

APPROVED BY
 BUREAU OF EXPLOSIVES
A. F. Grossmuck
 MILITARY ASSISTANT
 DATE 8/5/69

LOADING AND BRACING (TL & LTL) IN CLOSED OR OPEN TOP VAN TRAILERS OF SIMULATOR, ATOMIC EXPLOSION, MI42, PACKED IN STEEL DRUM

INDEX

<u>ITEM</u>	<u>PAGE(S)</u>
GENERAL NOTES, AND MATERIAL SPECIFICATIONS-----	2
CONTAINER DETAIL, AND LOADING PATTERN GUIDANCE-----	3
TRAILER EQUIPPED WITH A MECHANICAL LOAD BLOCKING SYSTEM----	4-7
CONVENTIONAL TRAILER-----	8-17

THIS OUTLOADING PROCEDURAL DRAWING INCLUDES PROCEDURES FOR CONVENTIONAL TRAILERS AND FOR TRAILERS WITH MECHANICAL BRACING DEVICES AS APPROVED BY THE BUREAU OF EXPLOSIVES, ASSOCIATION OF AMERICAN RAILROADS.

CAUTION:
 PROCEDURES SHOWN HEREIN FOR MECHANICAL BRACING DEVICE EQUIPPED TRAILERS ARE ONLY APPLICABLE FOR HIGHWAY MOVEMENT.

DO NOT SCALE

DRAFTSMAN <i>LRS</i>	PROJ ENG <i>RHA</i>	APSA <i>PSB</i>	SUBMITTED <i>W.S. Harding, Col</i>
CHECKED <i>JDS</i>	SEC ARMO STR <i>John Lynch</i>		COMMANDING OFFICER, SAVANNAH ARMY DEPOT
REVISIONS			EXAMINED AND APPROVED <i>Paul Klein</i>
			ARMY PROCUREMENT & SUPPLY AGENCY
			APPROVED BY ORDER OF COMMANDING GENERAL U. S. ARMY MATERIEL COMMAND
			<i>Paul Klein</i>
			U. S. ARMY MATERIEL COMMAND
			SEPTEMBER 1969
			CLASS DIVISION DRAWING FILE
			19 48 4087 IIF1000

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. LOADS AS SHOWN ARE FOR CONVENTIONAL AND MECHANICAL BRACING DEVICE EQUIPPED VAN TRAILERS, WITH WOOD, WOOD AND METAL OR METAL FLOORS.
- C. THE "MECHANICAL BRACING PROCEDURES" DEPICTED ON PAGES 4 THROUGH 7 ARE FOR TRAILERS EQUIPPED WITH VARIOUS TYPES OF SELF-CONTAINED MECHANICAL BRACING DEVICES. HOWEVER, CROSS MEMBER ATTACHMENT FACILITIES WITHIN THESE TRAILERS MUST PROVIDE FOR THE INSTALLATION OF LOAD BLOCKING CROSS MEMBERS AT THE HEIGHTS SPECIFIED HEREIN. **CAUTION:** TRAILERS EQUIPPED WITH FACILITIES WHICH DO NOT MEET THE LOCATION REQUIREMENTS MUST NOT BE USED. THE HEIGHT REQUIREMENTS SPECIFIED WITHIN THIS DRAWING FOR INSTALLATION OF CROSS MEMBERS ARE IDENTICAL WITH THOSE RECOMMENDED BY THE BUREAU OF EXPLOSIVES PAMPHLET 6C AND APPENDICES THERETO.
1. VOIDS LENGTHWISE WITHIN A LOAD MUST BE HELD TO A MINIMUM. CROSS MEMBERS MUST BE PLACED AGAINST THE LADING AS TIGHTLY AS THE HOLE SPACING IN THE CROSS MEMBER ATTACHMENT FACILITY PERMITS. EACH CROSS MEMBER WILL BE INSTALLED WITH THE ENDS ATTACHED AS NEARLY AS POSSIBLE IN "MATED" POSITIONS (AT EQUAL HEIGHTS, AND AT EQUAL DISTANCES FROM THE END OF THE TRAILER).
 2. CROSS MEMBERS IN EMPTY TRAILERS AND THOSE NOT USED IN LOADED TRAILERS MUST BE SECURED FOR SHIPMENT. COMPONENTS ASSIGNED TO EACH TRAILER MUST REMAIN THEREWITH EVEN THOUGH UNUSED DURING SOME SHIPMENTS.
- D. THE OUTLOADING PROCEDURES SPECIFIED HEREIN CAN ALSO BE USED FOR THE SHIPMENT OF THE DEPICTED DRUMS WHEN THEY ARE EMPTY, OR LOADED WITH ITEMS OTHER THAN THE SIMULATOR, ATOMIC EXPLOSION, M142.
- E. FOR DETAILS OF STEEL DRUM SEE DRAWING NO. 8364243.
DIMENSIONS ----- 35-3/16" HIGH BY 23-5/8" DIAMETER.
GROSS WEIGHT ----- 201 POUNDS (APPROX).
CUBE ----- 8.92 FEET.
- F. GROSS WEIGHT AND AXLE DISTRIBUTION OF WEIGHT WILL BE THE RESPONSIBILITY OF THE CARRIER. THE CARRIER WILL ADVISE THE SHIPPER OF THE APPLICABLE LOADING REQUIREMENTS AND THE SHIPPER WILL LOAD ACCORDINGLY.
- G. **NOTICE:** A SHIPMENT WILL BE POSITIONED IN THE TRAILER CONSISTENT WITH STATE WEIGHT LAWS. THE APPROVED METHODS FOR THE LOAD SPECIFIED HEREIN MUST BE FOLLOWED. THE NUMBER OF CONTAINERS MAY BE ADJUSTED TO FIT THE SIZE OF THE TRAILER TO BE LOADED OR THE QUANTITY TO BE SHIPPED. FOR A LOAD QUANTITY OTHER THAN SPECIFIED, THE APPROVED METHODS FOR BLOCKING, BRACING, AND STAYING MUST BE FOLLOWED AS CLOSELY AS POSSIBLE.
- H. OTHER TYPES OF LADING ITEMS MAY BE LOADED IN A TRAILER WHICH IS 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.
- J. 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.
- K. FOR CONVENTIONAL TRAILERS NOT EQUIPPED WITH REAR CORNER POSTS, REAR BLOCKING MUST BE EXTENDED TO CONTACT THE REAR DOORS WHEN THEY ARE CLOSED.
- L. **CAUTION:** DO NOT NAIL BLOCKING SHOWN HEREIN TO THE TRAILER WALLS. ALL NAILING WILL BE WITHIN THE DUNNAGE.

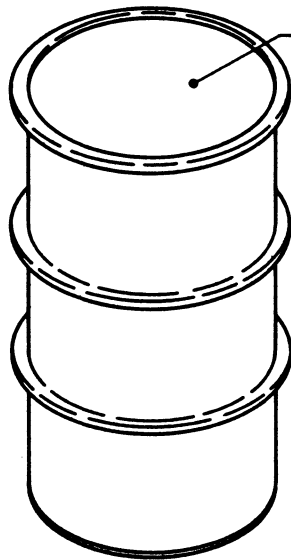
(CONTINUED AT THE RIGHT)

(GENERAL NOTES CONTINUED)

- M. DUNNAGE LUMBER SPECIFIED THROUGHOUT THIS PROCEDURAL DRAWING IS OF NOMINAL SIZE. FOR EXAMPLE, 2" X 4" MATERIAL IS ACTUALLY 1-5/8" THICK BY 3-5/8" WIDE AND 2" X 6" MATERIAL IS ACTUALLY 1-5/8" THICK BY 5-5/8" WIDE.
- N. PORTIONS OF THE SEMITRAILER BODIES DEPICTED WITHIN THIS PROCEDURAL DRAWING, SUCH AS ONE OF THE SIDE WALLS, HAVE NOT BEEN SHOWN IN THE LOAD VIEWS FOR CLARITY PURPOSES.
- O. **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 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.

MATERIAL SPECIFICATIONS

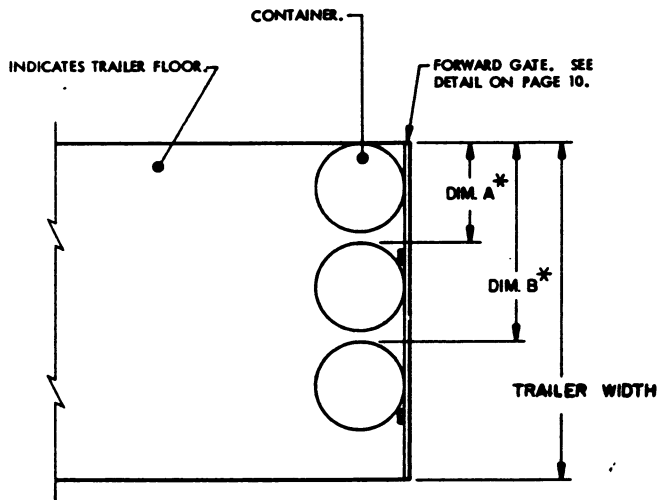
- LUMBER -----: DUNNAGE LUMBER, TM 743-200-1, FED SPEC MM-L-751.
- NAILS -----: COMMON, CEMENT COATED OR CHEMICALLY ETCHED,
FED SPEC FF-N-105.
ALT: ANNULAR-RING TYPE NAIL OF THE SAME SIZE.
- STRAPPING, STEEL: TYPE I OR IV, CLASS A OR B, FED SPEC QQ-S-781.
- STRAP SEAL -----: COMMERCIAL GRADE.
- WIRE -----: FED SPEC QQ-W-461.



DRUM, STEEL, 55 GALLON, TYPE III,
FED SPEC PPP-D-789 TOP OPENING.

