR TRAILERS LESS THAN 91-1/2" WIDE, VERTICAL PIECES WILL BE 2" X 4" MATERIAL.



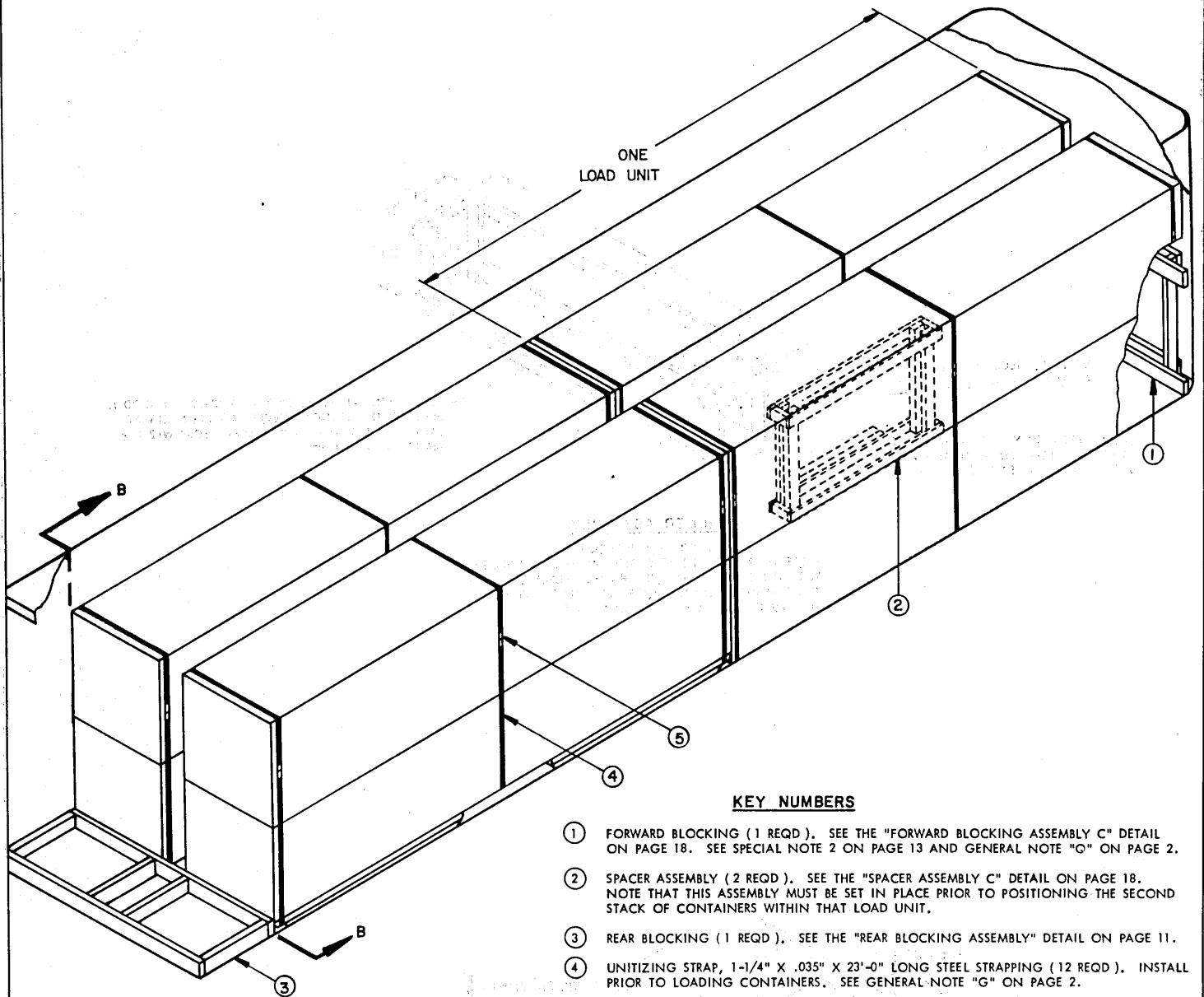
FILLER ASSEMBLY

(FOR 1-UNIT PACK)
 NOTE THAT TWO (2) ASSEMBLIES AS SHOWN WILL BE REQUIRED TO BE SUBSTITUTED IN THE PLACE OF EACH OMITTED CONTAINER. FILLER ASSEMBLIES MAY ONLY BE USED IN THE TOP LAYER OF A LOAD.



REAR BLOCKING ASSEMBLY

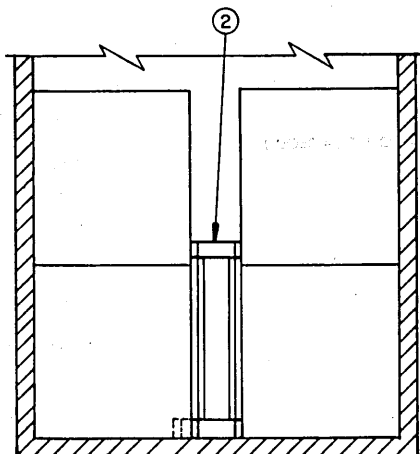
(FOR 4-UNIT AND 8-UNIT PACKS)



