

LOADING AND BRACING (TL & LTL) IN CLOSED OR OPEN TOP VAN TRAILERS OF BLU-80/B (BIGEYE) BINARY CHEMICAL WEAPON BALLONET, MXU-695/B, PACKED IN CNU-388/E STORAGE AND SHIPPING CONTAINER, UNITIZED 12 CONTAINERS PER METAL PALLET

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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 BLU-80/B (BIGEYE) BINARY CHEMICAL WEAPON BALLONET, MXU-695/B, PACKED IN CIU-388/E STORAGE AND SHIPPING CONTAINER, UNITIZED 12 CONTAINERS PER METAL PALLET. SEE THE PICTORIAL VIEW ON PAGE 3 AND MIL-STD-1323-305 (NAVY) FOR SIZE AND WEIGHT.
- 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. SOME LTL LOADS MAY REQUIRE NAILABLE FLOORS. VAN TRAILERS WHICH ARE 40'-0" LONG BY 7'-8" WIDE (INSIDE DIMENSION) HAVE BEEN SHOWN, HOWEVER, THE PROCEDURES ARE ALSO APPLICABLE FOR TRAILERS WHICH ARE EIGHTY-NINE INCHES (89") THRU NINETY-NINE INCHES (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 LOADING AND BRACING PROCEDURES SPECIFIED HEREIN ARE ALSO ADEQUATE (CONFIGURATION-WISE AND STRENGTH-WISE) FOR LOADS IN SHORTER OR LONGER VANS THAN SHOWN. 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 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 SEMI-TRAILER 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, WEIGHTS 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. THE "LOAD AS SHOWN" FOR THE FULL LOAD DEPICTED HEREIN IS BASED ON AN APPROXIMATE LADING WEIGHT OF 37,000 POUNDS. THE SPECIFIED BLOCKING AND BRACING FOR THE FULL LOAD IS ADEQUATE FOR THE RETENTION OF HEAVIER LOADS, IF IT IS DESIRED TO INCREASE THE LADING WEIGHT.
- H. OTHER TYPES OF LADING ITEMS MAY BE LOADED INTO TRAILERS WHICH ARE PARTIALLY LOADED WITH PALLET UNITS OF BALLONETS, PROVIDING THE TOTAL LOAD IS COMPATIBLE, EXISTING DIRECTIVES ARE NOT VIOLATED, AND THE OTHER LADING ITEMS ARE BLOCKED AND BRACED TO EQUAL THE BLOCKING AND BRACING CRITERIA SPECIFIED HEREIN.
- J. THE LOADS ARE SHOWN IN A TRAILER HAVING A SQUARE FRONT. IF THE TRAILER TO BE LOADED HAS ROUNDED CORNERS AT THE FORWARD END, SEE THE SPECIAL NOTES ADJACENT TO THE DEPICTED LOAD FOR GUIDANCE.

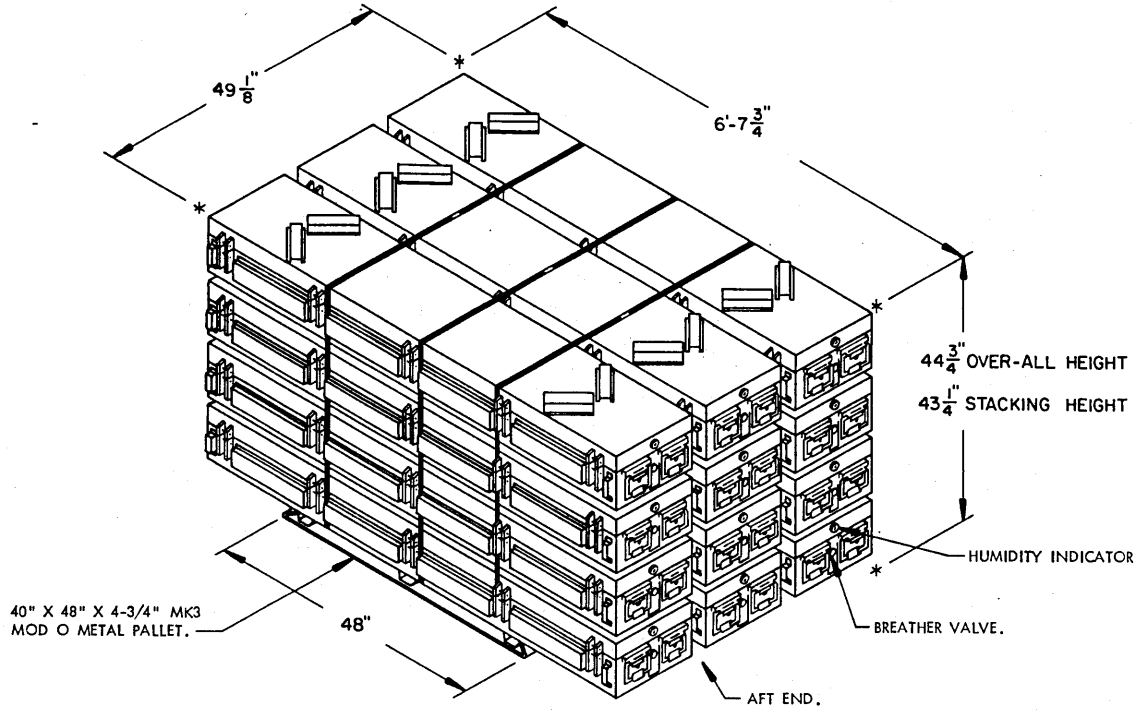
(CONTINUED AT RIGHT)

(GENERAL NOTES CONTINUED)

- K. EXCEPT FOR PLYWOOD, DUNNAGE LUMBER SPECIFIED THROUGHOUT THIS PROCEDURAL DRAWING IS OF NOMINAL SIZE. FOR EXAMPLE, 1" X 4" MATERIAL IS ACTUALLY 3/4" THICK BY 3-1/2" WIDE AND 2" X 6" MATERIAL IS ACTUALLY 1-1/2" THICK BY 5-1/2" WIDE. SEE NOTE "Q" BELOW.
- L. NOTICE: A STAGGERED NAILING PATTERN WILL BE USED WHENEVER 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.
- 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. FOR ADDITIONAL GUIDANCE, ATTENTION IS DIRECTED TO THE "SPECIAL NOTES" SECTIONS WHICH ARE IMMEDIATELY ADJACENT TO THE DEPICTED OUTLOADING METHODS.
- P. 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.
- Q. THE USE OF 1/2" THICK PLYWOOD SPECIFIED HEREIN FOR FABRICATION OF THE FORWARD BLOCKING, VARIOUS GATES AND OTHER ASSEMBLIES, IS BASED ON NORMALLY AVAILABLE STANDARD SIZE SHEETS SUCH AS 4'-0" WIDE BY 8'-0" OR 10'-0" LONG AND WILL REQUIRE CUTTING AND SOME SPLICING, WITH NOMINAL SIZE LUMBER, TO OBTAIN THE SPECIFIED DIMENSIONS OF THE WIDTH, HEIGHT AND/OR LENGTH OF THE ASSEMBLIES. IN SOME LOCALITIES IT MAY BE POSSIBLE TO OBTAIN 1/2" PLYWOOD SPECIALLY MANUFACTURED AS ONE PIECE TO THE WIDTH AND LENGTH DIMENSIONS REQUIRED FOR AN ASSEMBLY, THUS ELIMINATING CUTTING, WASTE, AND USE OF NOMINAL SIZE LUMBER FOR SPLICING, INCLUDING THE LABOR REQUIRED THEREWITH. THE COST PER SQUARE FOOT FOR THE SPECIAL SIZED SHEETS WILL MOST LIKELY EXCEED THE SQUARE FOOT COST OF STANDARD SIZE SHEETS, HOWEVER, THE OVERALL COST FOR FABRICATING AN ASSEMBLY WOULD BE REDUCED.