CONTAINER DETAIL

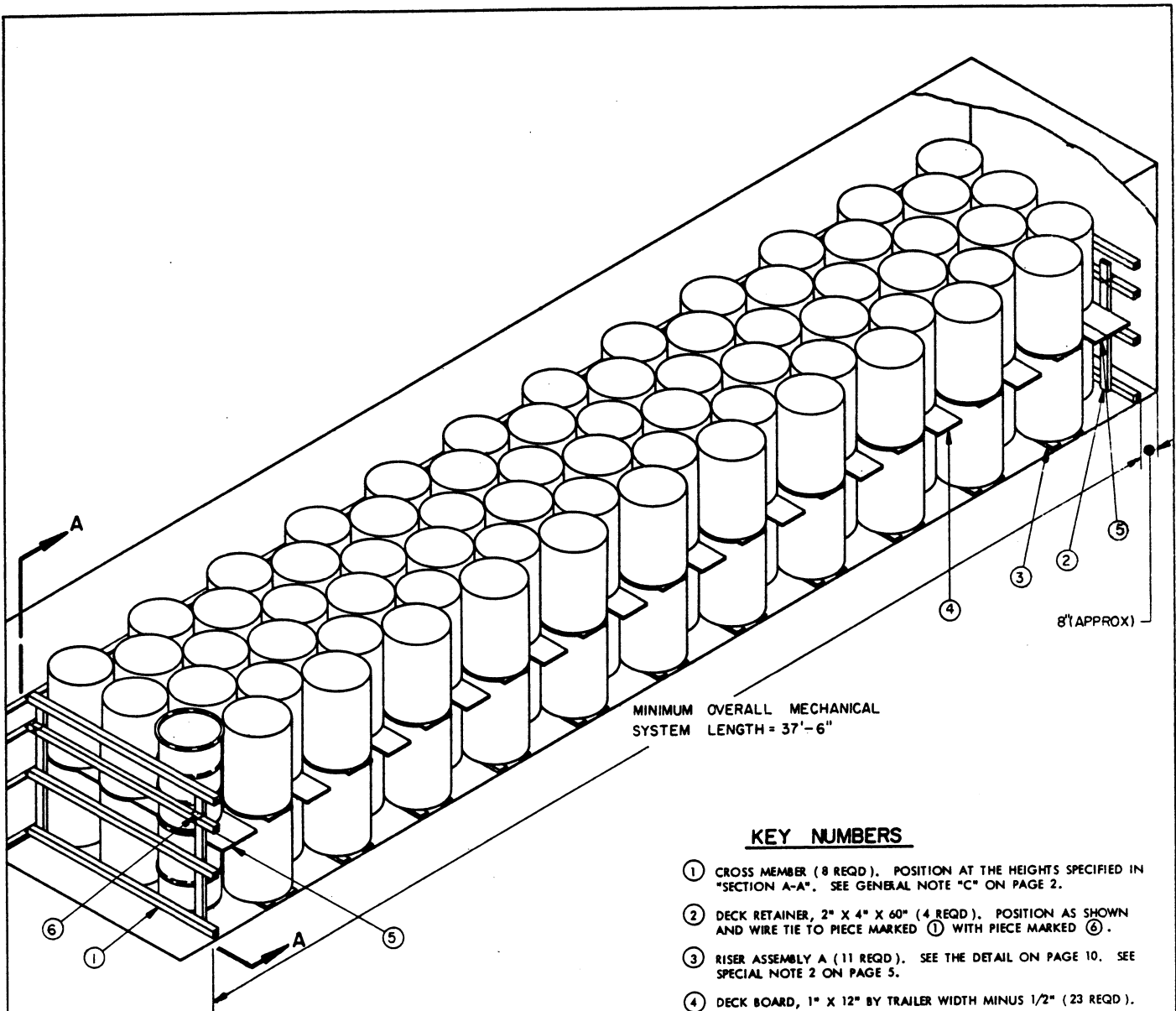
DIMENSIONS - 35-3/16" HIGH BY 23-5/8" DIAMETER



CONTAINER PLACEMENT CHART		
TRAILER WIDTH	DIMENSIONS *	
	A	B
90"	26-1/2"	53"
91"	26-7/8"	53-7/8"
92"	27-3/8"	54-5/8"
93"	27-3/4"	55-1/4"

* DIMENSION A AND B ARE MEASURED FROM TRAILER SIDE WALL TO CONTAINER COVER.

LOADING PATTERN GUIDANCE



MINIMUM OVERALL MECHANICAL SYSTEM LENGTH = 37'-6"

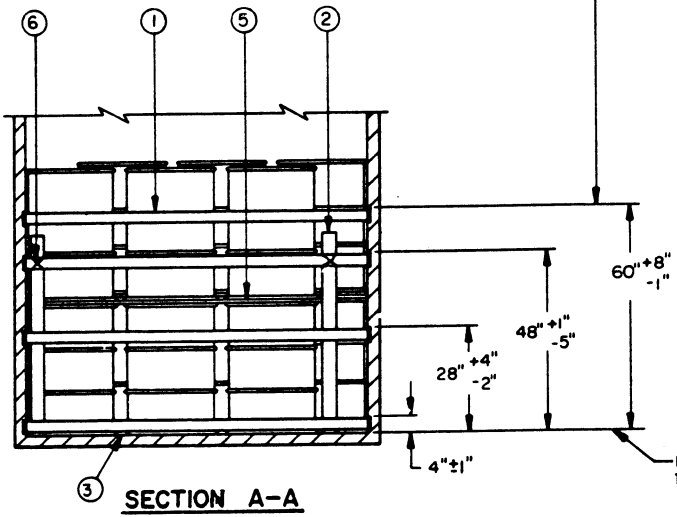
8'(APPROX)

KEY NUMBERS

- ① CROSS MEMBER (8 REQD). POSITION AT THE HEIGHTS SPECIFIED IN "SECTION A-A". SEE GENERAL NOTE "C" ON PAGE 2.
- ② DECK RETAINER, 2" X 4" X 60" (4 REQD). POSITION AS SHOWN AND WIRE TIE TO PIECE MARKED ① WITH PIECE MARKED ⑥.
- ③ RISER ASSEMBLY A (11 REQD). SEE THE DETAIL ON PAGE 10. SEE SPECIAL NOTE 2 ON PAGE 5.
- ④ DECK BOARD, 1" X 12" BY TRAILER WIDTH MINUS 1/2" (23 REQD).
- ⑤ DECK BOARD, 1" X 6" BY TRAILER WIDTH MINUS 1/2" (2 REQD).
- ⑥ TIE WIRE, NO. 14 GAGE BLACK ANNEALED WIRE 72" LONG (4 REQD). USE TO SECURE PIECE MARKED ② TO PIECE MARKED ①. SEE SPECIAL NOTE 3 ON PAGE 5.

ISOMETRIC VIEW

THESE DIMENSIONED HEIGHTS SPECIFY THE DISTANCE THE TOP SURFACE OF A CROSS MEMBER IS TO BE ABOVE THE TRAILER FLOOR.



SECTION A-A

INDICATES THE TRAILER FLOOR.

SPECIAL NOTES:

1. A 138-DRUM LOAD IS SHOWN IN A 40'-0" LONG TRAILER WHICH IS EQUIPPED WITH A MECHANICAL LOAD BLOCKING SYSTEM.
2. A RISER IS REQUIRED UNDER ALTERNATE STACKS TO PROVIDE PROPER NESTING OF DRUMS AND TO MAINTAIN A TIGHT LOAD.
3. IF 14 GAGE BLACK ANNEALED WIRE IS NOT AVAILABLE, USE NO. 8 GAGE.

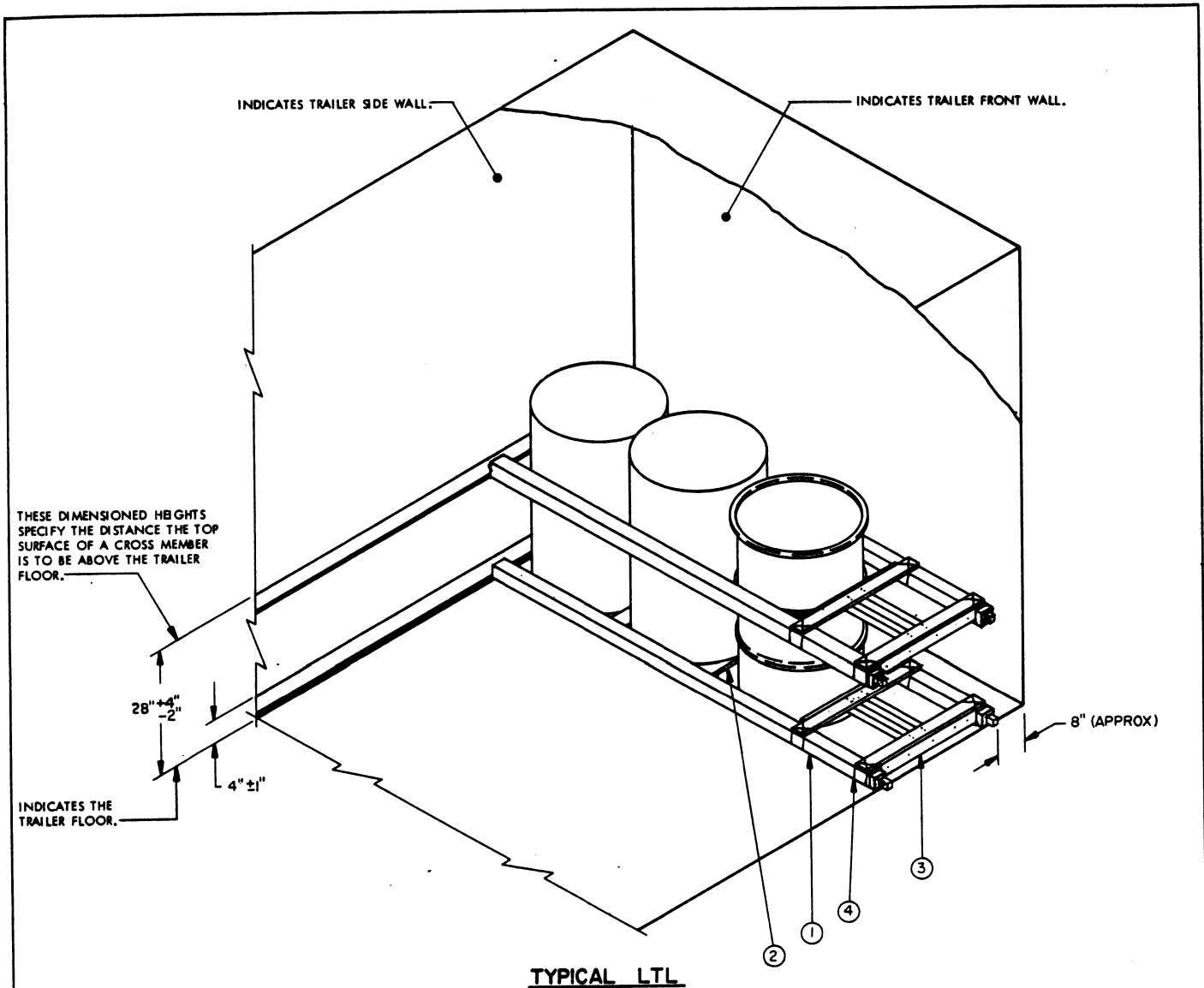
BILL OF MATERIAL

LUMBER	LINEAR FEET	BOARD FEET
1" X 6"	15	8
1" X 12"	173	173
2" X 2"	14	5
2" X 4"	199	133
NAILS	NO. REQD	POUNDS
10d (3")	110	1-3/4
WIRE, NO. 14 GAGE ----- 24' REQD ----- NIL		

LOAD AS SHOWN

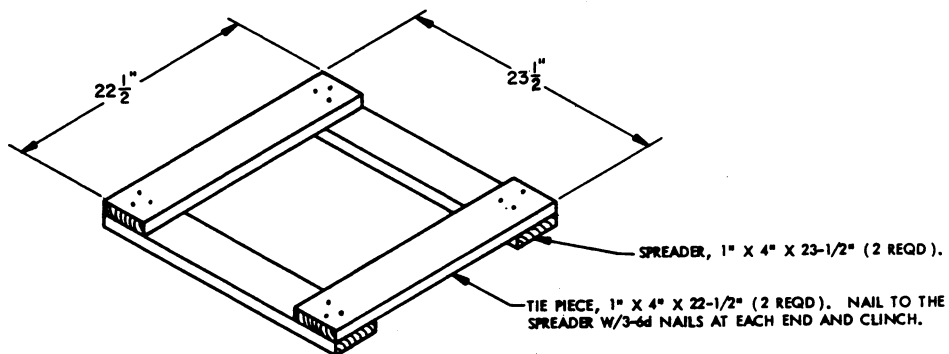
ITEM	QUANTITY	WEIGHT (APPROX)
DRUM -----	138 -----	27,738 LBS
DUNNAGE -----		800 LBS
TOTAL WEIGHT -----		28,538 LBS