ISOMETRIC VIEW

KEY NUMBERS

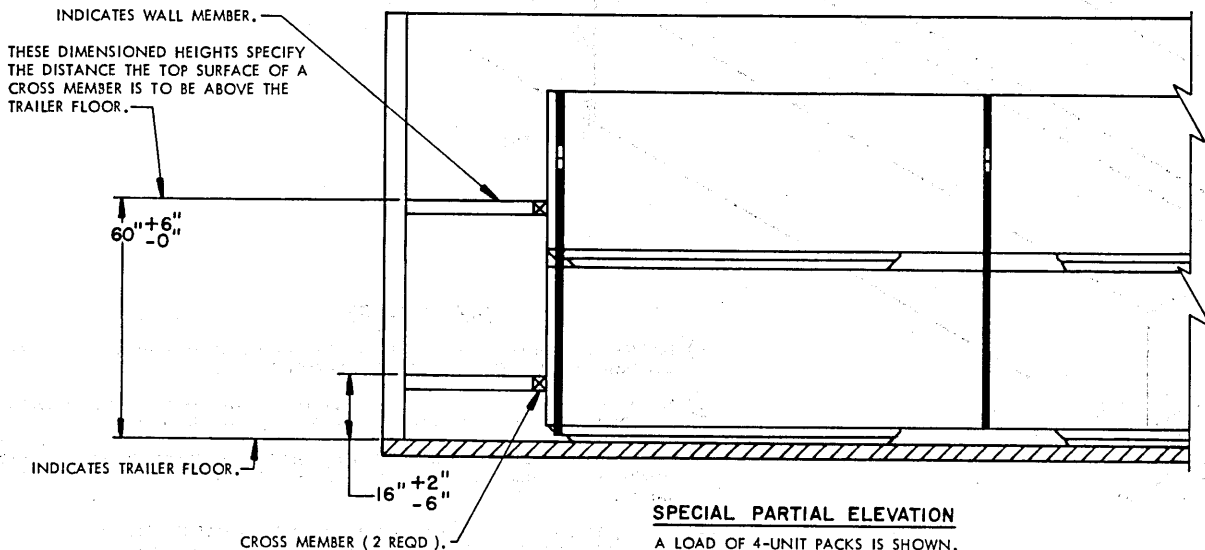
- ① FORWARD BLOCKING (1 REQD). SEE THE "FORWARD BLOCKING ASSEMBLY C" DETAIL ON PAGE 18. SEE SPECIAL NOTE 2 ON PAGE 13 AND GENERAL NOTE "O" ON PAGE 2.
- ② SPACER ASSEMBLY (2 REQD). SEE THE "SPACER ASSEMBLY C" DETAIL ON PAGE 18. NOTE THAT THIS ASSEMBLY MUST BE SET IN PLACE PRIOR TO POSITIONING THE SECOND STACK OF CONTAINERS WITHIN THAT LOAD UNIT.
- ③ REAR BLOCKING (1 REQD). SEE THE "REAR BLOCKING ASSEMBLY" DETAIL ON PAGE 11.
- ④ UNITIZING STRAP, 1-1/4" X .035" X 23'-0" LONG STEEL STRAPPING (12 REQD). INSTALL PRIOR TO LOADING CONTAINERS. SEE GENERAL NOTE "G" ON PAGE 2.
- ⑤ SEAL FOR 1-1/4" STRAPPING (24 REQD, 2 PER STRAP). DOUBLE CRIMP EACH SEAL. SEE GENERAL NOTE "O" ON PAGE 2.



SECTION B-B

SPECIAL NOTES:

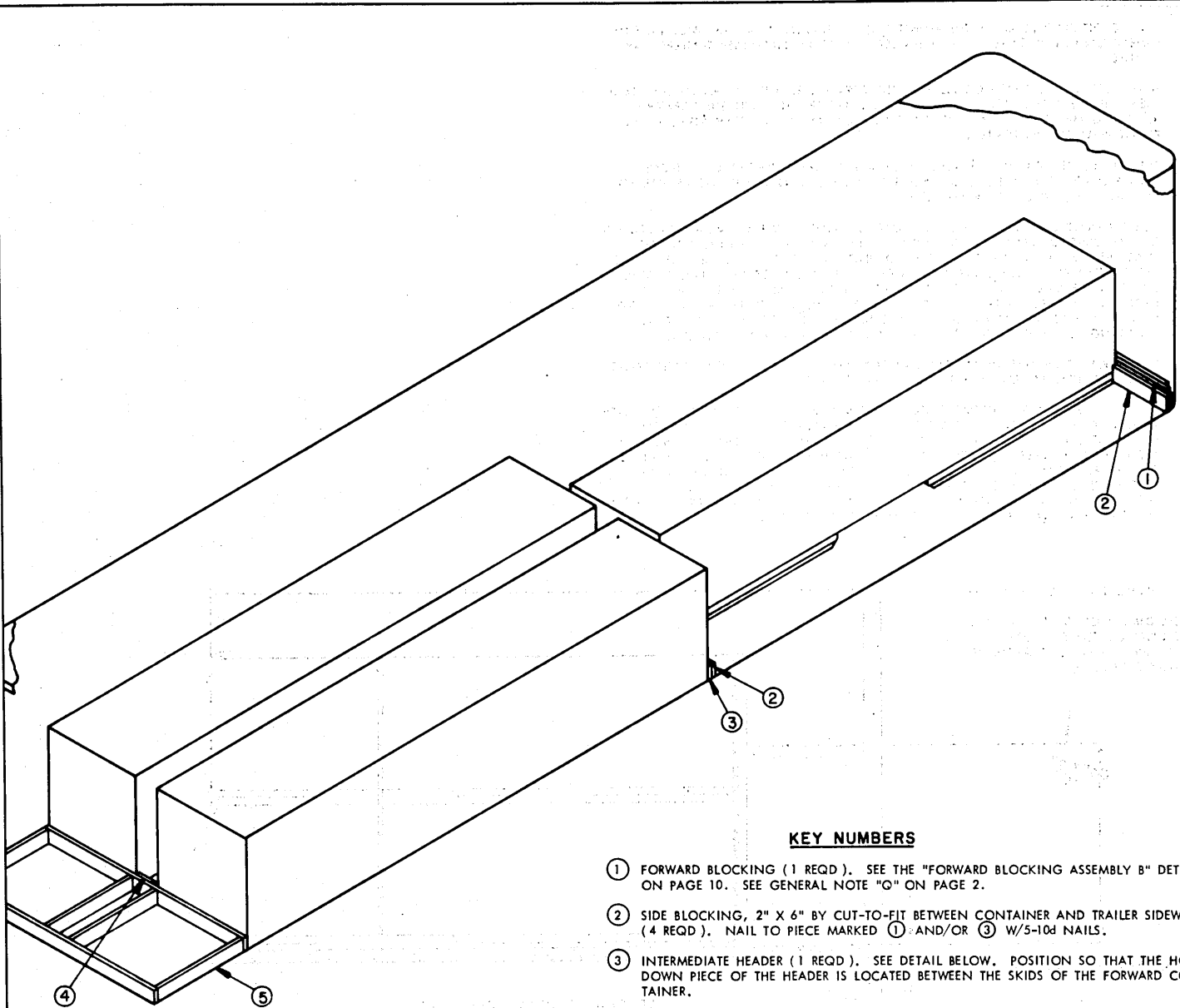
1. AN 8-CONTAINER LOAD OF THE 4-UNIT PACK IS SHOWN IN A 7'-6" WIDE (INSIDE DIMENSION) BY 40'-0" LONG VAN TRAILER. WIDER OR NARROWER TRAILERS MAY BE USED.
2. A TRAILER WITH ROUNDED CORNERS AT THE FORWARD END IS SHOWN IN THE LOAD VIEW. IF THE TRAILER BEING USED HAS A SQUARE FRONT, OMIT THE FORWARD BLOCKING MARKED ① AND POSITION THE CONTAINERS DIRECTLY AGAINST THE FRONT WALL OF THE TRAILER.
3. THE PROCEDURES SHOWN ARE ALSO APPLICABLE TO THE SHIPMENT OF A 4-CONTAINER LOAD OF 8-UNIT PACKS, EXCEPT THAT UNITIZING STRAPS, PIECES MARKED ④ AND ⑤, WILL NOT BE REQUIRED.
4. FOR SHIPMENT OF A LESS-THAN-FULL-LOAD QUANTITY, ONE OR MORE CONTAINERS MAY BE OMITTED FROM THE TOP LAYER. WHEN SHIPPING SIX (6) CONTAINERS, OMIT THE TOP LAYER OF THE REAR LOAD UNIT. FOR EACH LOAD UNIT THAT HAS AN OMITTED TOP LAYER CONTAINER, REDUCE THE HEIGHT OF THE "SPACER ASSEMBLY C", PIECE MARKED ②, TO THE 44" HEIGHT AS SHOWN IN THE DETAIL ON PAGE 16. ALSO FOR A 1-LAYER 4-CONTAINER LOAD, REDUCE THE HEIGHT OF THE "FORWARD BLOCKING ASSEMBLY C", PIECE MARKED ①, TO 44". NOTE THAT UNITIZING STRAPS MARKED ④ ARE ONLY REQUIRED ON 2-LAYER STACKS.
5. FOR SHIPMENT OF LESS THAN FOUR (4) CONTAINERS OF 4-UNIT OR 8-UNIT PACKS, SEE THE TYPICAL LTL LOADS DEPICTED ON PAGES 14 THRU 17.
6. IF THE TRAILER BEING OUTLOADED CONTAINS MECHANICAL BRACING DEVICES, SUCH AS WALL BELT RAILS AND LOAD BLOCKING CROSS MEMBERS, WHICH CONFORM TO SPECIFICATIONS SET FORTH WITHIN THE BUREAU OF EXPLOSIVES PAMPHLET 6C AND THE APPENDICES THERETO, THEY MAY BE USED AT THE REAR OF THE LOAD IN LIEU OF REAR BLOCKING PIECE MARKED ③. SEE THE "SPECIAL PARTIAL ELEVATION" BELOW FOR CROSS MEMBER LOCATION AND NUMBER REQUIRED. THE TRAILER EQUIPPED WITH MECHANICAL BRACING DEVICES MUST HAVE A SYSTEM LENGTH OF AT LEAST 36'-9" AS MEASURED FROM THE FRONT WALL OF THE TRAILER.



BILL OF MATERIAL		
LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	48	16
2" X 4"	68	46
2" X 6"	55	55
NAILS	NO. REQD	POUNDS
6d (2")	94	3/4
10d (3")	114	1-3/4
STEEL STRAPPING, 1-1/4" X .035" ----- 276' REQD -----		40 LBS
SEAL FOR 1-1/4" STRAPPING ----- 24 REQD -----		1-1/4 LBS

ITEM	QUANTITY	WEIGHT (APPROX)
CONTAINER (4-UNIT PACK)	8	13,000 LBS
DUNNAGE		336 LBS
TOTAL WEIGHT		13,336 LBS

8-CONTAINER LOAD IN A 40'-0" LONG TRAILER (4-UNIT PACK)



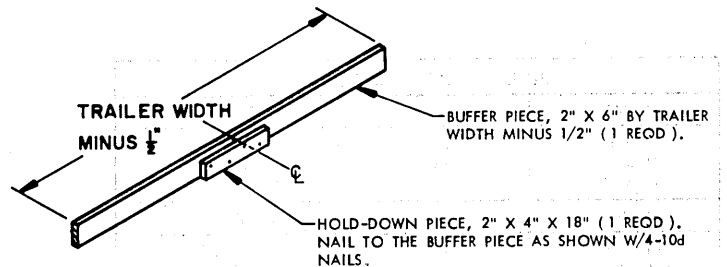
ISOMETRIC VIEW

SPECIAL NOTE:

1. A 3-CONTAINER LOAD OF THE 4-UNIT PACK IS SHOWN IN A 7'-6" WIDE (INSIDE DIMENSION) BY 40'-0" LONG VAN TRAILER. A WIDER OR NARROWER TRAILER MAY BE USED.