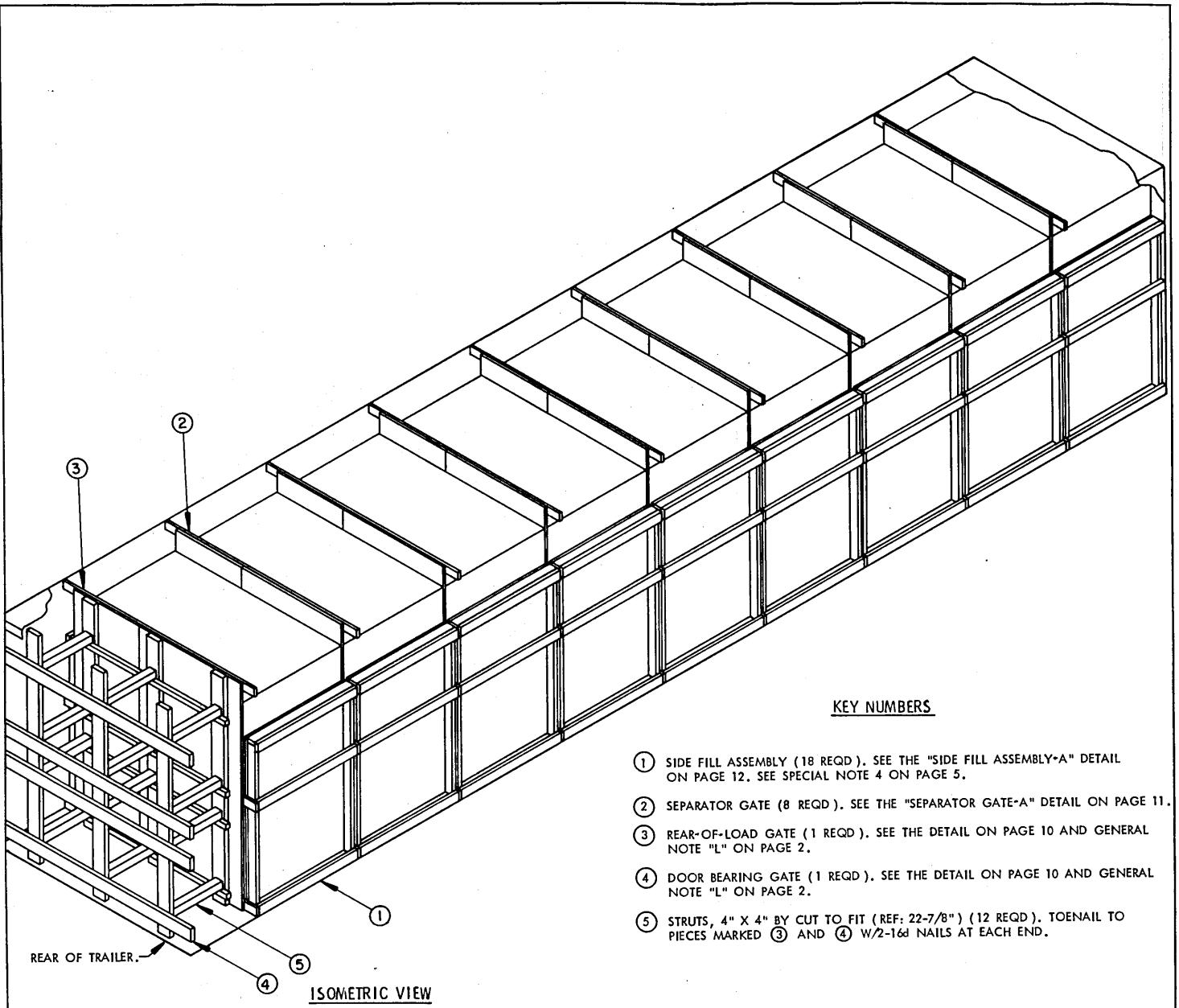
MATERIAL SPECIFICATIONS

- LUMBER -----: SEE TM 743-200-1, DUNNAGE LUMBER; FED SPEC MM-L-751
- NAILS -----: COMMON, FED SPEC FF-N-105
- PLYWOOD ----: GROUP B, CONSTRUCTION AND INDUSTRIAL PLYWOOD, INTERIOR WITH EXTERIOR GLUE, GRADE C-D, FED SPEC NN-P-530. IF SPECIFIED GRADE IS NOT AVAILABLE, A BETTER INTERIOR OR AN EXTERIOR GRADE MAY BE SUBSTITUTED.



PALLET UNIT

GROSS WEIGHT ----- 2,028 LBS (APPROX)
 CUBE ----- 101.5 CUBIC FEET (APPROX)
 REF: MIL-STD-1323-305 (NAVY)



ISOMETRIC VIEW

KEY NUMBERS

- ① SIDE FILL ASSEMBLY (18 REQD). SEE THE "SIDE FILL ASSEMBLY-A" DETAIL ON PAGE 12. SEE SPECIAL NOTE 4 ON PAGE 5.
- ② SEPARATOR GATE (8 REQD). SEE THE "SEPARATOR GATE-A" DETAIL ON PAGE 11.
- ③ REAR-OF-LOAD GATE (1 REQD). SEE THE DETAIL ON PAGE 10 AND GENERAL NOTE "L" ON PAGE 2.
- ④ DOOR BEARING GATE (1 REQD). SEE THE DETAIL ON PAGE 10 AND GENERAL NOTE "L" ON PAGE 2.
- ⑤ STRUTS, 4" X 4" BY CUT TO FIT (REF: 22-7/8") (12 REQD). TOENAIL TO PIECES MARKED ③ AND ④ W/2-16d NAILS AT EACH END.

SPECIAL NOTES:

1. AN 18-UNIT 2-LAYER LOAD IS SHOWN IN A 40'-0" LONG BY 7'-8" (92") WIDE (INSIDE DIMENSION) CONVENTIONAL VAN TRAILER. LONGER AND WIDER TRAILERS MAY BE USED. ALSO, ALL METAL TRAILERS MAY BE USED.
2. IF LONGER TRAILERS ARE OFFERED FOR A SHIPMENT AND THE WEIGHT CAPACITY OF THE TRAILERS PERMIT, A 20-UNIT 2-LAYER LOAD MAY BE SHIPPED IN A 45'-0" LONG TRAILER AND A 22-UNIT 2-LAYER LOAD IN A 48'-0" LONG TRAILER. THE REQUIREMENTS OF GENERAL NOTES "E" AND "F" ON PAGE 2 WILL APPLY.
3. FOR SHIPMENT OF A LESS-THAN-FULL 2-LAYER LOAD SEE THE PROCEDURES AND SPECIAL NOTES ON PAGES 6, 14 AND 15.
4. THE TRAILER IS SHOWN HAVING A SQUARE FRONT; HOWEVER, IF THE TRAILER BEING LOADED HAS ROUNDED CORNERS, THE SIDE FILL ASSEMBLY ON EACH SIDE OF THE FIRST STACK MUST BE REDUCED IN LENGTH TO COMPENSATE FOR THE RADIUS OF THE ROUNDED CORNERS.
5. IF THE TRAILER IS EQUIPPED WITH A ROLL-UP TYPE DOOR, THE REAR-OF-LOAD PROCEDURES SPECIFIED ON PAGE 7 MUST BE USED AND WILL REDUCE A FULL 2-LAYER LOAD QUANTITY BY 2-UNITS. ALSO, THE TRAILER MUST HAVE A NAILABLE FLOOR FOR INSTALLING THE REAR BLOCKING.

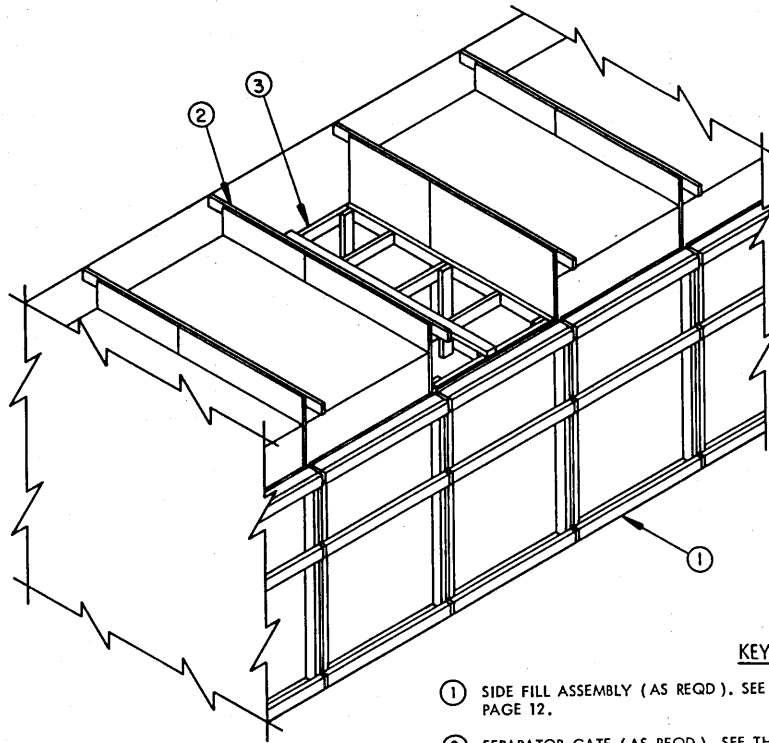
BILL OF MATERIAL

LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	206	69
2" X 2"	48	16
2" X 4"	567	379
2" X 6"	79	79
4" X 4"	23	31
NAILS	NO. REQD	POUNDS
4d (1-1/2")	351	1-1/4
6d (2")	576	3-1/2
10d (3")	552	8-1/2
16d (3-1/2")	48	1
PLYWOOD 1/2" ----- 913 SQ FT REQD ----- 1,256 LBS		