TRAILER EQUIPPED WITH A MECHANICAL LOAD BLOCKING SYSTEM

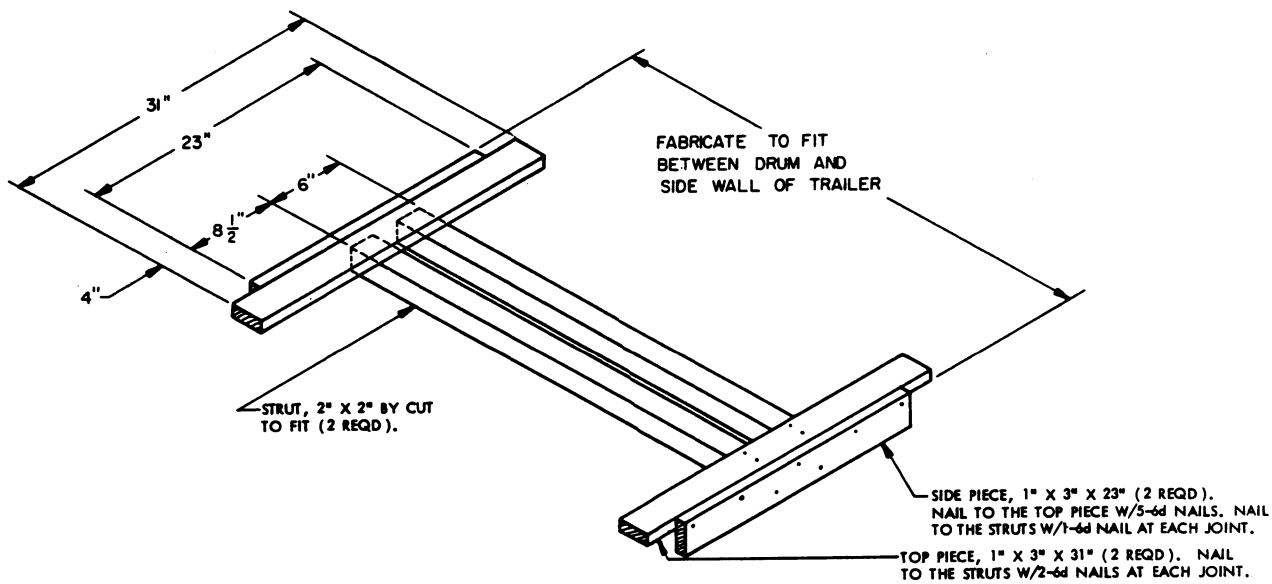


KEY NUMBERS

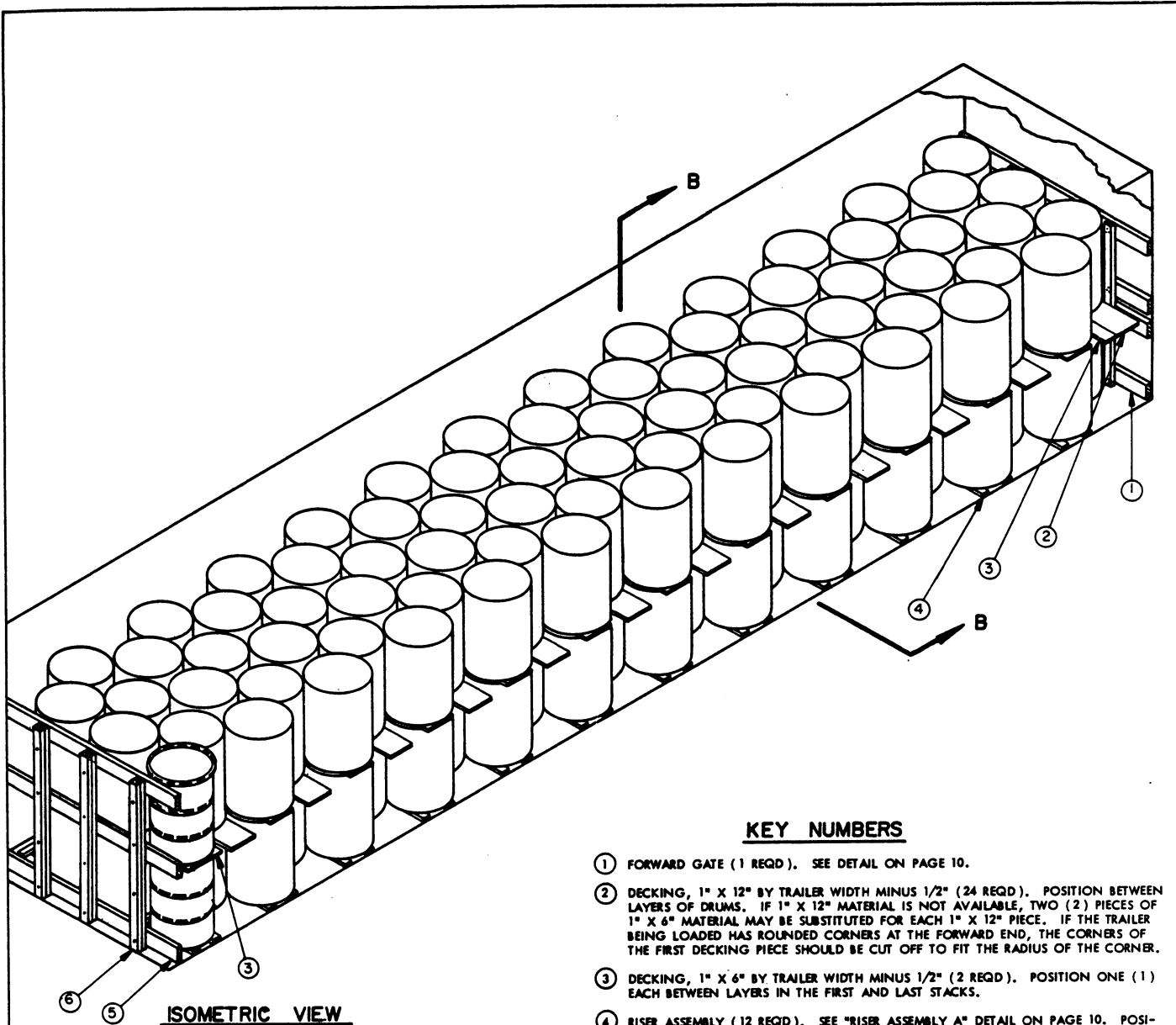
- ① CROSS MEMBER (4 REQD). POSITION AT THE HEIGHTS SPECIFIED. SEE GENERAL NOTE "C" ON PAGE 2.
- ② RISER ASSEMBLY 8 (1 REQD). SEE THE DETAIL ON PAGE 7. POSITION UNDER THE CENTER CONTAINER AS SHOWN.
- ③ SIDE BLOCKING ASSEMBLY (2 REQD). SEE THE DETAIL ON PAGE 7.
- ④ TIE WIRE, NO. 14 GAGE BLACK ANNEALED WIRE 72" LONG (8 REQD). USE TO SECURE PIECE MARKED ③ TO PIECE MARKED ①. SEE SPECIAL NOTE 3 ON PAGE 5.



RISER ASSEMBLY B



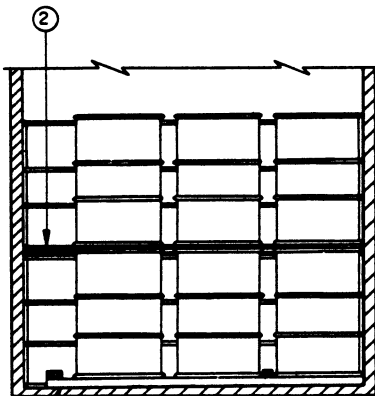
SIDE BLOCKING ASSEMBLY



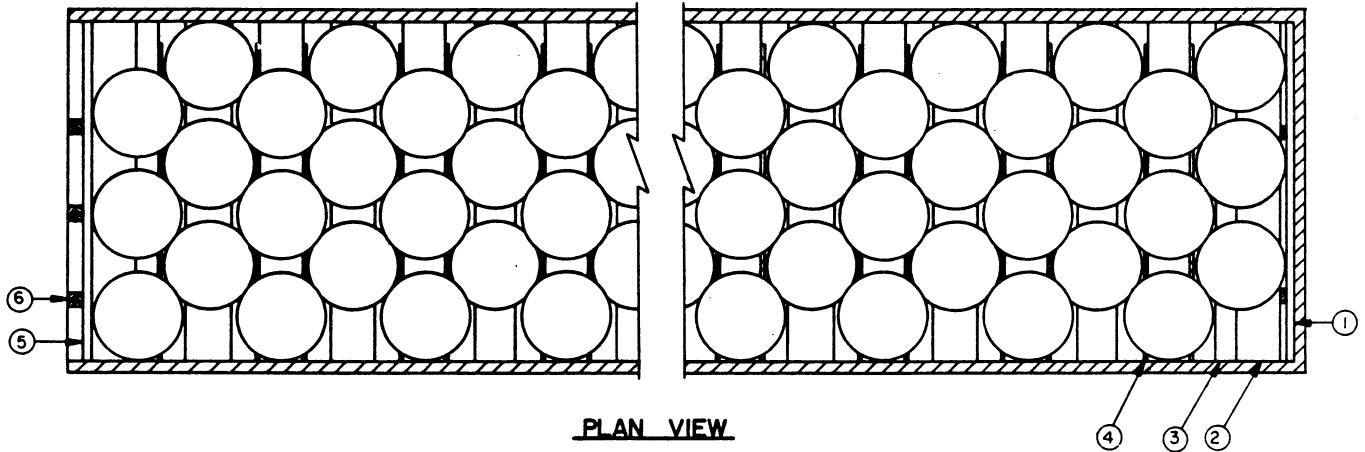
ISOMETRIC VIEW

KEY NUMBERS

- ① FORWARD GATE (1 REQD). SEE DETAIL ON PAGE 10.
- ② DECKING, 1" X 12" BY TRAILER WIDTH MINUS 1/2" (24 REQD). POSITION BETWEEN LAYERS OF DRUMS. IF 1" X 12" MATERIAL IS NOT AVAILABLE, TWO (2) PIECES OF 1" X 6" MATERIAL MAY BE SUBSTITUTED FOR EACH 1" X 12" PIECE. IF THE TRAILER BEING LOADED HAS ROUNDED CORNERS AT THE FORWARD END, THE CORNERS OF THE FIRST DECKING PIECE SHOULD BE CUT OFF TO FIT THE RADIUS OF THE CORNER.
- ③ DECKING, 1" X 6" BY TRAILER WIDTH MINUS 1/2" (2 REQD). POSITION ONE (1) EACH BETWEEN LAYERS IN THE FIRST AND LAST STACKS.
- ④ RISER ASSEMBLY (12 REQD). SEE "RISER ASSEMBLY A" DETAIL ON PAGE 10. POSITION UNDER ALTERNATE STACKS.
- ⑤ REAR GATE (1 REQD). SEE DETAIL ON PAGE 11.
- ⑥ SOLID FILL, 4" WIDE X 72" LONG BY THE THICKNESS REQUIRED TO CONTACT THE REAR DOORS OF THE TRAILER WHEN THEY ARE CLOSED. LAMINATE TO VERTICAL PIECE OF REAR GATE MARKED ⑤ W/4-10d NAILS. SEE SPECIAL NOTE 4 ON PAGE 9.