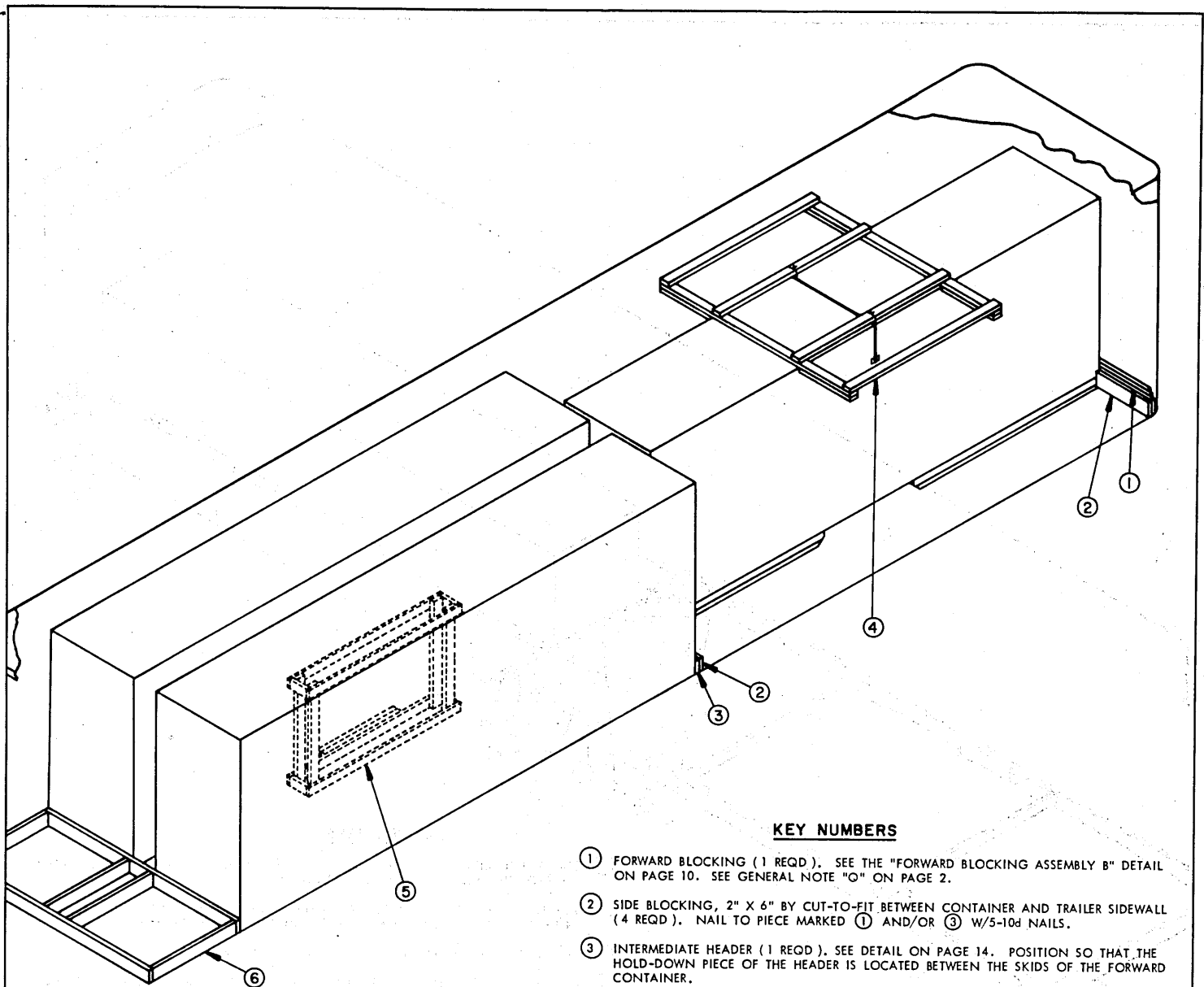
KEY NUMBERS

- ① FORWARD BLOCKING (1 REQD). SEE THE "FORWARD BLOCKING ASSEMBLY B" DETAIL ON PAGE 10. SEE GENERAL NOTE "Q" ON PAGE 2.
- ② SIDE BLOCKING, 2" X 6" BY CUT-TO-FIT BETWEEN CONTAINER AND TRAILER SIDEWALL (4 REQD). NAIL TO PIECE MARKED ① AND/OR ③ W/5-10d NAILS.
- ③ INTERMEDIATE HEADER (1 REQD). SEE DETAIL BELOW. POSITION SO THAT THE HOLD-DOWN PIECE OF THE HEADER IS LOCATED BETWEEN THE SKIDS OF THE FORWARD CONTAINER.
- ④ SPACER, 2" X 6" BY CUT-TO-FIT BETWEEN LATERALLY ADJACENT CONTAINERS (2 REQD). NAIL TO PIECE MARKED ③ AND/OR ⑤ W/3-10d NAILS.
- ⑤ REAR BLOCKING ASSEMBLY (1 REQD). SEE DETAIL ON PAGE 11.



INTERMEDIATE HEADER

FOR CLARITY PURPOSES THIS ASSEMBLY HAS BEEN TURNED 90° FROM THE POSITION SHOWN IN THE LOAD VIEW. LOCATE THE HOLD-DOWN PIECE BETWEEN THE SKIDS OF THE FORWARD CONTAINER.