LOAD AS SHOWN

ITEM	QUANTITY	WEIGHT (APPROX)
PALLET UNIT	18	36,504 LBS
DUNNAGE		2,418 LBS
TOTAL WEIGHT		38,922 LBS

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



ISOMETRIC VIEW

KEY NUMBERS

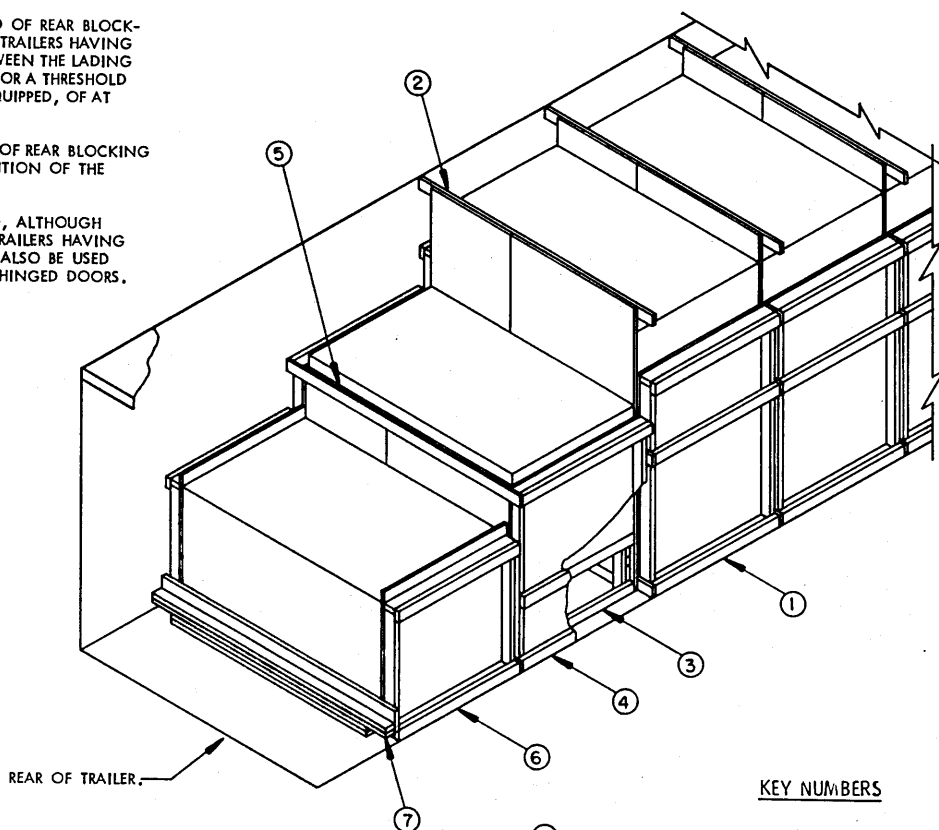
- ① SIDE FILL ASSEMBLY (AS REQD). SEE THE "SIDE FILL ASSEMBLY-A" DETAIL ON PAGE 12.
- ② SEPARATOR GATE (AS REQD). SEE THE "SEPARATOR GATE-A" DETAIL ON PAGE 11.
- ③ OMITTED UNIT FILLER ASSEMBLY (1 REQD). SEE THE DETAIL ON PAGE 13 AND GENERAL NOTE "L" ON PAGE 2.

SPECIAL NOTES:

1. A 2-LAYER LOAD IS PARTIALLY SHOWN TO DEPICT ONE UNIT OMITTED FROM THE TOP LAYER AND A FILLER ASSEMBLY USED IN THE PLACE THEREOF. ADDITIONAL FILLER ASSEMBLIES MAY BE USED BUT ONLY IN THE TOP LAYER AND NOT IN THE FIRST OR LAST STACKS. HOWEVER, IF MORE THAN ONE UNIT IS TO BE OMITTED FROM A LOAD, THE PROCEDURES AND SPECIAL NOTES SHOWN ON PAGE 8 SHOULD BE CONSIDERED AND SHOULD PROVE TO BE MORE ECONOMICAL. SEE SPECIAL NOTE 2 ON PAGE 8 FOR GUIDANCE.

SPECIAL NOTES:

1. THE NAILED-HEADER METHOD OF REAR BLOCKING CAN ONLY BE USED IN TRAILERS HAVING A NAILABLE FLOOR AREA BETWEEN THE LADING AND THE METAL THRESHOLD, OR A THRESHOLD PLATE IF THE TRAILER IS SO EQUIPPED, OF AT LEAST EIGHT INCHES (8").
2. THE NAILED-HEADER METHOD OF REAR BLOCKING IS ADEQUATE FOR THE RETENTION OF THE MAXIMUM WEIGHT LOAD.
3. THE NAILED-HEADER METHOD, ALTHOUGH DESIGNED ESPECIALLY FOR TRAILERS HAVING ROLL-UP TYPE DOORS, MAY ALSO BE USED IN TRAILERS EQUIPPED WITH HINGED DOORS.



PARTIAL ISOMETRIC VIEW

KEY NUMBERS

- ① SIDE FILL ASSEMBLY (AS REQD.). SEE THE "SIDE FILL ASSEMBLY-A" DETAIL ON PAGE 12.
- ② SEPARATOR GATE (AS REQD.). SEE THE "SEPARATOR GATE-A" DETAIL ON PAGE 11.
- ③ RISER ASSEMBLY (1 REQD.). SEE THE DETAIL ON PAGE 13 AND GENERAL NOTE "L" ON PAGE 2.
- ④ SIDE FILL ASSEMBLY (2 REQD.). SEE THE "SIDE FILL ASSEMBLY-C" DETAIL ON PAGE 9.
- ⑤ SEPARATOR GATE (1 REQD.). SEE THE "SEPARATOR GATE-C" DETAIL ON PAGE 11.
- ⑥ SIDE FILL ASSEMBLY (2 REQD.). SEE THE "SIDE FILL ASSEMBLY-B" DETAIL ON PAGE 12.
- ⑦ REAR BLOCKING. SEE THE DETAIL BELOW AND GENERAL NOTE "L" ON PAGE 2.

BACK-UP PIECE, 2" X 4" BY TRAILER WIDTH MINUS 1/2" (DOUBLED) (1 REQD.). WITH THE UNIT SUPPORT HEADER ATTACHED, NAIL THE FIRST PIECE TO THE LOAD HEADER, AS SHOWN, W/1-10d NAIL EVERY 6". NAIL THE SECOND PIECE TO THE FIRST W/1-10d NAIL EVERY 6".

UNIT SUPPORT HEADER, 2" X 8" BY TRAILER WIDTH MINUS 1/2" (1 REQD.). NAIL TO THE EDGE OF A BACK-UP PIECE W/1-10d NAIL EVERY 6".

INDICATES A FIRST LAYER CONTAINER OF A 12-CONTAINER PALLET UNIT.