SECTION B-B



PLAN VIEW

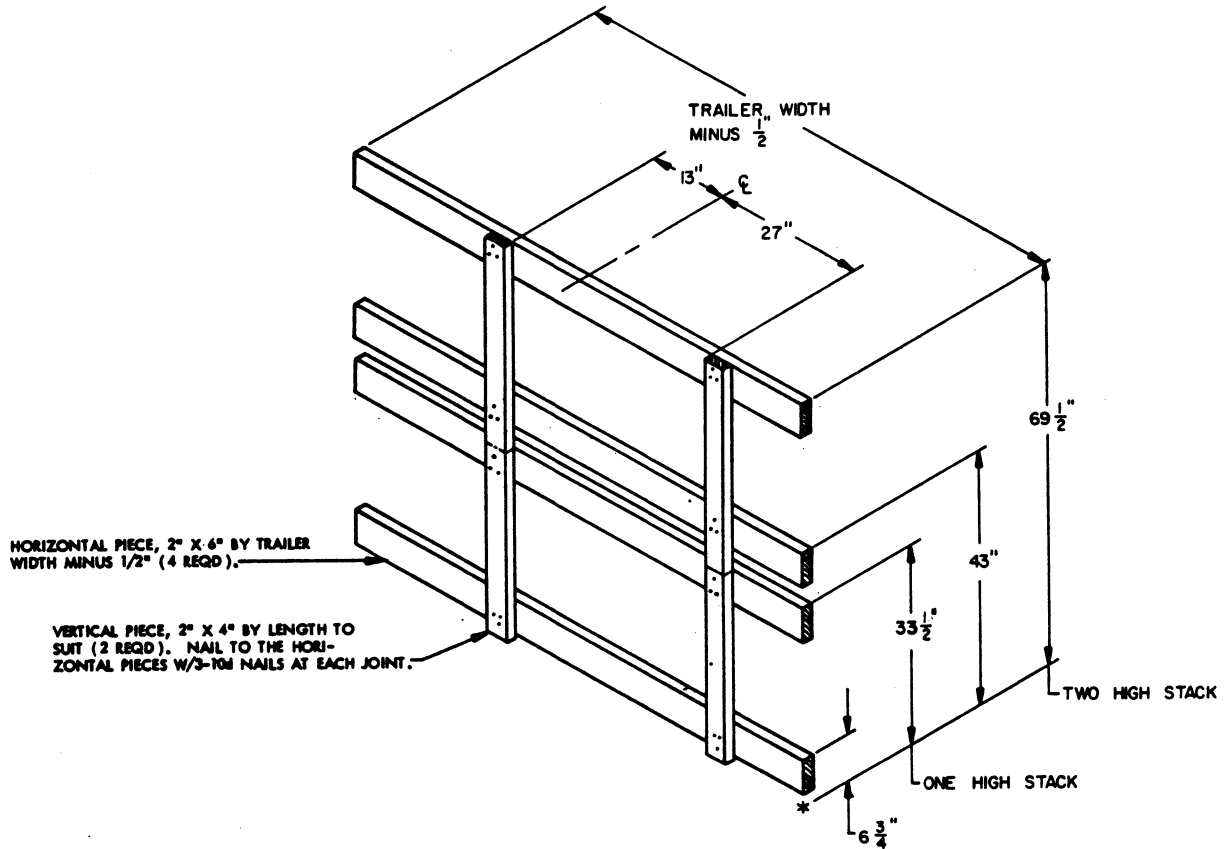
SPECIAL NOTES:

1. A 144-DRUM LOAD IS SHOWN IN A 40'-0" LONG TRAILER.
2. A RISER IS REQUIRED UNDER ALTERNATE STACKS TO PROVIDE PROPER NESTING OF DRUMS AND TO MAINTAIN A TIGHT LOAD.
3. IF THE TRAILER BEING LOADED HAS A ROUND FRONT, USE THE "FORWARD BLOCKING ASSEMBLY" ON PAGE 17.
4. SOMETIMES IT IS ADVANTAGEOUS TO USE A TWO-LAYER LOADING PATTERN THROUGHOUT THE LOAD EVEN THOUGH THE EXCESS SPACE BETWEEN THE REAR OF THE LADING AND THE TRAILER DOORS WHEN CLOSED MEASURES 16" OR MORE DUE TO THE NUMBER OF DRUMS BEING SHIPPED AND/OR THE LENGTH OF THE TRAILER BEING USED. FOR LOADS SUCH AS THIS, IN LIEU OF A "SOLID FILL" TYPE BLOCKING AS SHOWN, USE A "STRUT TYPE" OF REAR BLOCKING, SHOWN AS PICES MARKED (8) THRU (12) IN THE LOAD ON PAGE 12.

BILL OF MATERIAL		
LUMBER	LINEAR FEET	BOARD FEET
1" X 6"	15	8
1" X 12"	180	180
2" X 2"	15	5
2" X 4"	224	150
2" X 6"	53	53
NAILS	NO. REQD	POUNDS
10d (3")	174	2-3/4

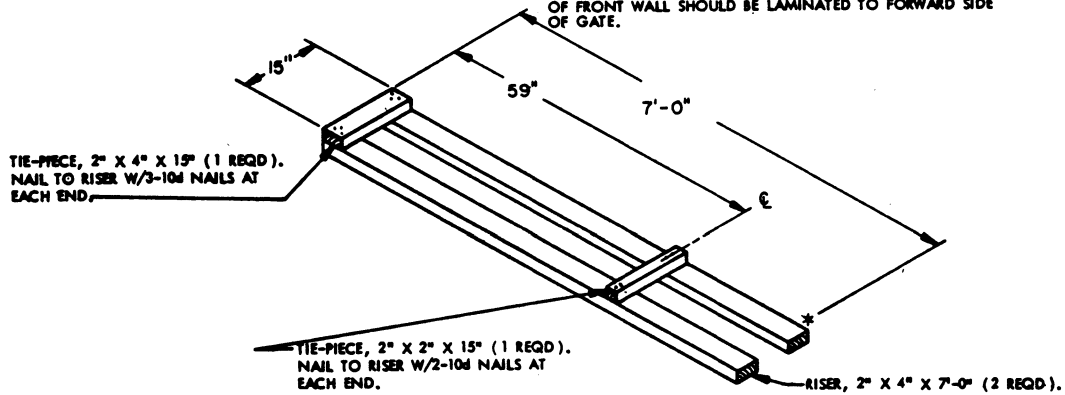
LOAD AS SHOWN

ITEM	QUANTITY	WEIGHT (APPROX)
DRUM	144	28,944 LBS
DUNNAGE		990 LBS
TOTAL WEIGHT		29,934 LBS

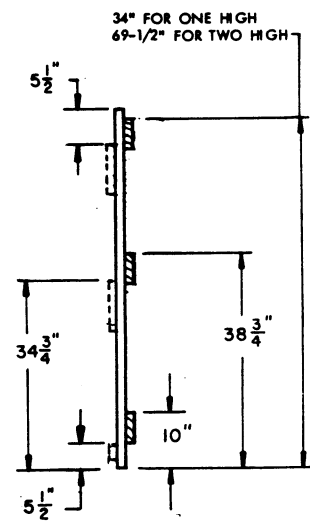
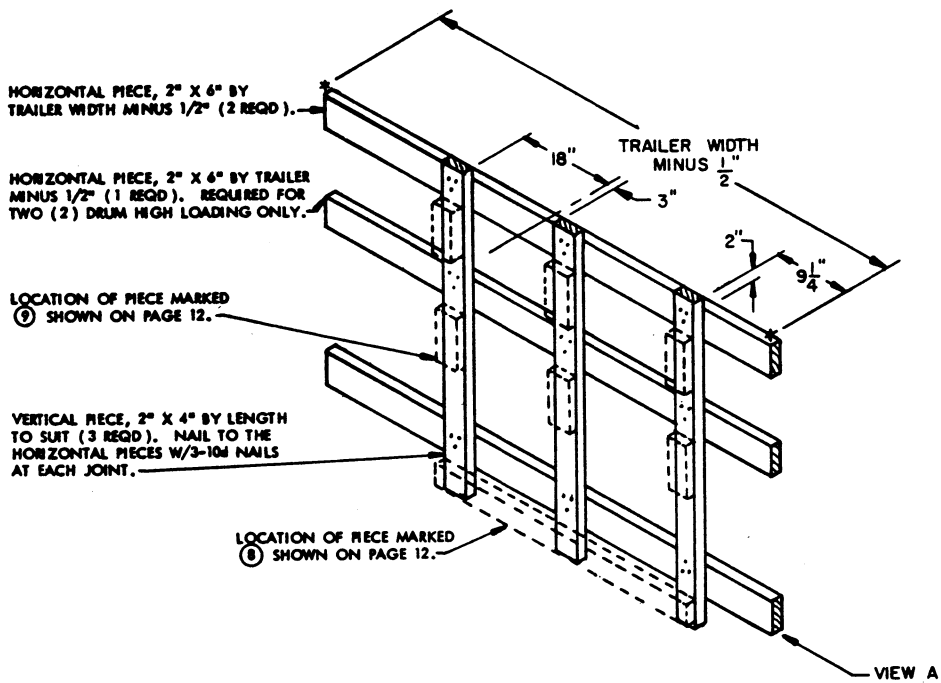


FORWARD GATE

FOR A ROUNDED-CORNER TRAILER THE WIDTH OF THE GATE SHOULD BE CUT TO CONTACT THE SQUARE PORTION OF THE TRAILER FRONT WALL. IF CORNER RADIUS IS GREATER THAN 9", HORIZONTAL PIECES SHOULD BE TRAILER WIDTH MINUS 6" IN LENGTH, AND A FILLER PIECE OF A LENGTH TO CONTACT THE "SQUARE" PORTION OF FRONT WALL SHOULD BE LAMINATED TO FORWARD SIDE OF GATE.