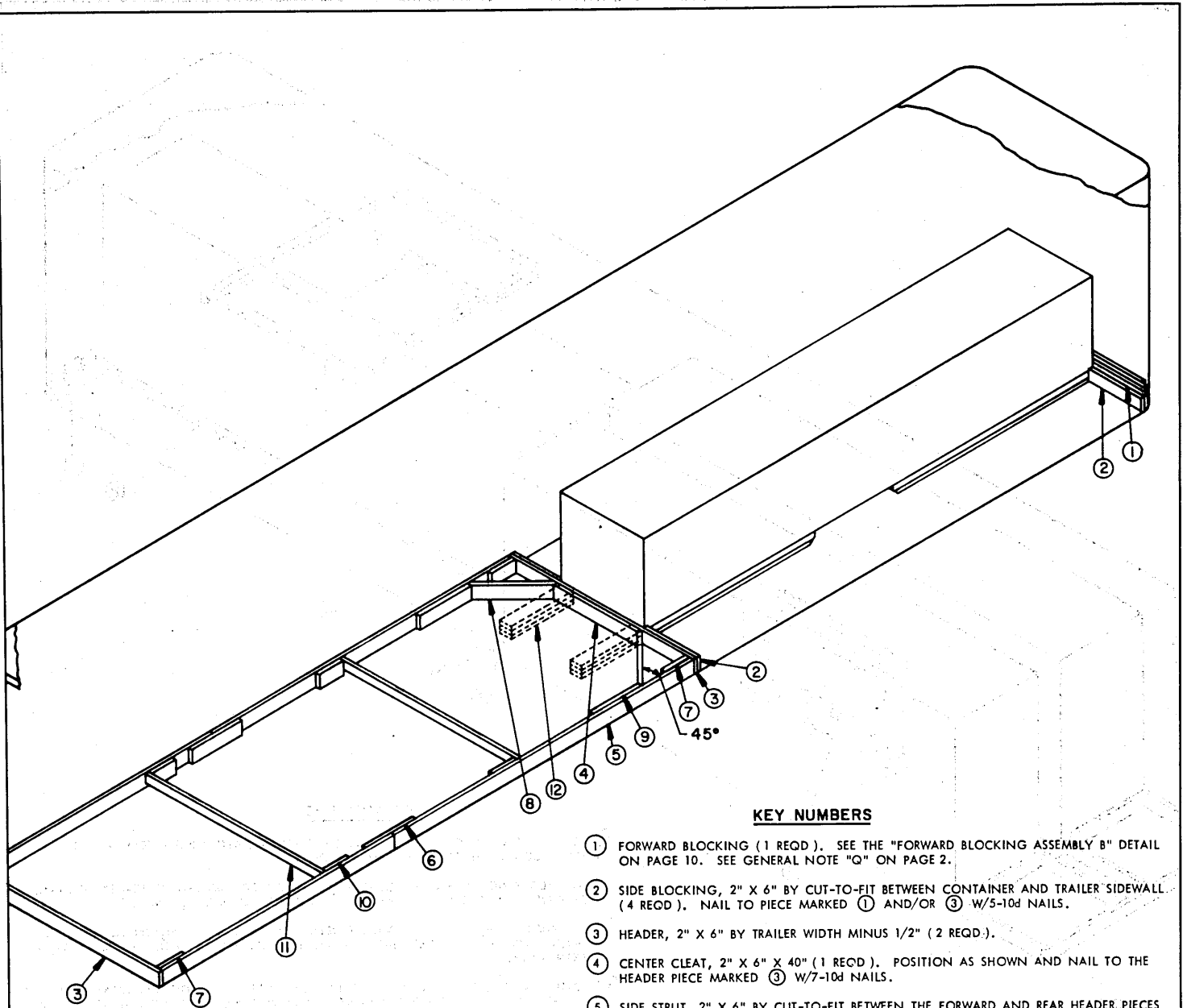
ISOMETRIC VIEW

SPECIAL NOTES:

1. A 3-CONTAINER LOAD OF THE 8-UNIT PACK IS SHOWN IN A 7'-6" WIDE (INSIDE DIMENSION) BY 40'-0" LONG VAN TRAILER. A WIDER OR NARROWER TRAILER MAY BE USED.
2. THESE PROCEDURES CAN ALSO BE USED FOR A 6-CONTAINER SHIPMENT OF 4-UNIT PACKS, E.I. THREE 2-CONTAINER HIGH STACKS. HOWEVER, PRIOR TO LOADING, EACH 2-CONTAINER HIGH STACK MUST BE UNITIZED WITH THREE (3) UNITIZING STRAPS AS SPECIFIED IN KEY NUMBER ④ OF THE LOAD DEPICTED ON PAGE 12. SEE GENERAL NOTE "G" ON PAGE 2.

KEY NUMBERS

- ① FORWARD BLOCKING (1 REQD). SEE THE "FORWARD BLOCKING ASSEMBLY B" DETAIL ON PAGE 10. SEE GENERAL NOTE "O" ON PAGE 2.
- ② SIDE BLOCKING, 2" X 6" BY CUT-TO-FIT BETWEEN CONTAINER AND TRAILER SIDEWALL (4 REQD). NAIL TO PIECE MARKED ① AND/OR ③ W/5-10d NAILS.
- ③ INTERMEDIATE HEADER (1 REQD). SEE DETAIL ON PAGE 14. POSITION SO THAT THE HOLD-DOWN PIECE OF THE HEADER IS LOCATED BETWEEN THE SKIDS OF THE FORWARD CONTAINER.
- ④ ANTI-SWAY BRACE (1 REQD). SEE DETAIL ON PAGE 18. CENTER ON CONTAINER AND WIRE-TIE THE BRACE TO THE CONTAINER STRAPS WITH NO. 14 GAGE WIRE AT TWO (2) PLACES AS SHOWN.
- ⑤ SPACER ASSEMBLY (1 REQD). SEE THE "SPACER ASSEMBLY C" DETAIL ON PAGE 18. NOTE THAT THIS ASSEMBLY MUST BE SET IN PLACE PRIOR TO POSITIONING THE SECOND CONTAINER WITHIN THE LOAD UNIT.
- ⑥ REAR BLOCKING ASSEMBLY (1 REQD). SEE DETAIL ON PAGE 11.