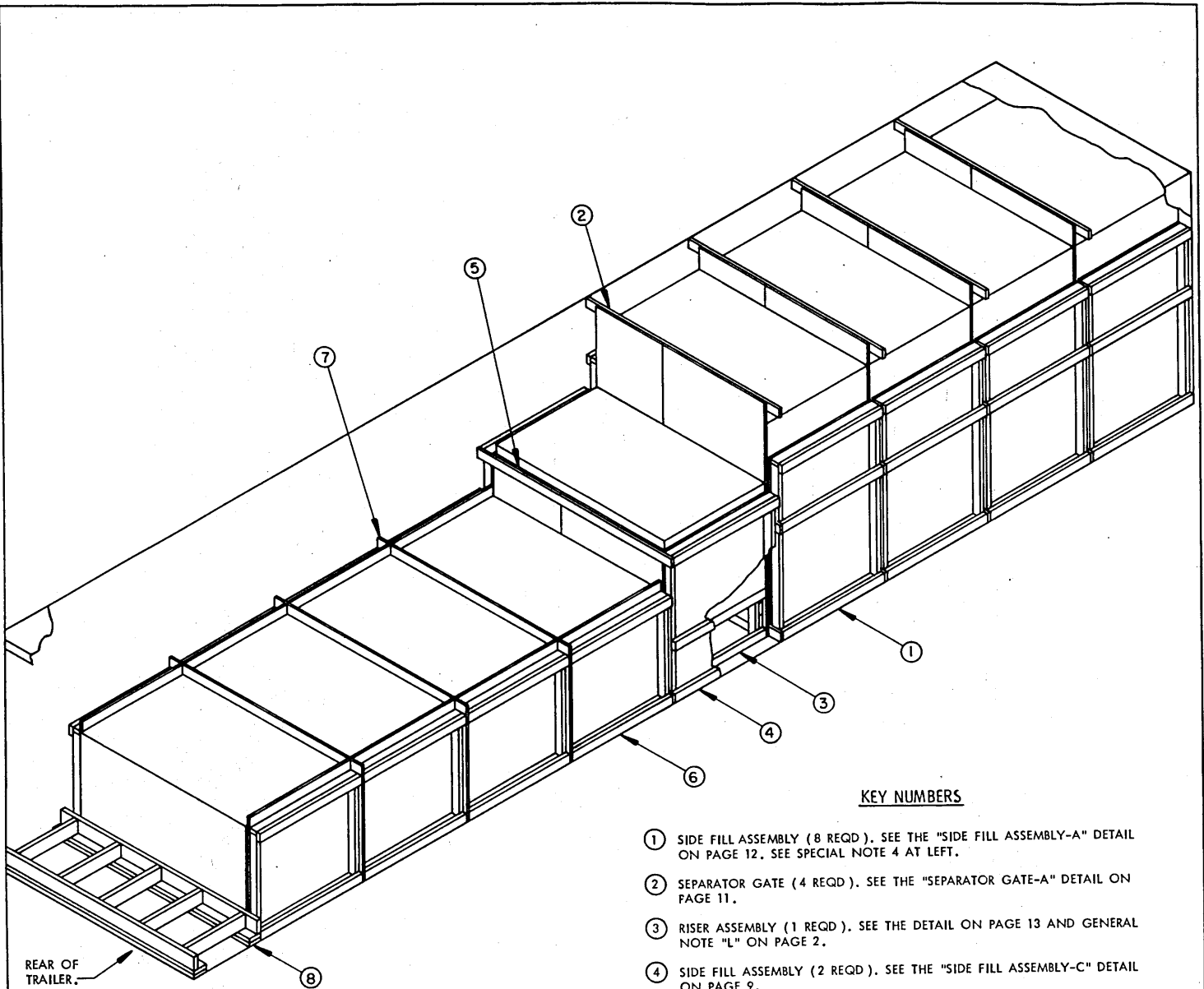
INDICATES PALLET DECK.

INDICATES PALLET SKID.

INDICATES TRAILER FLOOR.

LOAD HEADER, 2" X 10" BY CUT-TO-FIT BETWEEN SIDE FILL ASSEMBLIES (REF: 80") (DOUBLED) (1 REQD.). POSITION THE FIRST PIECE AGAINST THE PALLET SKID AND NAIL TO THE TRAILER FLOOR W/1-10d NAIL EVERY 6". NAIL THE SECOND PIECE TO THE FIRST W/1-10d NAIL EVERY 6". SEE GENERAL NOTE "L" ON PAGE 2 AND SPECIAL NOTES ABOVE.

REAR BLOCKING



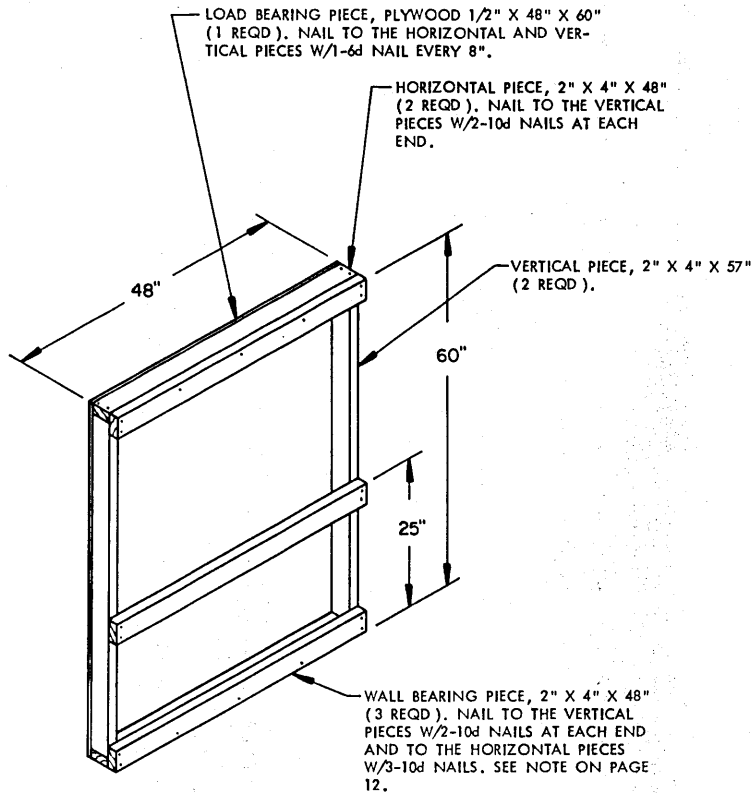
ISOMETRIC VIEW

SPECIAL NOTES:

1. A TYPICAL LTL (13-UNIT LOAD) IS SHOWN IN A 40'-0" LONG BY 7'-8" (92") WIDE (INSIDE DIMENSION) CONVENTIONAL VAN TRAILER USING A "RISER ASSEMBLY" TO ACHIEVE THE QUANTITY OF PALLET UNITS TO BE SHIPPED. TRAILERS OF OTHER LENGTHS AND WIDTHS MAY BE USED. ALL METAL TRAILERS MAY BE USED.
2. BY POSITIONING THE "RISER ASSEMBLY", MARKED ③, IN THE APPROPRIATE STACK, EXCEPT THE FRONT AND REAR STACKS, AN LTL LOAD OF FROM 10 TO 16 UNITS CAN BE SHIPPED IN A 40'-0" LONG TRAILER USING THE PROCEDURES DEPICTED ABOVE.
3. ALSO A 1-LAYER, 9-UNIT LOAD MAY BE SHIPPED USING THE "REAR BLOCKING ASSEMBLY" MARKED ⑧ IN THE LOAD VIEW. FOR A QUANTITY LESS THAN 9 UNITS SEE PROCEDURES ON PAGES 14 AND 15.
4. THE TRAILER IS SHOWN HAVING A SQUARE FRONT; HOWEVER, IF THE TRAILER BEING LOADED HAS ROUNDED CORNERS, THE SIDE FILL ASSEMBLY ON EACH SIDE OF THE FIRST STACK MUST BE REDUCED IN LENGTH TO COMPENSATE FOR THE RADIUS OF THE ROUNDED CORNERS.
5. IF A 45'-0" LONG TRAILER IS OFFERED FOR A SHIPMENT, ONE STACK MAY BE ADDED TO THE LENGTH OF THE LOAD; LIKEWISE, TWO STACKS MAY BE ADDED TO THE LENGTH OF THE LOAD IN A 48'-0" LONG TRAILER.
6. FOR TRAILERS HAVING A ROLL-UP TYPE DOOR, THE REAR-OF-LOAD PROCEDURES SHOWN ON PAGE 7 MUST BE USED AND REQUIRES THE TRAILER TO HAVE A NAILABLE FLOOR.