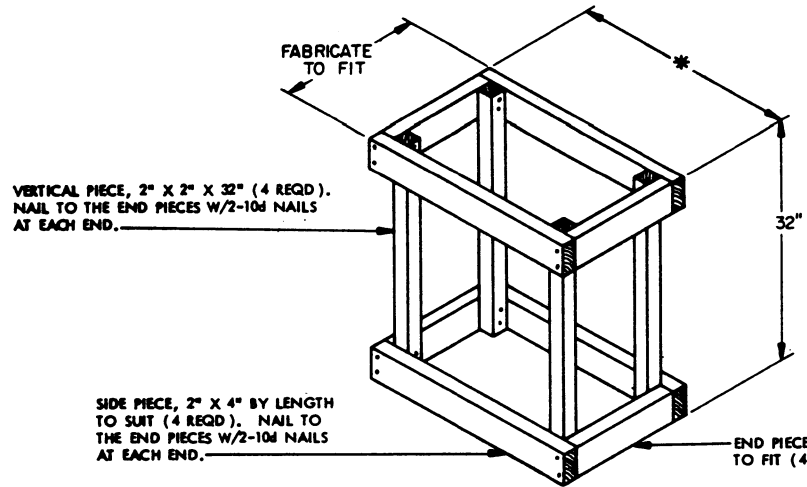


RISER ASSEMBLY A



REAR GATE

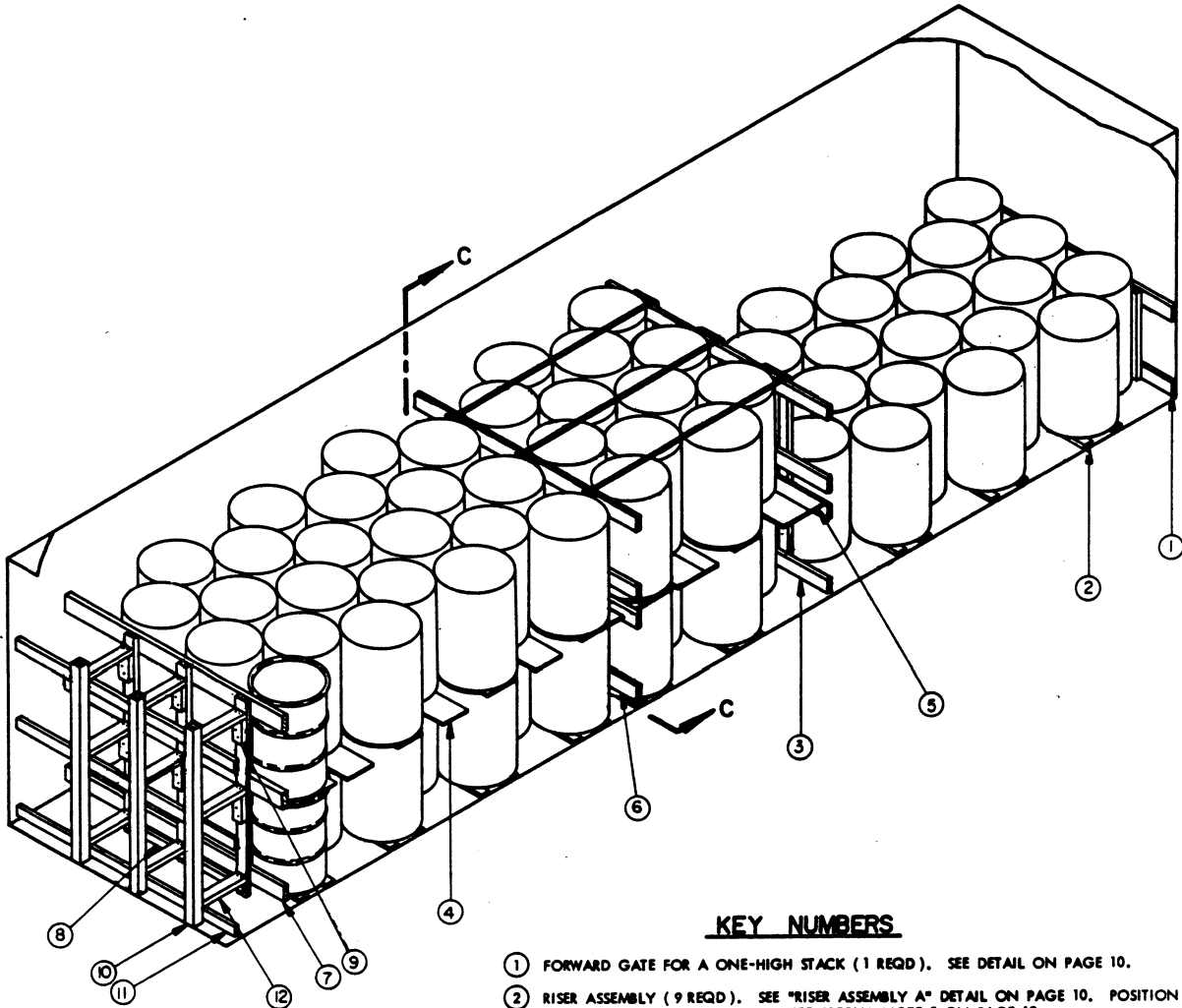
FOR A LOAD CONTAINING AN UNEVEN NUMBER OF STACKS, CONSTRUCT THE GATE ABOVE WITH THE VERTICAL PIECES AT THE OPPOSITE END OF THE HORIZONTAL PIECE (OPPOSITE HAND).



- * 29-1/4" FOR A 90" WIDE VAN
- 30" FOR A 91" WIDE VAN
- 30-3/4" FOR A 92" WIDE VAN
- 31-1/2" FOR A 93" WIDE VAN

FILLER ASSEMBLY

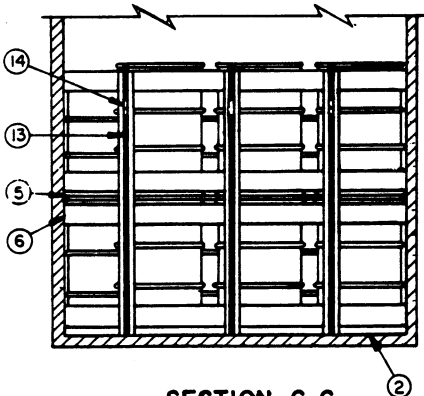
REQUIRED TO FILL A VOID WHERE A DRUM IS OMITTED. AN ASSEMBLY IS TO BE INSTALLED IN THE TOP LAYER OF A LOAD AND IN THE MIDDLE INDIVIDUAL DRUM STACK OF A 6-DRUM STACK SO THERE WILL BE A DRUM ADJACENT TO EACH END OF THE ASSEMBLY. DO NOT POSITION NEXT TO A FORWARD OR REAR GATE, OR NEXT TO CROSS MEMBERS. IF MORE THAN ONE ASSEMBLY IS REQUIRED TO OBTAIN THE QUANTITY TO BE SHIPPED, THEY MUST NOT BE INSTALLED IN ADJACENT 6-DRUM STACKS.