KEY NUMBERS

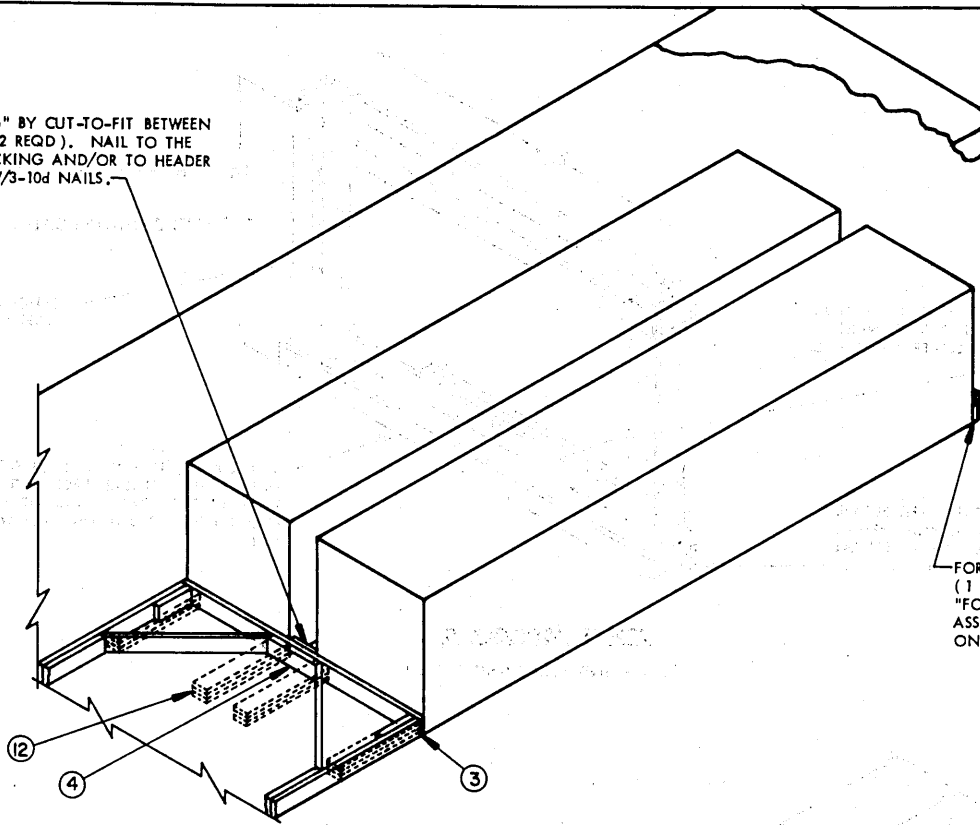
- ① FORWARD BLOCKING (1 REQD.). SEE THE "FORWARD BLOCKING ASSEMBLY B" DETAIL ON PAGE 10. SEE GENERAL NOTE "Q" ON PAGE 2.
- ② SIDE BLOCKING, 2" X 6" BY CUT-TO-FIT BETWEEN CONTAINER AND TRAILER SIDEWALL (4 REQD.). NAIL TO PIECE MARKED ① AND/OR ③ W/5-10d NAILS.
- ③ HEADER, 2" X 6" BY TRAILER WIDTH MINUS 1/2" (2 REQD.).
- ④ CENTER CLEAT, 2" X 6" X 40" (1 REQD.). POSITION AS SHOWN AND NAIL TO THE HEADER PIECE MARKED ③ W/7-10d NAILS.
- ⑤ SIDE STRUT, 2" X 6" BY CUT-TO-FIT BETWEEN THE FORWARD AND REAR HEADER PIECES MARKED ③ (2 REQD.).
- ⑥ SPLICE PIECE, 2" X 6" X 24" (2 REQD.). CENTER ON A JOINT OF PIECES MARKED ⑤ AND NAIL W/4-10d NAILS AT EACH END.
- ⑦ STRUT RETAINING BLOCK, 2" X 6" X 12" (4 REQD.). NAIL TO PIECE MARKED ⑤ W/3-10d NAILS. TOENAIL TO THE HEADER PIECE MARKED ③ W/2-12d NAILS.
- ⑧ DIAGONAL BRACE, 2" X 6" BY CUT-TO-FIT (2 REQD.). DOUBLE BEVEL EACH END WITH 45° CUTS. INSTALL AT 45° ANGLE AS SHOWN AND TOENAIL TO THE ADJACENT PIECE MARKED ③ AND TO PIECE MARKED ⑤ W/2-12d NAILS AT EACH END.
- ⑨ SIDE CLEAT, 2" X 6" X 24" (2 REQD.). NAIL TO PIECE MARKED ⑤ W/8-10d NAILS.
- ⑩ STRUT BRACING SUPPORT PIECE, 2" X 6" X 12" (4 REQD.). POSITION SO THAT PIECES MARKED ⑪ ARE EQUALLY SPACED ON THE LENGTH OF PIECE MARKED ⑤. NAIL TO PIECE MARKED ⑤ W/3-10d NAILS.
- ⑪ STRUT BRACING, 2" X 4" BY TRAILER WIDTH MINUS 3" (CUT-TO-FIT) (2 REQD.). NAIL TO PIECE MARKED ⑩ W/2-12d NAILS AT EACH END.
- ⑫ BACK-UP CLEAT, 2" X 6" X 30" (TRIPLED) (2 REQD.). ALIGN WITH THE CONTAINER SKID. NAIL THE FIRST PIECE TO THE TRAILER FLOOR W/7-12d NAILS. NAIL EACH ADDITIONAL PIECE IN A LIKE MANNER. TOENAIL THE TOP PIECE TO HEADER MARKED ③ W/2-12d NAILS. SEE SPECIAL NOTE 3 ON THIS PAGE.