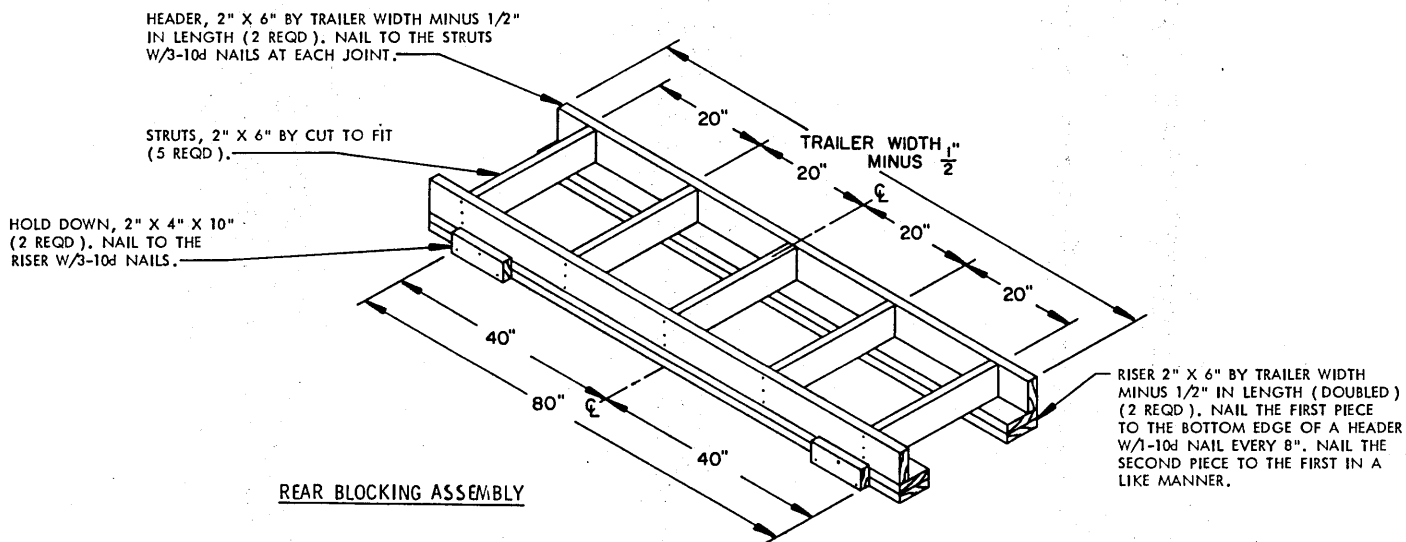
KEY NUMBERS

- ① SIDE FILL ASSEMBLY (8 REQD). SEE THE "SIDE FILL ASSEMBLY-A" DETAIL ON PAGE 12. SEE SPECIAL NOTE 4 AT LEFT.
- ② SEPARATOR GATE (4 REQD). SEE THE "SEPARATOR GATE-A" DETAIL ON PAGE 11.
- ③ RISER ASSEMBLY (1 REQD). SEE THE DETAIL ON PAGE 13 AND GENERAL NOTE "L" ON PAGE 2.
- ④ SIDE FILL ASSEMBLY (2 REQD). SEE THE "SIDE FILL ASSEMBLY-C" DETAIL ON PAGE 9.
- ⑤ SEPARATOR GATE (1 REQD). SEE THE "SEPARATOR GATE-C" DETAIL ON PAGE 11.
- ⑥ SIDE FILL ASSEMBLY (8 REQD). SEE THE "SIDE FILL ASSEMBLY-B" DETAIL ON PAGE 12.
- ⑦ SEPARATOR GATE (3 REQD). SEE THE "SEPARATOR GATE-B" DETAIL ON PAGE 11.
- ⑧ REAR BLOCKING ASSEMBLY (1 REQD). SEE THE DETAIL ON PAGE 9 AND GENERAL NOTE "L" ON PAGE 2.



SIDE FILL ASSEMBLY-C

(FOR USE WITH RISER ASSEMBLY)



REAR BLOCKING ASSEMBLY

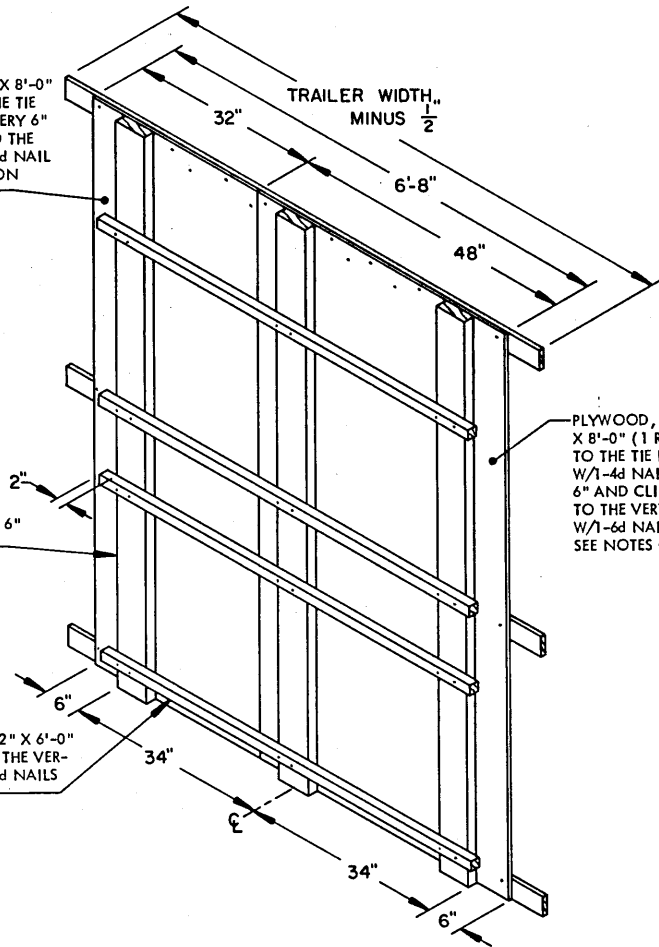
NOTE: THIS VIEW IS ROTATED 180° FROM THE POSITION
IN WHICH IT WILL BE INSTALLED.

DETAILS

PLYWOOD, 1/2" X 32" X 8'-0"
(1 REQD). NAIL TO THE TIE
PIECES W/1-4d NAIL EVERY 6"
AND CLINCH. NAIL TO THE
VERTICAL PIECES W/1-6d NAIL
EVERY 8". SEE NOTES ON
PAGE 11.

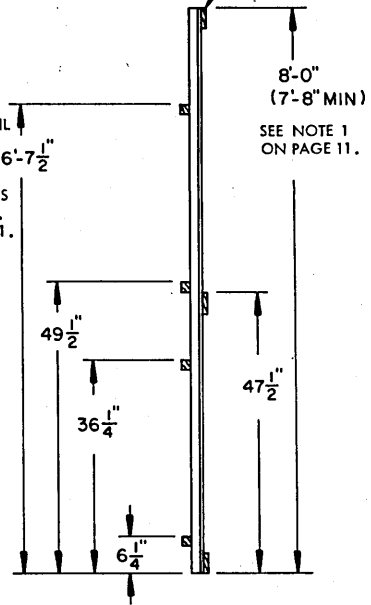
VERTICAL PIECE, 2" X 6"
X 8'-0" (3 REQD).

STRUT LEDGER, 2" X 2" X 6'-0"
(4 REQD). NAIL TO THE VER-
TICAL PIECES W/2-10d NAILS
AT EACH JOINT.



TIE PIECE, 1" X 4" BY TRAILER WIDTH
MINUS 1/2" IN LENGTH (3 REQD).

PLYWOOD, 1/2" X 48"
X 8'-0" (1 REQD). NAIL
TO THE TIE PIECES
W/1-4d NAIL EVERY
6" AND CLINCH. NAIL
TO THE VERTICAL PIECES
W/1-6d NAIL EVERY 8".
SEE NOTES ON PAGE 11.