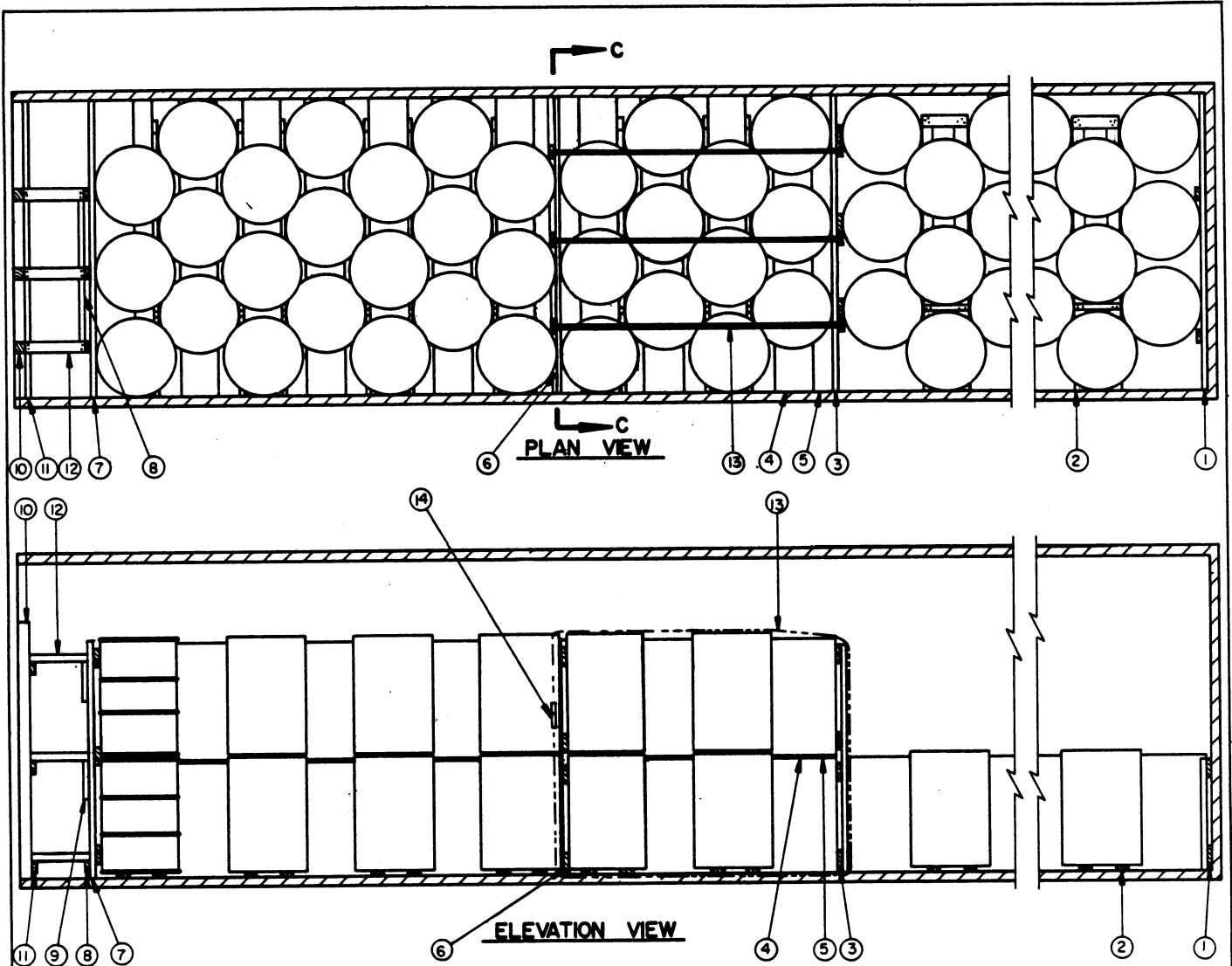
ISOMETRIC VIEW

KEY NUMBERS

- ① FORWARD GATE FOR A ONE-HIGH STACK (1 REQD). SEE DETAIL ON PAGE 10.
- ② RISER ASSEMBLY (9 REQD). SEE "RISER ASSEMBLY A" DETAIL ON PAGE 10. POSITION UNDER ALTERNATE STACKS AS SHOWN. SEE SPECIAL NOTE 2 ON PAGE 13.
- ③ INTERMEDIATE GATE A (1 REQD). SEE DETAIL ON PAGE 14.
- ④ DECKING, 1" X 12" BY TRAILER WIDTH MINUS 1/2" (11 REQD). POSITION BETWEEN LAYERS OF DRUMS. IF 1" X 12" MATERIAL IS NOT AVAILABLE, TWO (2) PIECES OF 1" X 6" MATERIAL MAY BE SUBSTITUTED FOR EACH 1" X 12" PIECE.
- ⑤ DECKING, 1" X 6" BY TRAILER WIDTH MINUS 1/2" (4 REQD). POSITION ONE (1) EACH BETWEEN LAYERS IN THE FIRST AND LAST STACKS OF THE "STRAPPED" AND THE LOOSE PORTIONS OF THE LOAD.
- ⑥ INTERMEDIATE GATE B (1 REQD). SEE DETAIL ON PAGE 14.
- ⑦ REAR GATE (1 REQD). SEE DETAIL ON PAGE 11.
- ⑧ STRUT LEDGER, 2" X 4" X 60" (1 REQD). NAIL TO VERTICAL PIECES OF REAR GATE MARKED ⑦ W/3-10d NAILS AT EACH JOINT. SEE "REAR GATE" DETAIL ON PAGE 11 FOR LOCATING DIMENSION.
- ⑨ STRUT SUPPORT PIECE, 2" X 4" X 9" (6 REQD). NAIL TO VERTICAL PIECE OF REAR GATE MARKED ⑦ W/3-10d NAILS. SEE "REAR GATE" DETAIL ON PAGE 11 FOR LOCATING DIMENSION.
- ⑩ STRUT BEARING PIECE, 4" X 4" X 6'-6" (3 REQD). ALIGN WITH VERTICAL PIECES OF REAR GATE MARKED ⑦.
- ⑪ STRUT LEDGER AND ALIGNING PIECE, 2" X 4" BY TRAILER WIDTH (CUT TO FIT) (3 REQD). NAIL TO STRUT BEARING PIECE MARKED ⑩ W/3-10d NAILS AT EACH JOINT.
- ⑫ STRUT, 2" X 4" BY CUT TO FIT (9 REQD). TOENAIL TO VERTICAL PIECE OF REAR GATE MARKED ⑦ AND TO STRUT BEARING PIECE MARKED ⑩ W/2-12d NAILS AT EACH END. SEE SPECIAL NOTES 3 AND 4 ON PAGE 13.
- ⑬ STEEL STRAPPING, 1-1/4" X .035" X 28'-0" (3 REQD). PRE-POSITION. SEE GENERAL NOTE "J" ON PAGE 2.
- ⑭ SEAL FOR 1-1/4" STRAPPING (6 REQD).



SECTION C-C



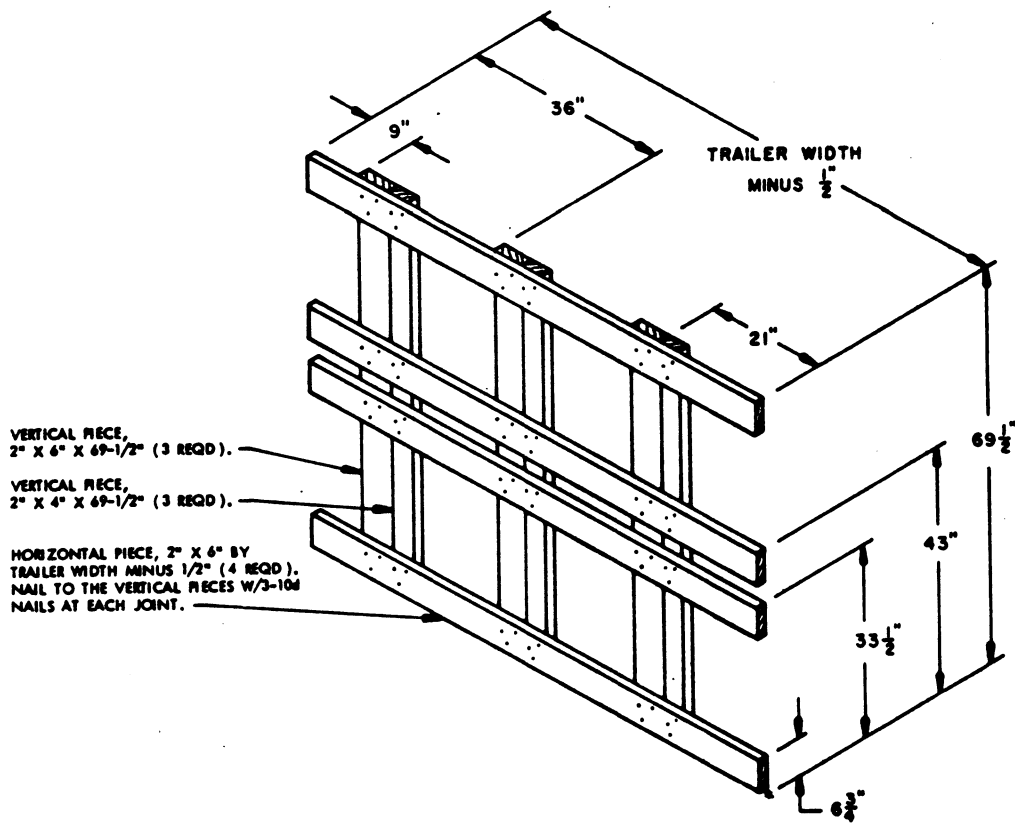
SPECIAL NOTES

1. AN 87-DRUM LOAD IS SHOWN IN A 33'-0" LONG TRAILER AS A TYPICAL LOAD.
2. A RISER IS REQUIRED UNDER ALTERNATE STACKS TO PROVIDE PROPER NESTING OF DRUMS AND TO MAINTAIN A TIGHT LOAD.
3. IF THE EXCESS SPACE AT THE REAR OF THE TRAILER IS LESS THAN 12", USE SOLID FILL AS SHOWN IN THE LOAD ON PAGE 8 IN LIEU OF PIECES MARKED ⑧ THRU ⑫.
4. IF THE EXCESS SPACE AT THE REAR OF THE TRAILER IS GREATER THAN 54", SEE "STRUT BRACING" DETAIL ON PAGE 18 FOR SPECIFICATIONS WHICH MUST BE USED.
5. THE USE OF "INTERMEDIATE GATES A AND B, STEEL STRAPPING, AND SEALS ARE SPECIFIED FOR THE DEPICTED LOAD ONLY TO SHOW A TYPICAL APPLICATION. THE GATES AND STRAPPING MAY BE USED IN THE LOAD AS REQUIRED TO ADJUST THE LOADING PATTERN FOR THE NUMBER OF DRUMS TO BE SHIPPED. IF TWO COMPLETE LAYERS ARE TO BE SHIPPED, DELETE THE INTERMEDIATE GATES, STRAPPING, AND SEALS.

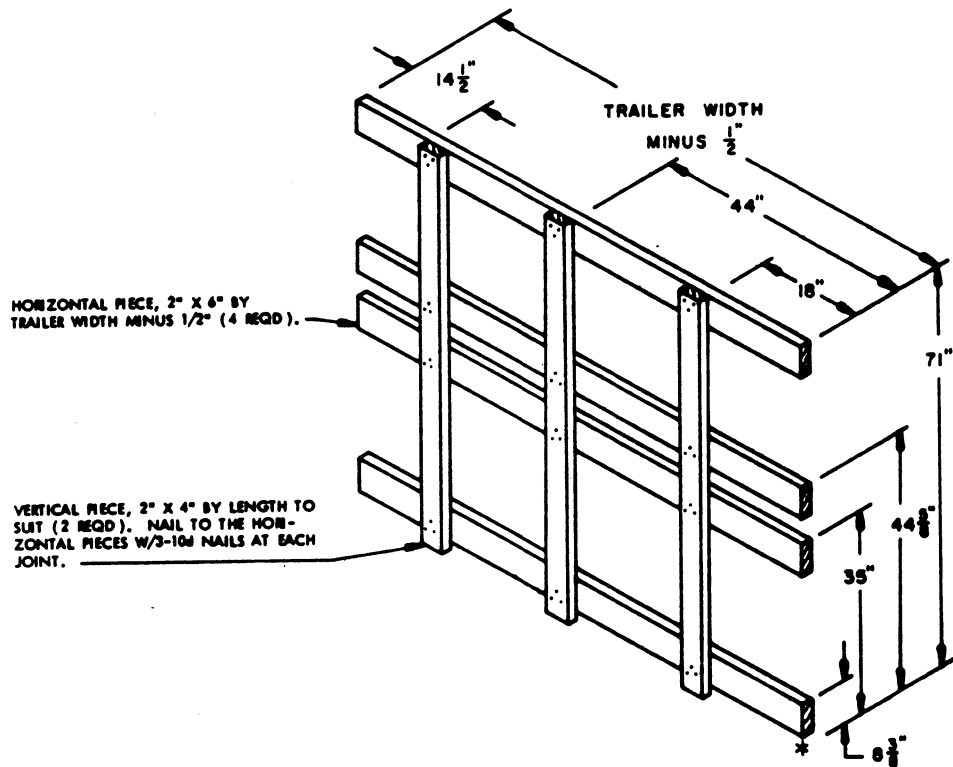
BILL OF MATERIAL		
LUMBER	LINEAR FEET	BOARD FEET
1" X 6"	30	15
1" X 12"	83	83
2" X 2"	11	4
2" X 4"	249	166
2" X 6"	105	105
4" X 4"	20	27
NAILS	NO. REQD	POUNDS
10d (3")	300	4-3/4
12d (3-1/4")	36	3/4
STEEL STRAPPING, 1-1/4" X .033"		84' REQD ----- 12 LBS
SEAL FOR 1-1/4" STRAPPING		6 REQD ----- NIL