ISOMETRIC VIEW

SPECIAL NOTES:

- 1. A 1-CONTAINER LOAD OF THE 4-UNIT PACK IS SHOWN. THESE OUTLOADING PROCEDURES DEPICT THE USE OF BOTH "K-BRACE" TYPE BLOCKING AND "NAILED-FLOOR-LINE" BLOCKING IN A 7'-6" WIDE VAN TRAILER. WIDER OR NARROWER TRAILERS CAN BE USED.
- 2. A 1-CONTAINER LOAD OF THE 8-UNIT PACK MAY ALSO BE SHIPPED BY USING THE SAME BRACING METHODS, EXCEPT THAT AN "ANTI-SWAY BRACE" MUST BE PROVIDED AS DETAILED ON PAGE 18 AND AS SPECIFIED IN KEY NUMBER ④ OF PROCEDURES SHOWN ON PAGE 15.
- 3. PIECES MARKED ⑫ ARE FOR USE IN A TRAILER WHICH HAS A NAILABLE FLOOR AND MAY BE USED IN LIEU OF PIECES MARKED ④ THRU ⑪ WHICH APPLY TO TRAILERS HAVING NON-NAILABLE FLOORS.

SPACER, 2" X 6" BY CUT-TO-FIT BETWEEN CONTAINERS (2 REQD). NAIL TO THE FORWARD BLOCKING AND/OR TO HEADER MARKED ③ W/3-10d NAILS.

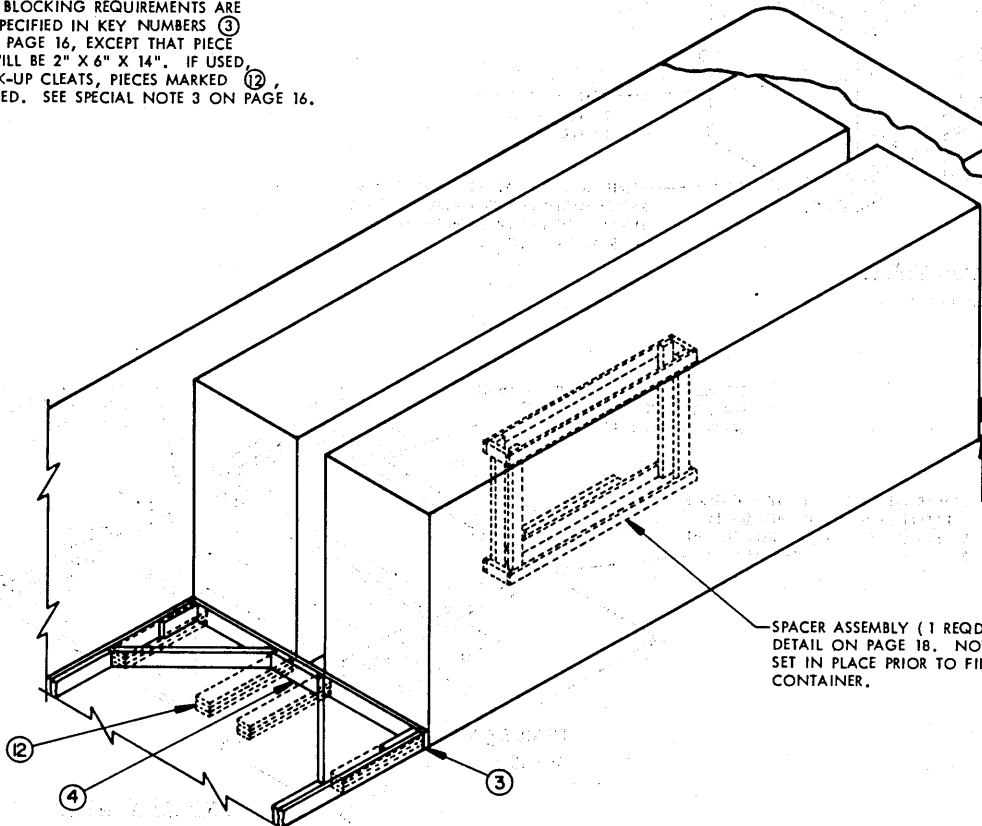


FORWARD BLOCKING (1 REQD). SEE THE "FORWARD BLOCKING ASSEMBLY B" DETAIL ON PAGE 10.

PARTIAL VIEW
(4-UNIT PACK)
SEE "NOTE ●" AT LEFT.

NOTE ●:

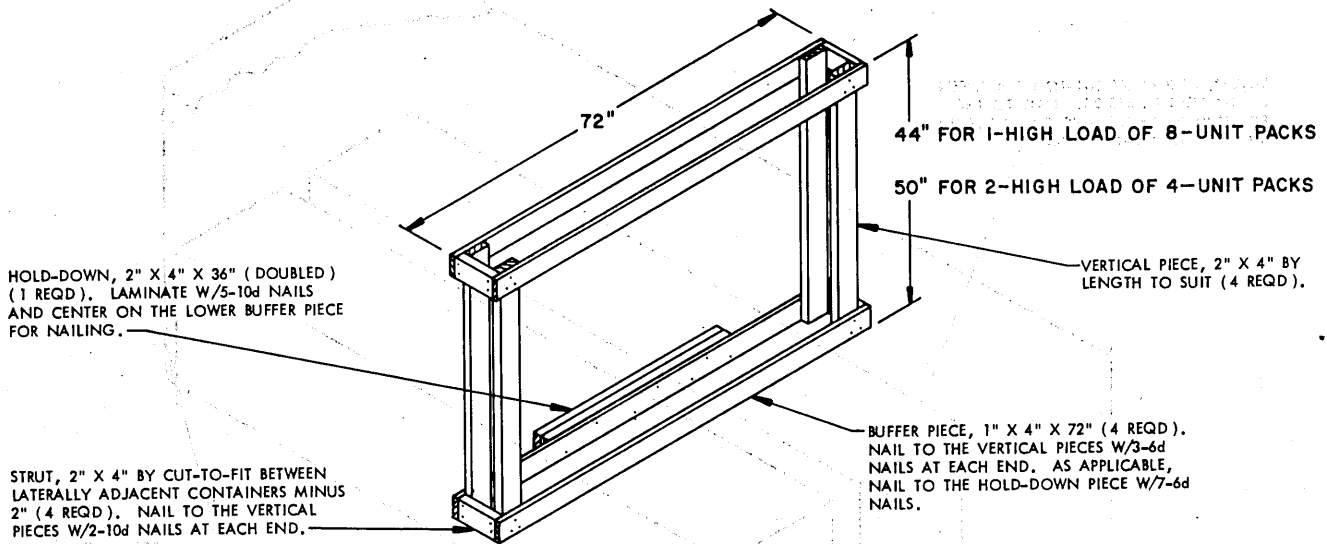
REAR OF LOAD BLOCKING REQUIREMENTS ARE THE SAME AS SPECIFIED IN KEY NUMBERS ③ THRU ⑫ ON PAGE 16, EXCEPT THAT PIECE MARKED ④ WILL BE 2" X 6" X 14". IF USED, FOUR (4) BACK-UP CLEATS, PIECES MARKED ⑫, WILL BE REQUIRED. SEE SPECIAL NOTE 3 ON PAGE 16.



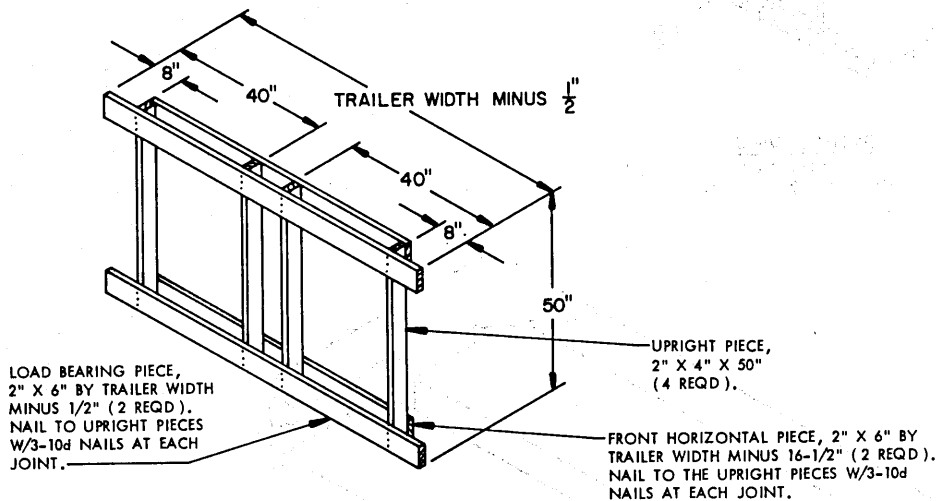
FORWARD BLOCKING (1 REQD). SEE THE "FORWARD BLOCKING ASSEMBLY B" DETAIL ON PAGE 10.

SPACER ASSEMBLY (1 REQD). SEE THE "SPACER ASSEMBLY C" DETAIL ON PAGE 18. NOTE THAT THIS ASSEMBLY MUST BE SET IN PLACE PRIOR TO FINAL POSITIONING OF THE SECOND CONTAINER.

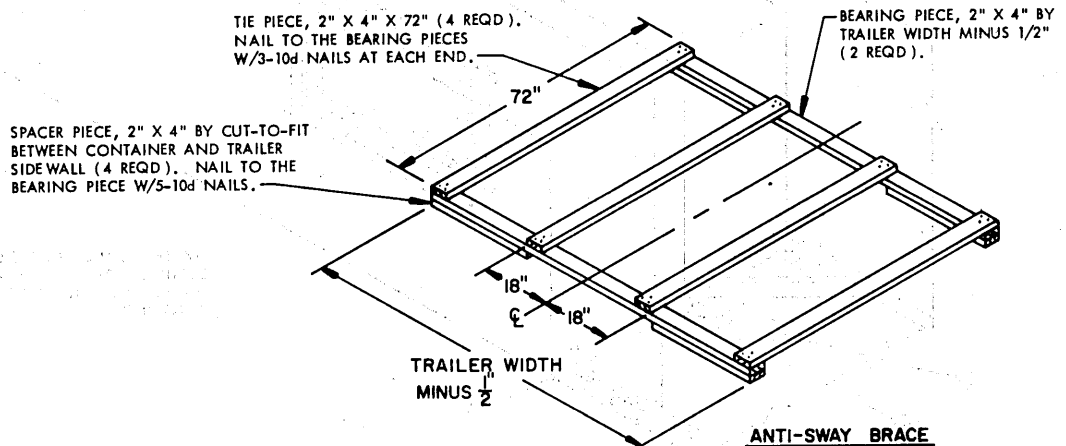
PARTIAL VIEW
(8-UNIT PACK)
SEE "NOTE ●" ABOVE.



SPACER ASSEMBLY C
(FOR 4-UNIT AND 8-UNIT PACKS)



FORWARD BLOCKING ASSEMBLY C
(FOR 4-UNIT AND 8-UNIT PACKS)



THIS ASSEMBLY IS REQUIRED FOR SHIPMENT OF A 1-CONTAINER WIDE LOAD UNIT AS DEPICTED ON PAGE 15 FOR AN 8-UNIT PACK AND FOR A UNITIZED 2-CONTAINER HIGH STACK OF 4-UNIT PACKS.