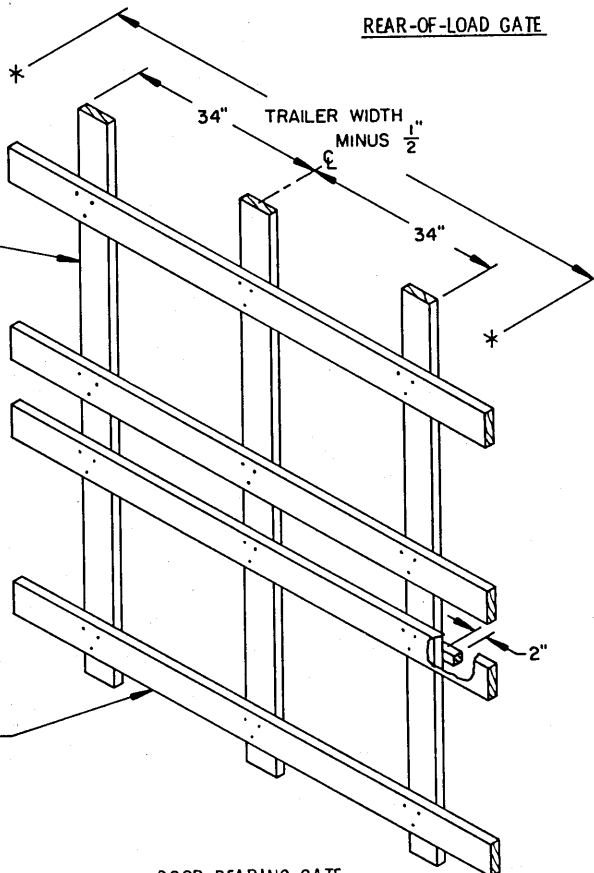


END VIEW

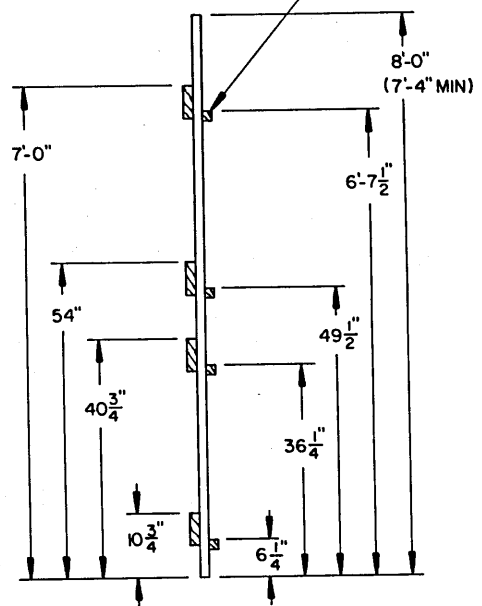
REAR-OF-LOAD GATE

STRUT BEARING PIECE,
2" X 6" X 8'-0" (3
REQD).

DOOR BEARING PIECE,
2" X 6" BY TRAILER
WIDTH MINUS 1/2" IN
LENGTH (4 REQD).
NAIL TO THE STRUT
BEARING PIECES W/3-10d
NAILS AT EACH JOINT.



STRUT LEDGER, 2" X 2" X 6'-0" (4 REQD).
NAIL TO THE VERTICAL PIECES W/2-10d
NAILS AT EACH JOINT.



END VIEW

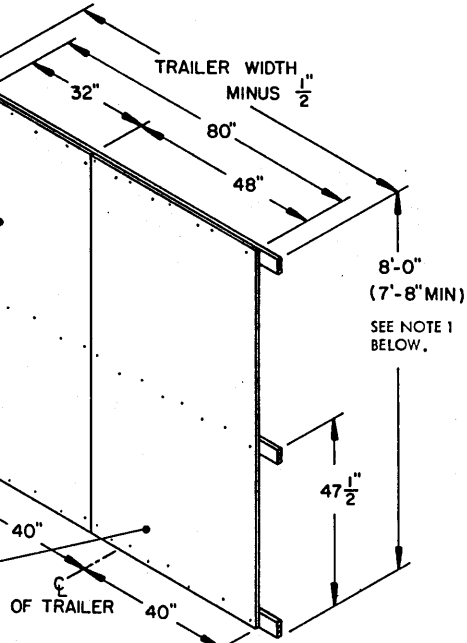
DOOR BEARING GATE

DETAILS

TIE PIECE, 1" X 4" BY TRAILER WIDTH MINUS 1/2" (3 REQD).

PLYWOOD, 1/2" X 32" X 8'-0" (1 REQD). SEE NOTES AT RIGHT. NAIL TO THE TIE PIECES W/1-4d NAIL EVERY 6" AND CLINCH.

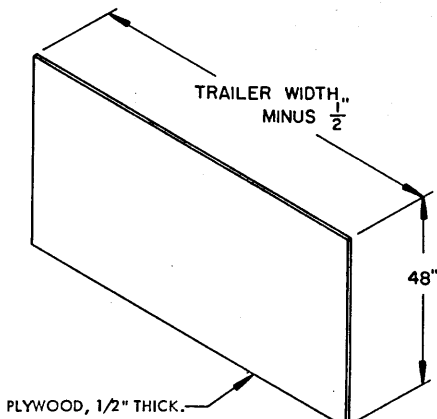
PLYWOOD, 1/2" X 48" X 8'-0" (1 REQD). SEE NOTES AT RIGHT. NAIL TO THE TIE PIECES W/1-4d NAIL EVERY 6" AND CLINCH.



SEPARATOR GATE-A
(FOR 2-HIGH LOAD)

NOTES:

1. IF THE INSIDE HEIGHT OF THE TRAILER CAN ACCOMMODATE AN 8'-0" HIGH GATE, STANDARD 8'-0" LONG SHEETS SHOULD NOT BE CUT TO REDUCE THE GATE HEIGHT TO 7'-8".
2. THE 80" WIDE PLYWOOD FACE OF THE GATE MAY ALSO CONSIST OF USING ONE STANDARD 48" WIDE SHEET AND TWO 16" WIDE PIECES SALVAGED FROM CUTTING 48" WIDE SHEETS TO OBTAIN THE 32" WIDE PIECES. THIS WILL PERMIT THE FABRICATION OF THREE GATES FROM 5 STANDARD 48" WIDE X 8'-0" LONG SHEETS.

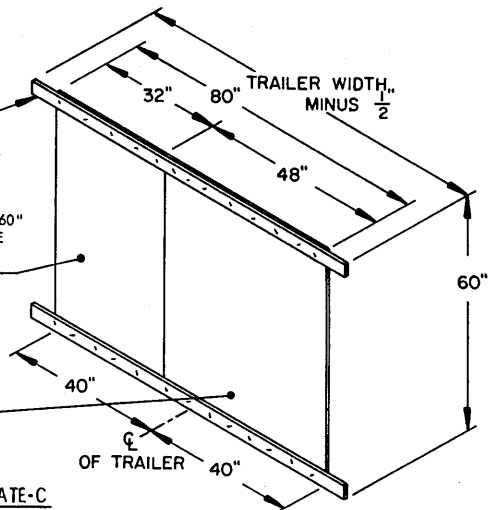


SEPARATOR GATE-B
(FOR 1-HIGH LOAD)

TIE PIECE, 1" X 4" BY TRAILER WIDTH MINUS 1/2" (2 REQD).

PLYWOOD, 1/2" X 32" X 60" (1 REQD). NAIL TO THE TIE PIECES W/1-4d NAIL EVERY 6" AND CLINCH.

PLYWOOD, 1/2" X 48" X 60" (1 REQD). NAIL TO THE TIE PIECES W/1-4d NAIL EVERY 6" AND CLINCH.

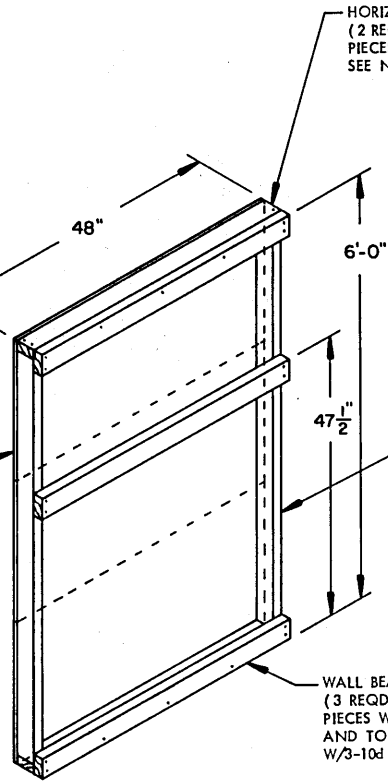


SEPARATOR GATE-C

(FOR USE WITH RISER ASSEMBLY)

DETAILS

LOAD BEARING PIECE, PLYWOOD, 1/2" X 48" X 6'-0" (1 REQD). NAIL TO THE HORIZONTAL AND VERTICAL PIECES W/1-6d NAIL EVERY 8".
 NOTE: THIS LOAD BEARING PIECE MAY BE MADE UP WITH 3 PIECES OF PLYWOOD 1/2" X 24" X 48", WHICH WERE PREVIOUSLY CUT OFF FROM 48" (4'-0") WIDE BY 96" (8'-0") LONG SHEETS TO THE 72" (6'-0") HEIGHT OF AN ASSEMBLY. THIS IS SHOWN BY THE DOTTED LINES SEEN IN THE ASSEMBLY AT RIGHT. THIS WILL PERMIT FABRICATION OF 4 ASSEMBLIES USING 3 STANDARD SHEETS 48" WIDE X 96" LONG.