LOAD AS SHOWN

ITEM	QUANTITY	WEIGHT (APPROX)
DRUM	87	17,487 LBS
DUNNAGE		1,018 LBS
TOTAL WEIGHT		18,505 LBS

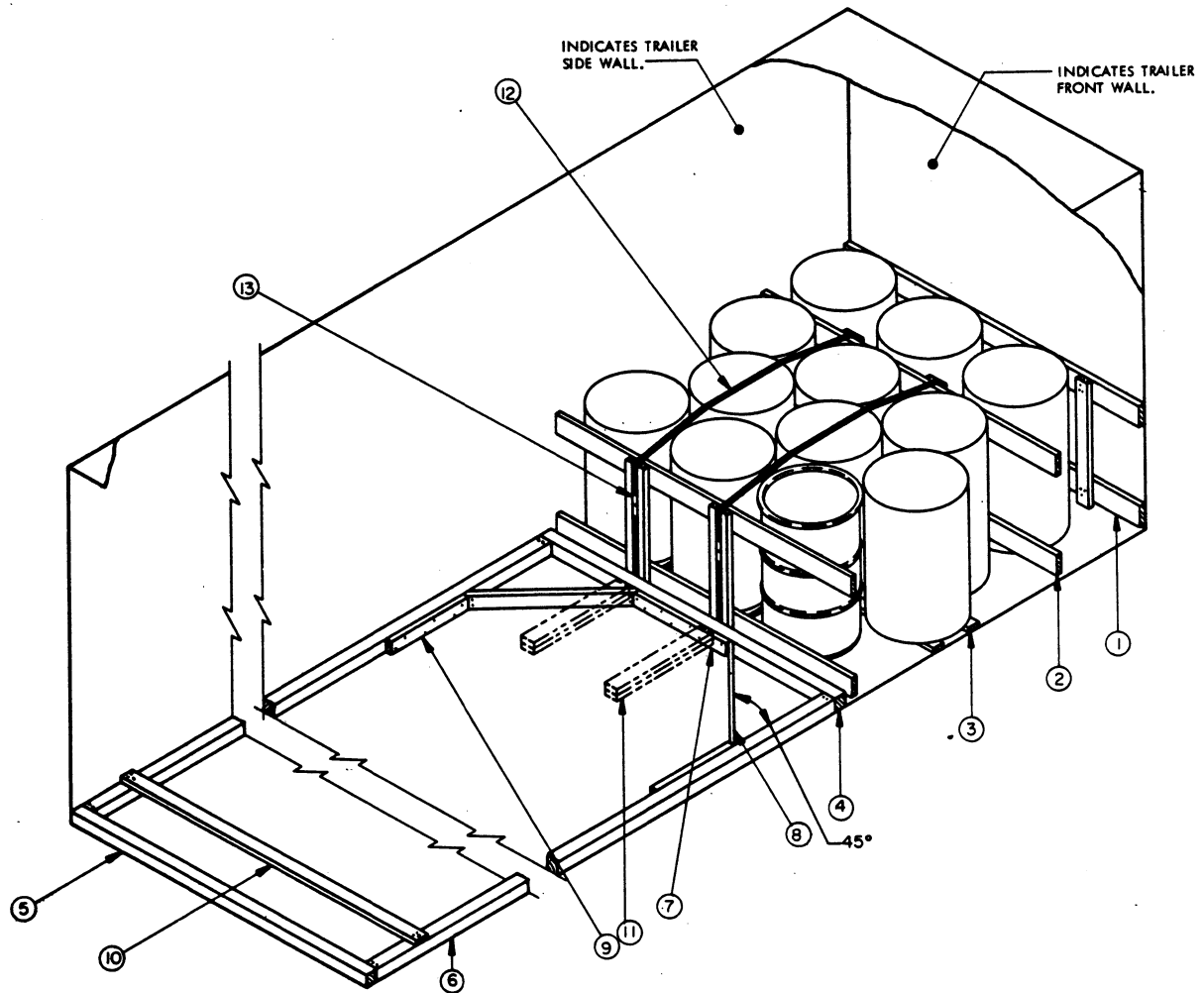


INTERMEDIATE GATE A



INTERMEDIATE GATE B

CONVENTIONAL TRAILER



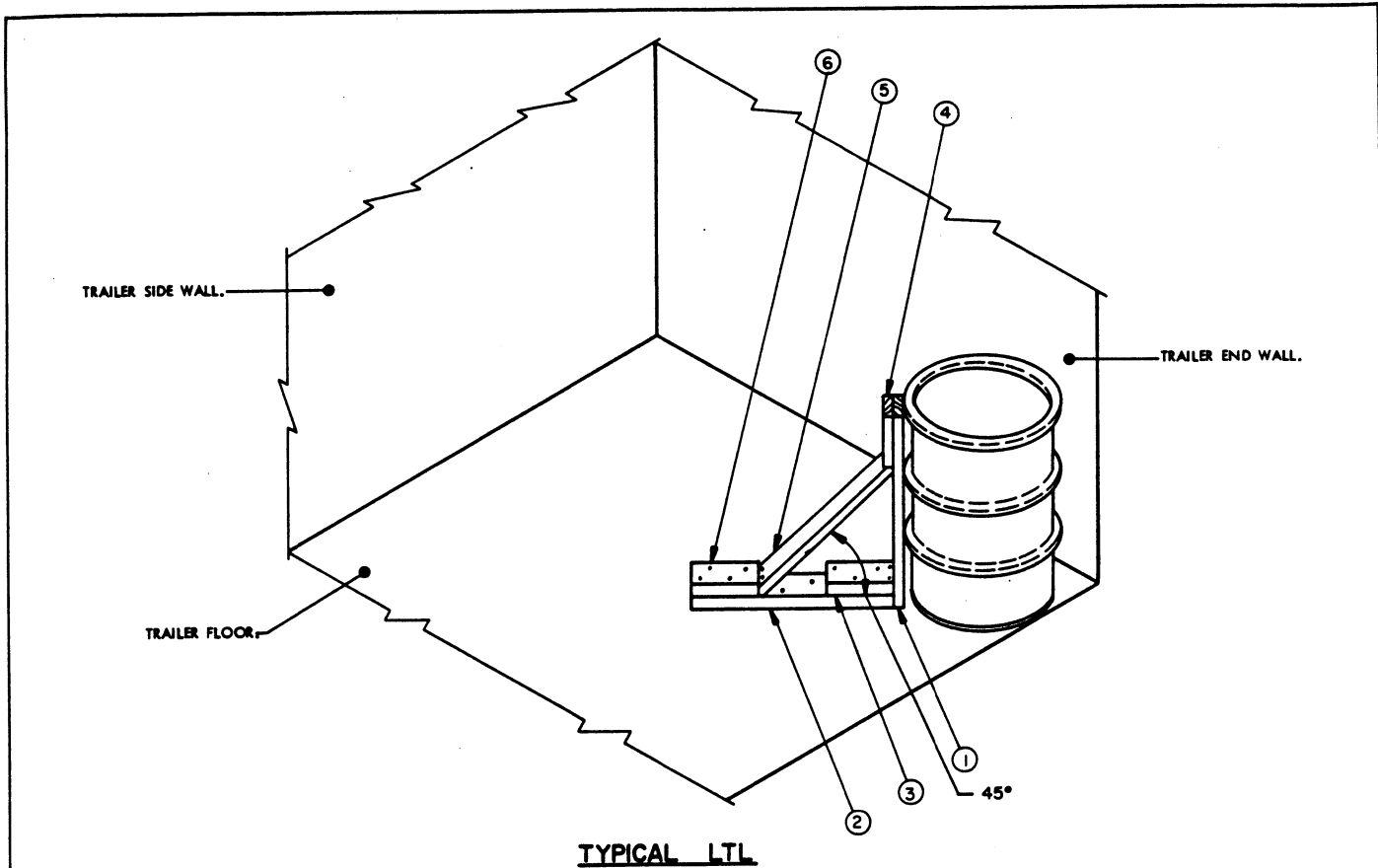
TYPICAL LTL

SPECIAL NOTES

1. PIECES MARKED ① ARE FOR USE IN A TRAILER WHICH HAS A NAILABLE FLOOR AND SHOULD BE USED IF POSSIBLE, IN LIEU OF PIECES MARKED ② THROUGH ⑩ WHICH APPLY TO TRAILERS HAVING NON-NAILABLE FLOORS. TWO (2) BACK-UP CLEATS, SHOWN AS PIECES MARKED ⑪, ARE ADEQUATE FOR RETAINING A MAXIMUM SIZE LTL LOAD OF 10,000 POUNDS.
2. K-BRACING, SHOWN AS PIECES MARKED ⑤ THROUGH ⑩, IS ADEQUATE FOR RETAINING A MAXIMUM LTL LOAD OF 24,000 POUNDS.
3. TO PROVIDE FOR A STABLE LOAD, NOT LESS THAN NINE (9) DRUMS WILL BE ENCIRCLED WITH STEEL STRAPPING, PIECES MARKED ⑫.
4. FOR A LOAD OF LESS THAN NINE (9) DRUMS IN A TRAILER WHICH HAS A NAILABLE FLOOR, A KNEE BRACE ASSEMBLY MAY BE INSTALLED AGAINST EACH DRUM AT THE REAR OF THE LOAD (3 REQD). OMIT PIECES MARKED ②, ④, ⑧, ⑪, ⑫, AND ⑬. IF DESIRED, THE KNEE BRACE TYPE BLOCKING MAY BE APPLIED FOR OTHER SIZE LOADS. THREE (3) ASSEMBLIES WILL RETAIN A MAXIMUM LTL LOAD OF 6,000 POUNDS. REFER TO THE TYPICAL LTL LOAD AND THE KEY NUMBERS ON PAGE 16 FOR DETAILS OF THE KNEE BRACE ASSEMBLY.

KEY NUMBERS

- ① FORWARD GATE FOR A ONE-HIGH STACK (1 REQD). SEE DETAIL ON PAGE 10.
- ② INTERMEDIATE GATE C FOR A ONE-HIGH STACK (2 REQD, 1 RIGHT HAND AND 1 LEFT HAND). SEE DETAIL ON PAGE 17.
- ③ RISER ASSEMBLY (1 REQD). SEE "RISER ASSEMBLY A" DETAIL ON PAGE 10.
- ④ HEADER, 4" X 4" BY TRAILER WIDTH (CUT TO FIT) (1 REQD).
- ⑤ REAR CROSS BRACE, 4" X 4" BY TRAILER WIDTH (CUT TO FIT) (1 REQD).
- ⑥ SIDE STRUT, 4" X 4" BY CUT TO FIT BETWEEN HEADER MARKED ④ AND REAR CROSS BRACE MARKED ⑤ (2 REQD). TOENAIL W/2-16d NAILS AT EACH END.
- ⑦ SPACER CLEAT, 2" X 4" X 30" (1 REQD). NAIL TO HEADER MARKED ④ W/7-12d NAILS.
- ⑧ DIAGONAL BRACE, 2" X 4" BY CUT TO FIT (2 REQD). DOUBLE BEVEL EACH END WITH 45° CUTS. INSTALL AT 45° ANGLE AS SHOWN AND TOENAIL TO HEADER MARKED ④ AND SIDE STRUT MARKED ⑥ W/2-16d NAILS AT EACH END.
- ⑨ SIDE CLEAT, 2" X 4" X 24" (2 REQD). NAIL TO SIDE STRUT MARKED ⑥ W/6-12d NAILS.
- ⑩ STRUT BRACING, 2" X 4" BY TRAILER WIDTH (CUT TO FIT) (MINIMUM OF 1 REQD). INSTALL ONE (1) NEAR REAR END OF SIDE STRUTS MARKED ⑥ AS SHOWN. ONE (1) ADDITIONAL PIECE IS REQUIRED FOR EVERY 7'-0" OF STRUT LENGTH. NAIL TO SIDE STRUTS MARKED ⑥ W/3-12d NAILS AT EACH END.
- ⑪ BACK-UP CLEAT, 2" X 4" X 30" (DOUBLED) (2 REQD). ALIGN WITH VERTICAL PIECE OF INTERMEDIATE GATE C MARKED ② AND NAIL FIRST PIECE TO TRAILER FLOOR W/7-12d NAILS. NAIL SECOND PIECE TO FIRST IN A LIKE MANNER. SEE SPECIAL NOTE 1.
- ⑫ STEEL STRAPPING, 1-1/4" X .035" X 19'-0" (2 REQD). PRE-POSITION. SEE GENERAL NOTE "J" ON PAGE 2. SEE SPECIAL NOTES 3 AND 4.
- ⑬ SEAL FOR 1-1/4" STRAPPING (4 REQD).