HORIZONTAL PIECE, 2" X 4" X 48" (2 REQD). NAIL TO THE VERTICAL PIECES W/2-10d NAILS AT EACH END. SEE NOTE BELOW.

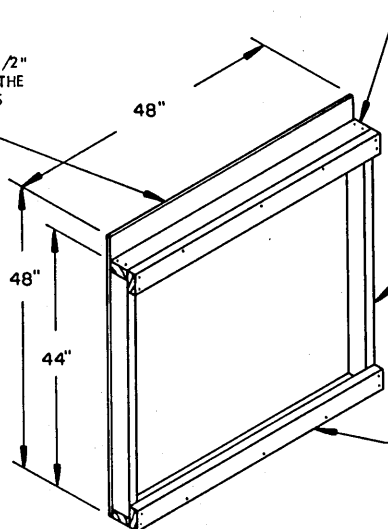
VERTICAL PIECE, 2" X 4" X 69" (2 REQD).

WALL BEARING PIECE, 2" X 4" X 48" (3 REQD). NAIL TO THE VERTICAL PIECES W/2-10d NAILS AT EACH END, AND TO THE HORIZONTAL PIECES W/3-10d NAILS. SEE NOTE BELOW.

NOTE: FOR TRAILERS WIDER THAN 92" (7'-8") LAMINATE ADDITIONAL 4" WIDE BY 48" LONG MATERIAL TO THE WALL BEARING PIECES OF A THICKNESS REQUIRED TO FILL THE VOID ON EACH SIDE OF THE TRAILER.

SIDE FILL ASSEMBLY-A
 (FOR 2-HIGH LOAD)

LOAD BEARING PIECE, PLYWOOD 1/2" X 48" X 48" (1 REQD). NAIL TO THE HORIZONTAL AND VERTICAL PIECES W/1-6d NAIL EVERY 8".



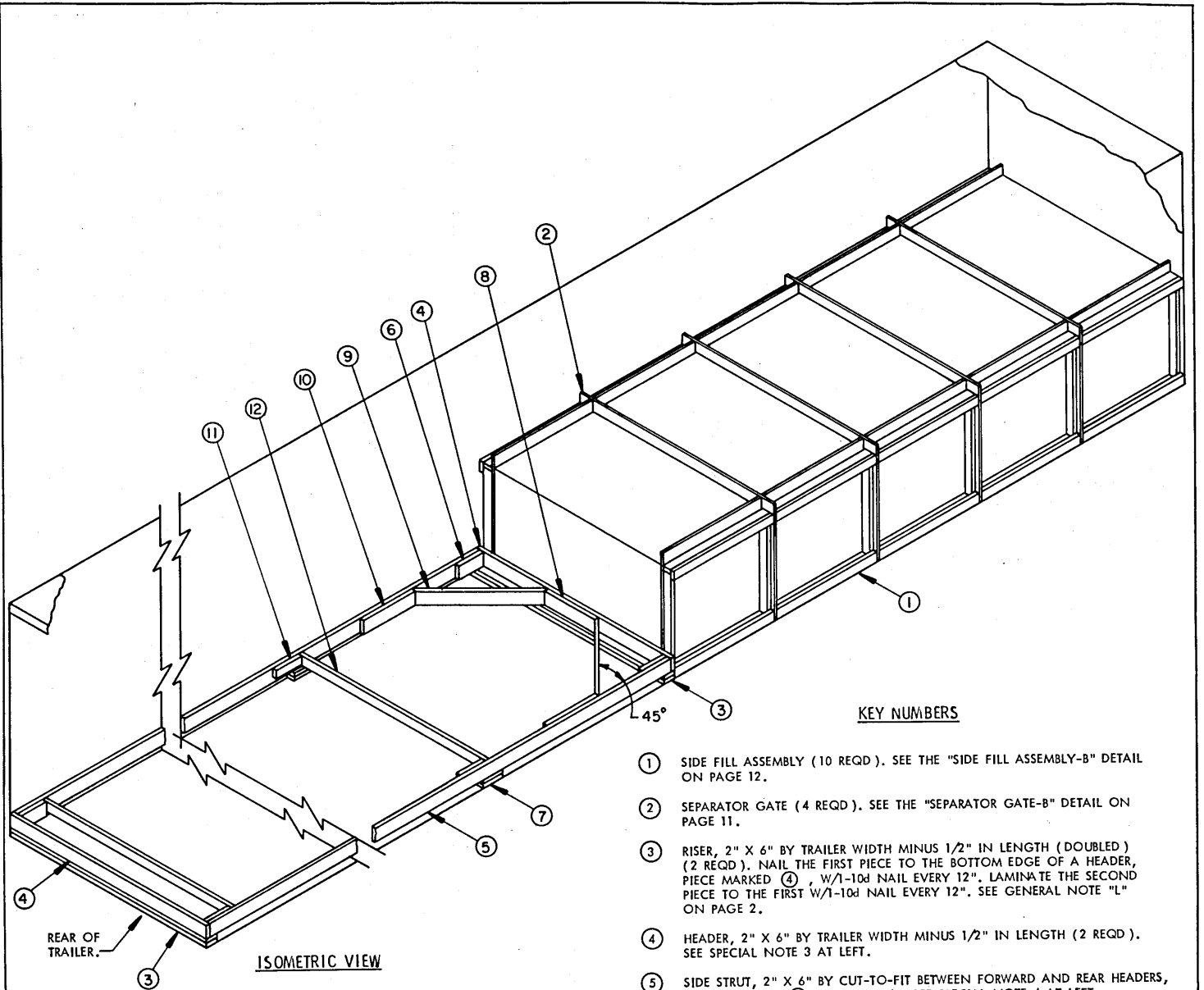
HORIZONTAL PIECE, 2" X 4" X 48" (2 REQD). NAIL TO THE VERTICAL PIECES W/2-10d NAILS AT EACH END.

VERTICAL PIECE, 2" X 4" X 41" (2 REQD).

WALL BEARING PIECE, 2" X 4" X 48" (2 REQD). NAIL TO THE VERTICAL PIECES W/2-10d NAILS AT EACH END, AND TO THE HORIZONTAL PIECES W/3-10d NAILS. SEE NOTE ABOVE.

SIDE FILL ASSEMBLY-B
 (FOR 1-HIGH LOAD)

DETAILS

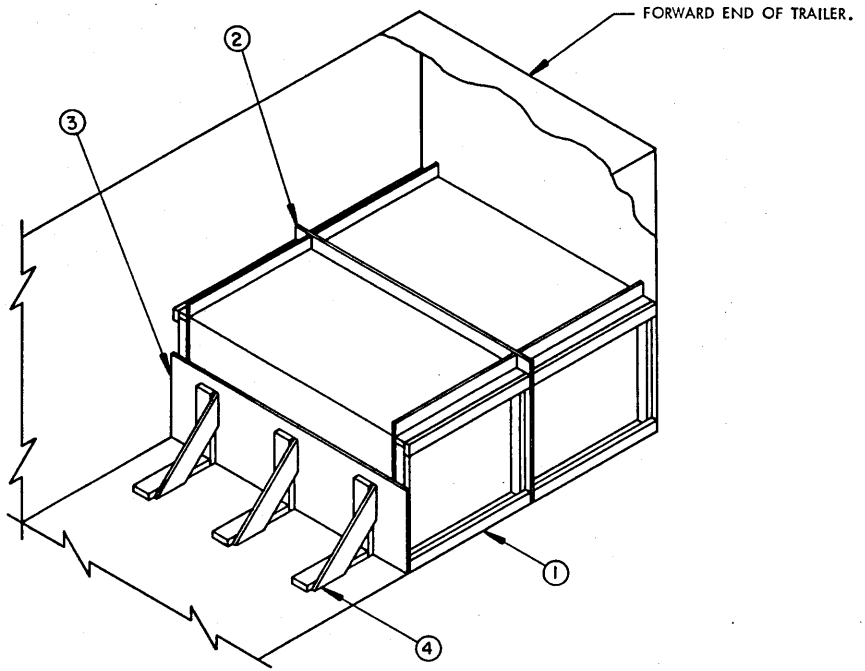


KEY NUMBERS

- ① SIDE FILL ASSEMBLY (10 REQD). SEE THE "SIDE FILL ASSEMBLY-B" DETAIL ON PAGE 12.
- ② SEPARATOR GATE (4 REQD). SEE THE "SEPARATOR GATE-B" DETAIL ON PAGE 11.
- ③ RISER, 2" X 6" BY TRAILER WIDTH MINUS 1/2" IN LENGTH (DOUBLED) (2 REQD). NAIL THE FIRST PIECE TO THE BOTTOM EDGE OF A HEADER, PIECE MARKED ④, W/1-10d NAIL EVERY 12". LAMINATE THE SECOND PIECE TO THE FIRST W/1-10d NAIL EVERY 12". SEE GENERAL NOTE "L" ON PAGE 2.
- ④ HEADER, 2" X 6" BY TRAILER WIDTH MINUS 1/2" IN LENGTH (2 REQD). SEE SPECIAL NOTE 3 AT LEFT.
- ⑤ SIDE STRUT, 2" X 6" BY CUT-TO-FIT BETWEEN FORWARD AND REAR HEADERS, PIECES MARKED ④ (2 REQD). SEE SPECIAL NOTE 4 AT LEFT.
- ⑥ POCKET CLEAT, 2" X 6" X 12" (4 REQD). NAIL TO A SIDE STRUT, PIECE MARKED ⑤, W/3-10d NAILS. TOENAIL TO THE ADJACENT HEADER, PIECE MARKED ④, W/3-12d NAILS.
- ⑦ FILLER PIECE, 2" X 6" X 9" (DOUBLED) (AS REQD). POSITION SO AS TO BE CENTERED UNDER THE JOINT OF THE STRUT BRACE AND THE STRUT BRACE RETAINING CLEAT, PIECES MARKED ⑪ AND ⑫. NAIL TO A SIDE STRUT PIECE MARKED ⑤, W/2-10d NAILS. LAMINATE SECOND PIECE IN A LIKE MANNER.
- ⑧ CENTER CLEAT, 2" X 6" X 24" (1 REQD). NAIL TO THE HEADER, PIECE MARKED ④, W/6-10d NAILS.
- ⑨ DIAGONAL BRACE, 2" X 6" BY CUT-TO-FIT (2 REQD). DOUBLE BEVEL EACH END WITH 45° CUTS. INSTALL AT A 45° ANGLE AS SHOWN AND TOENAIL TO THE ADJACENT HEADER AND SIDE STRUT, PIECES MARKED ④ AND ⑤, W/2-16d NAILS AT EACH END.
- ⑩ SIDE CLEAT, 2" X 6" X 24" (2 REQD). NAIL TO SIDE STRUT, PIECE MARKED ⑤ W/8-10d NAILS.
- ⑪ STRUT BRACE RETAINING CLEAT, 2" X 4" X 12" (AS REQD). NAIL TO A SIDE STRUT, PIECE MARKED ⑤, W/3-10d NAILS.
- ⑫ STRUT BRACE, 2" X 4" BY TRAILER WIDTH MINUS 3" IN LENGTH (MINIMUM OF ONE REQUIRED). INSTALL ONE (1) NEAR THE REAR OF THE TRAILER AS SHOWN. ONE (1) ADDITIONAL PIECE REQUIRED FOR EVERY 7'-0" OF STRUT LENGTH. NAIL TO THE POCKET CLEATS, PIECES MARKED ⑥, AND/OR TO THE STRUT BRACE RETAINING CLEATS, PIECES MARKED ⑪, W/2-12d NAILS AT EACH END.

SPECIAL NOTES:

1. A TYPICAL LTL (5-UNIT LOAD) IS SHOWN IN A 7'-8" WIDE (INSIDE DIMENSION) CONVENTIONAL VAN TRAILER. TRAILERS OF OTHER WIDTHS CAN BE USED.
2. THE TRAILER IS SHOWN HAVING A SQUARE FRONT; HOWEVER, IF THE TRAILER BEING LOADED HAS ROUNDED CORNERS, THE SIDE FILL ASSEMBLY ON EACH SIDE OF THE FIRST STACK MUST BE REDUCED IN LENGTH TO COMPENSATE FOR THE RADIUS OF THE ROUNDED CORNERS.
3. THE "K-BRACE BLOCKING" SHOWN AS PIECES MARKED ③ THRU ⑫, IS ADEQUATE FOR RETAINING A MAXIMUM LTL LOAD OF 20,000 POUNDS.
4. THE SIDE STRUTS, PIECE MARKED ⑤ MAY NEED TO BE SPLICED. SPLICING CAN BE ACCOMPLISHED BY CENTERING A 2" X 6" X 24" PIECE ON THE JOINT OF THE SIDE STRUTS AND NAILING W/4-10d NAILS AT EACH END. **CAUTION:** A FILLER PIECE, PIECE MARKED ⑦, MUST BE POSITIONED UNDER EACH SPLICE JOINT. IF DESIRED, THE STRUT BRACING, PIECE MARKED ⑫, MAY BE NAILED TO THE SPLICE PIECE IN LIEU OF USING ADDITIONAL STRUT BRACE RETAINING CLEATS, PIECE MARKED ⑪.
5. TRAILERS EQUIPPED WITH ROLL UP TYPE DOORS MAY BE USED; HOWEVER, SPECIAL REAR BLOCKING MUST BE INSTALLED AND THE TRAILER MUST HAVE A NAILABLE FLOOR. SEE THE "REAR-OF-LOAD PROCEDURES" ON PAGE 7 FOR GUIDANCE. NOTE THAT PROCEDURES SHOWN ON PAGE 7 MAY ALSO BE USED IN TRAILERS EQUIPPED WITH HINGED DOORS AND MAY BE USED IN LIEU OF PIECES MARKED ③ THRU ⑫ WHICH APPLY TO TRAILERS HAVING NON-NAILABLE FLOORS.

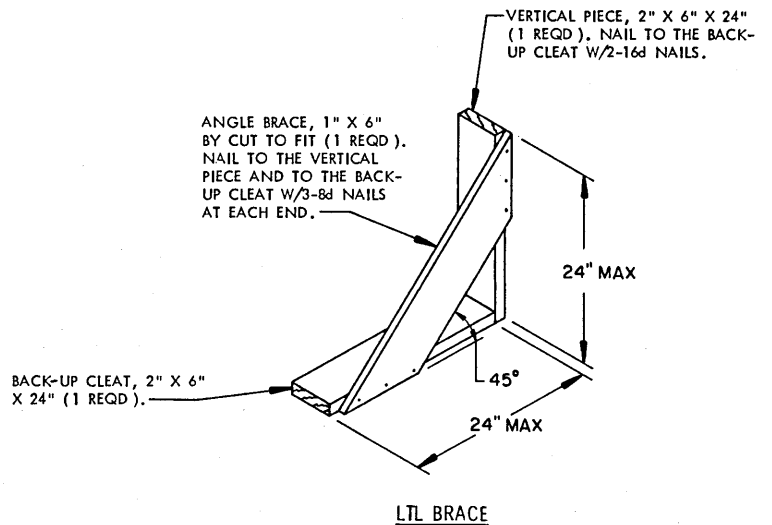


SPECIAL NOTES:

1. A 7'-8" WIDE (INSIDE DIMENSION) VAN TRAILER WHICH HAS A NAILABLE FLOOR IS SHOWN. TRAILERS OF OTHER WIDTHS CAN BE USED.
2. IF THE TRAILER HAS ROUNDED CORNERS AT THE FRONT WALL, THE SIDE FILL ASSEMBLY ON EACH SIDE OF THE FIRST STACK MUST BE REDUCED IN LENGTH TO COMPENSATE FOR THE RADIUS OF THE ROUNDED CORNERS.
3. EACH LTL BRACE AS APPLIED FOR LONGITUDINAL BRACING WILL SUPPORT 2,000 POUNDS OF LADING; HOWEVER, NOT LESS THAN THREE (3) BRACES WILL BE USED ACROSS THE WIDTH OF THE TRAILER. ADDITIONAL BRACES MAY BE INSTALLED FOR THE RETENTION OF A HEAVIER LOAD.

KEY NUMBERS

- ① SIDE FILL ASSEMBLY (4 REQD). SEE THE "SIDE FILL ASSEMBLY-B" DETAIL ON PAGE 12.
- ② SEPARATOR GATE (1 REQD). SEE THE "SEPARATOR GATE-B" DETAIL ON PAGE 11.
- ③ PANEL, PLYWOOD, 1/2" X 28" BY TRAILER WIDTH MINUS 1/2" IN LENGTH (1 REQD).
- ④ LTL BRACE (3 REQD). SEE THE "LTL BRACE" DETAIL BELOW. NAIL TO THE TRAILER FLOOR W/7-16d NAILS.



TYPICAL LTL (2-UNIT LOAD) IN A VAN TRAILER