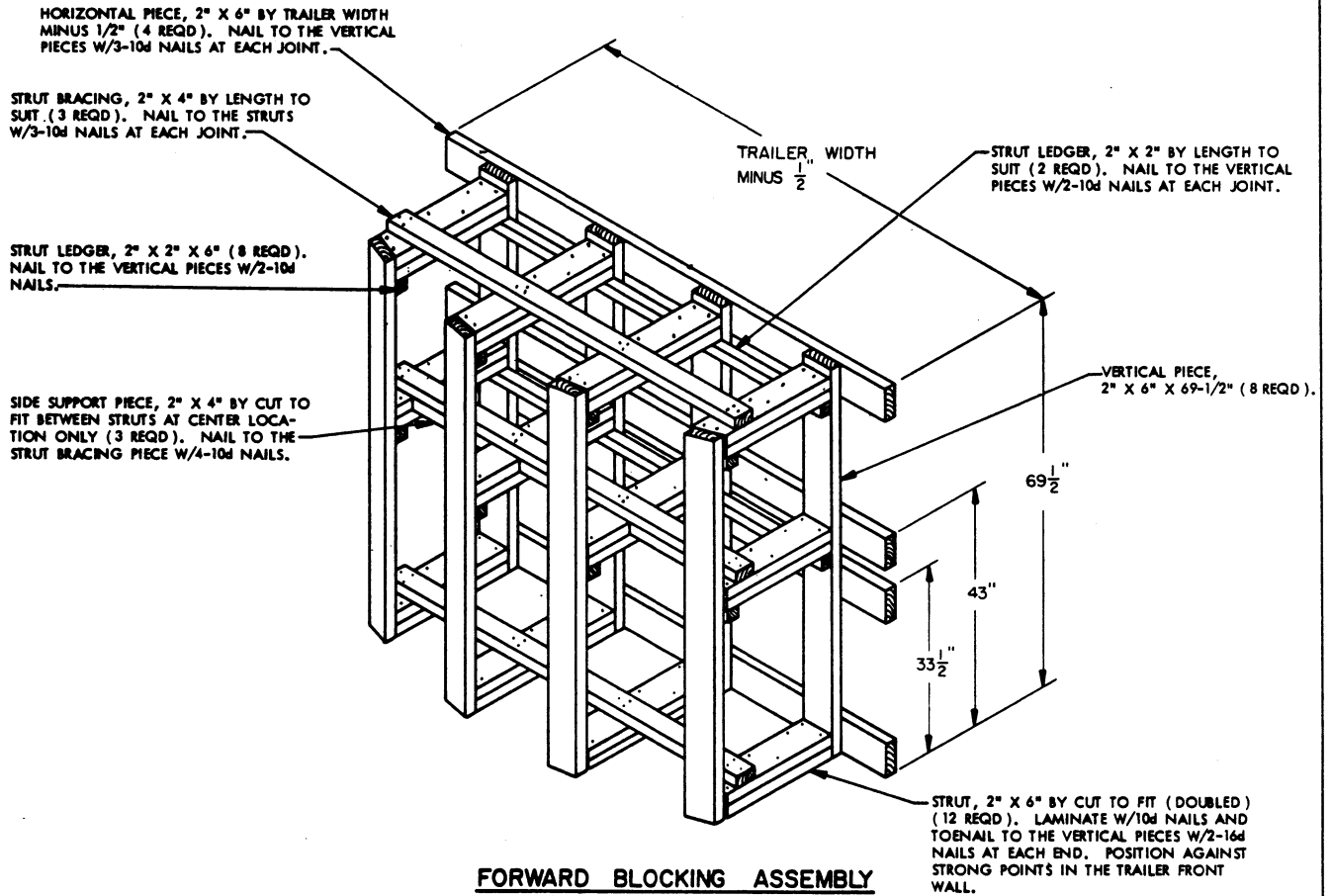


SPECIAL NOTES:

1. A 1-DRUM LOAD IS SHOWN IN A 7'-6" WIDE TRAILER. WIDER TRAILERS MAY BE USED.
2. AN ADDITIONAL DRUM MAY BE LOADED IN THE OPPOSITE FORWARD CORNER OF THE TRAILER USING THE DEPICTED PROCEDURES.
3. ONE (1) KNEE BRACE ASSEMBLY WILL RETAIN A MAXIMUM LTL LOAD OF 2,000 POUNDS.
4. A KNEE BRACE ASSEMBLY MAY BE USED FOR THE BLOCKING OF MORE THAN ONE CONTAINER. REFER TO SPECIAL NOTE 4 ON PAGE 15 FOR GUIDANCE.

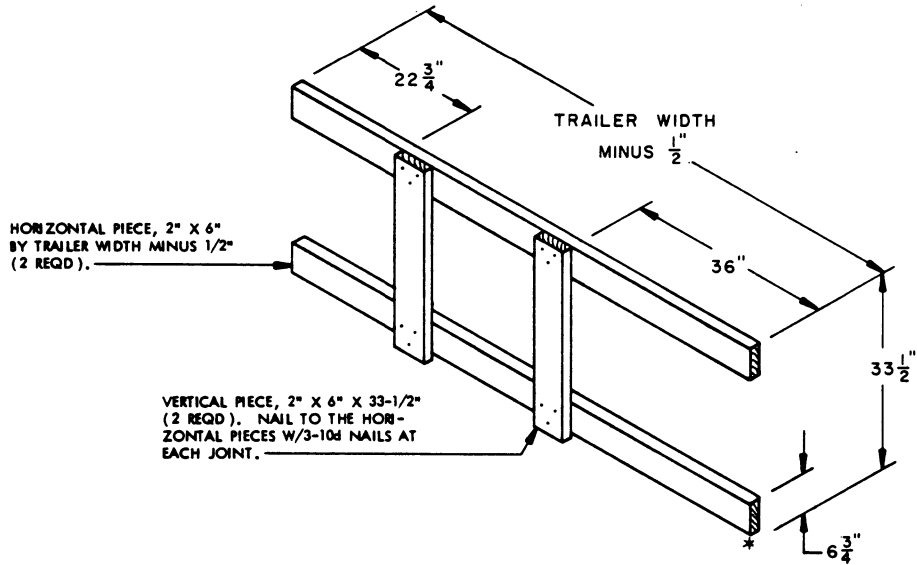
KEY NUMBERS

- ① VERTICAL PIECE, 2" X 4" X 34" (1 REQD).
- ② HORIZONTAL BRACE, 2" X 4" X 36" (1 REQD). NAIL TO TRAILER FLOOR W/6-12d NAILS.
- ③ CLEAT, 2" X 4" X 12" (1 REQD). NAIL TO HORIZONTAL BRACE MARKED ② W/3-12d NAILS. TOENAIL TO VERTICAL PIECE MARKED ① W/2-12d NAILS.
- ④ HOLD DOWN CLEAT, 2" X 4" X 9" (1 REQD). NAIL TO VERTICAL PIECE MARKED ① W/3-10d NAILS.
- ⑤ DIAGONAL BRACE, 2" X 4" X 33" (1 REQD). DOUBLE BEVEL EACH END WITH 45° CUTS. INSTALL AT 45° ANGLE AS SHOWN AND TOENAIL TO VERTICAL PIECE MARKED ① AND HORIZONTAL BRACE MARKED ② W/2-12d NAILS AT EACH END.
- ⑥ BACK-UP CLEAT, 2" X 4" X 12" (1 REQD). POSITION AGAINST DIAGONAL BRACE MARKED ⑤ AND NAIL TO HORIZONTAL BRACE MARKED ② W/4-12d NAILS.



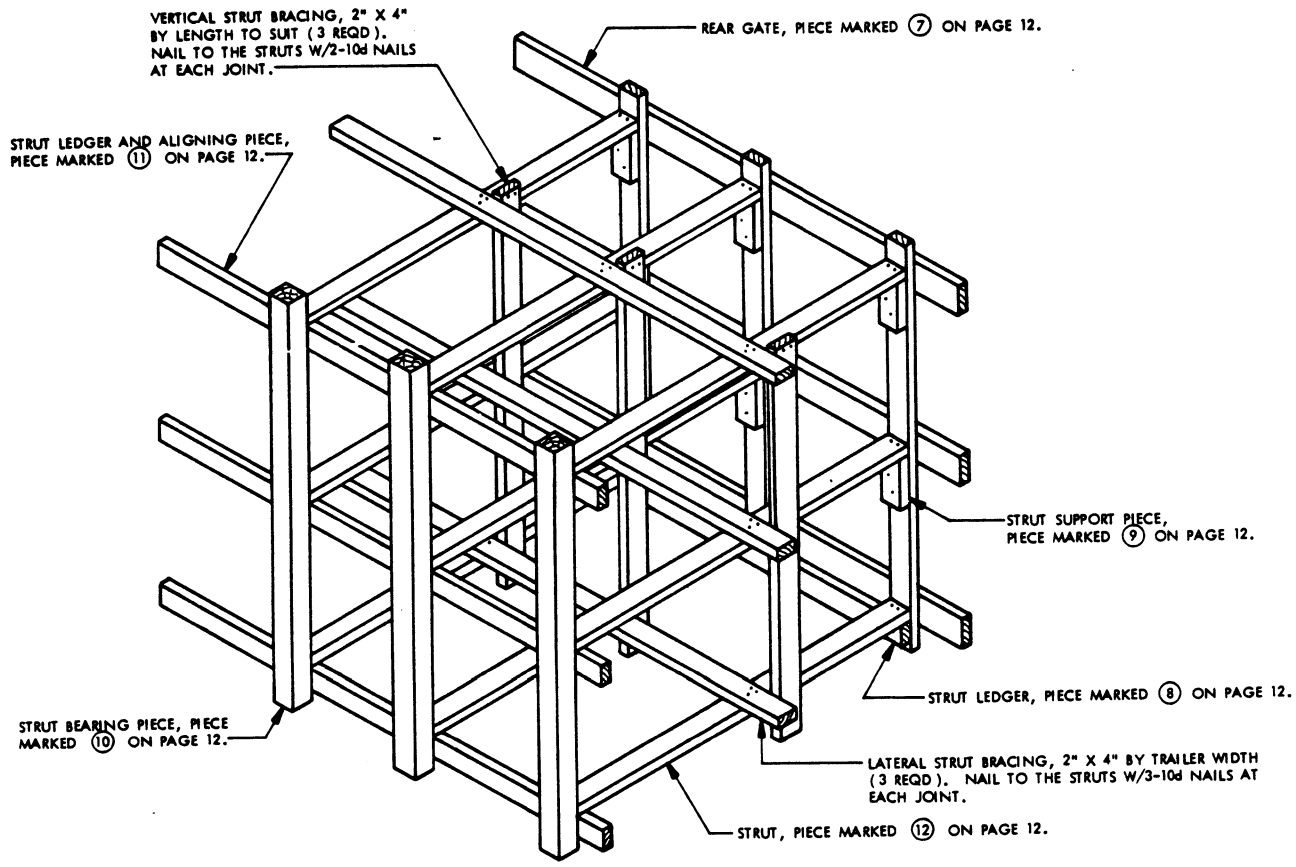
FORWARD BLOCKING ASSEMBLY

FOR USE IN ROUND-FRONT TRAILERS. FOR CLARITY PURPOSES, THE ASSEMBLY IS SHOWN IN A REVERSED POSITION FROM THE POSITION WHICH WOULD PROVIDE FOR NORMAL APPLICATION WITHIN THE "VIEWS" OF CONVENTIONAL TRAILERS DEPICTED HEREIN.



INTERMEDIATE GATE C

FOR A ONE-HIGH STACK.



STRUT BRACING

STRUT BRACING IS REQUIRED IF THE 2" X 4" STRUTS ARE 48" OR GREATER IN LENGTH. INSTALL ONE (1) SET FOR EVERY 48" OF STRUT LENGTH.