

APPROVED BY
 BUREAU OF EXPLOSIVES
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 MILITARY ASSISTANT
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LOADING & BRACING (CL & LCL) IN BOX CARS OF CANISTER, ANTI-PERSONNEL MINE, XM2, PACKED IN A SKIDDED WOODEN BOX

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⊕ INCLUDES PROCEDURES FOR CONVENTIONAL BOX CARS AND BOX CARS EQUIPPED WITH MECHANICAL BRACING DEVICES OF VARIOUS DESIGN AND MANUFACTURE

DO NOT SCALE

<small>DRAWN BY</small> DLP <small>CHECKED BY</small> <i>WRH/RHR</i>	<small>PROJ. ENG.</small> <i>DIW</i>	<small>APSA</small> PJS	<small>SUBMITTED</small> <i>W. S. Harding, Col</i> <small>COMMANDING OFFICER, SAVANNAH ARMY DEPOT</small>
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GENERAL NOTES

- A. THE OUTLOADING PROCEDURES SPECIFIED HEREIN ARE APPLICABLE TO THE XM2 ANTI-PERSONNEL MINE CANISTER WHEN PACKAGED IN THE SKIDDED WOODEN BOX CONTAINER. SUBSEQUENT REFERENCE TO CONTAINER HEREIN MEANS THE SKIDDED BOX CONTAINER WITH CONTENTS.
- B. THE LOADS AS SHOWN HEREIN ARE BASED ON BOX CARS EQUIPPED WITH MECHANICAL BRACING DEVICES HAVING ADJUSTABLE AND/OR FIXED WALL MEMBERS, OR ARE BASED ON CONVENTIONAL BOX CARS.
- C. BOX CARS EQUIPPED WITH CONVENTIONAL SLIDING DOORS HAVE BEEN SHOWN. HOWEVER, THE DEPICTED OUTLOADING PROCEDURES ARE ALSO APPLICABLE FOR CARS EQUIPPED WITH PLUG DOORS. **CAUTION:** DUNNAGE MATERIAL MUST NOT BE NAILED TO ANY PLUG DOOR, WHETHER AUXILIARY OR MAIN.
- D. THE OUTLOADING PROCEDURES SPECIFIED ON PAGES 4 THROUGH 21 ARE FOR CONVENTIONAL TYPE BOX CARS OF VARIOUS LENGTH AND WIDTH COMBINATIONS.
- E. THE OUTLOADING PROCEDURES SPECIFIED ON PAGES 22 THROUGH 26 ARE FOR BOX CARS EQUIPPED WITH MECHANICAL BRACING DEVICES, AND MAY BE ADAPTED AS REQUIRED TO FACILITATE THE USE OF BOX CARS EQUIPPED WITH VARIOUS TYPES OF SELF-CONTAINED MECHANICAL BRACING DEVICES. HOWEVER, FIXED OR ADJUSTABLE WALL MEMBERS AND DOORWAY MEMBERS WITHIN THESE CARS MUST PROVIDE FOR THE INSTALLATION OF LOAD BLOCKING CROSS MEMBERS AT THE HEIGHTS SPECIFIED HEREIN. **CAUTION:** BOX CARS EQUIPPED WITH MEMBERS WHICH DO NOT MEET THE LOCATION REQUIREMENTS MUST NOT BE USED.
1. A CROSS MEMBER, WHEN USED AS SPECIFIED BY ANY ONE OF THE OUTLOADING METHODS CONTAINED HEREIN, WILL NOT BE RELIED UPON TO RETAIN MORE LADING WEIGHT ON EITHER SIDE THAN AS SHOWN FOR THE SPECIFIC OUTLOADING METHOD BEING USED. VOIDS LENGTHWISE WITHIN THE LOAD MUST BE HELD TO A MINIMUM AND CROSS MEMBERS MUST BE PLACED AGAINST THE LADING AS TIGHTLY AS THE SPACING OF THE LOCKING HOLES IN THE WALL MEMBERS PERMITS. LOCKING BARS (LEVER JACKS) SHOULD BE USED FOR THIS PURPOSE. AN ADDITIONAL 1/2" OF ADJUSTMENT CAN BE MADE BY TURNING A CROSS MEMBER END-FOR-END WHEN LOCKING PINS ON THE MEMBER ARE OFF-CENTER. **NOTE:** IT IS RECOMMENDED THAT EACH CROSS MEMBER 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 CAR).
 2. **CAUTION:** ALL BLOCKING AND BRACING COMPONENTS IN EMPTY CARS AND ALL UNUSED COMPONENTS IN LOADED CARS MUST BE "SECURED" FOR SHIPMENT -- ADJUSTABLE WALL MEMBERS TO VERTICAL WALL ATTACHMENT RAILS, AND CROSS MEMBERS TO ADJUSTABLE WALL MEMBERS OR TO FIXED HORIZONTAL WALL MEMBERS OR TO DOORWAY MEMBERS, AND DOORWAY MEMBERS TO DOOR POSTS. COMPONENTS ASSIGNED TO EACH CAR MUST REMAIN THEREWITH EVEN THOUGH UNUSED DURING SOME SHIPMENTS.
 3. IF A CAR HAS A "BOWED END", RATHER THAN SQUARING OFF THE END BY INSTALLING DUNNAGE, ADDITIONAL CROSS MEMBERS CAN BE INSTALLED NEAR THE END OF THE CAR TO PROVIDE A "SQUARED" END. THESE CROSS MEMBERS SHOULD BE INSTALLED IN THE SAME QUANTITY AND AT THE SAME HEIGHTS AS THE CROSS MEMBERS USED THROUGHOUT THE LOAD AS LOAD BLOCKING MEMBERS.
- F. THE NUMBER OF LADING UNITS MAY BE ADJUSTED TO FIT THE SIZE OF THE BOX CAR 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 DESIGNATED ITEM.
- G. FOR DETAILS OF THE CONTAINER SEE DRAWING NO. 9212614.

CONTAINER DIMENSIONS --- 91-11/16" LONG X 25-11/16" WIDE X 30-5/32" HIGH.
GROSS WEIGHT ----- 650 POUNDS (APPROX).
TARE WEIGHT ----- 200 POUNDS (APPROX).

(GENERAL NOTES CONTINUED)

- H. THIS ITEM IS AN ICC CLASS "A" EXPLOSIVE. PROCEDURES FOR THE SHIPMENT OF EMPTY CONTAINERS ARE DELINEATED WITHIN THE SPECIAL NOTES FOR EACH LOAD.
- J. THE "MONITORING" END OF CONTAINERS MUST BE POSITIONED WITHIN THE CAR AS SHOWN BY ARROWS ON THE ISOMETRIC VIEWS OF THE DEPICTED LOADS TO FACILITATE MONITORING DURING TRANSIT.
- K. 1-1/4" STEEL STRAPPING WILL BE USED TO UNITIZE CONTAINERS AS SHOWN ON PAGE 3. IT IS RECOMMENDED THAT CONTAINERS BE UNITIZED PRIOR TO PLACEMENT ABOARD THE CAR. SEE GENERAL NOTE "Q".
- L. WHEN ANY STRAP IS SEALED AT AN END-OVER-END LAP JOINT OR AS SHOWN IN "STRAPPING DETAILS" ON PAGE 27, A MINIMUM OF TWO (2) SEALS WITH TWO (2) CRUMPS PER SEAL MUST BE USED. **CAUTION:** EXERCISE CARE DURING TENSIONING TO PREVENT DAMAGE TO CONTAINERS.
- M. OTHER TYPES OF LADING ITEMS MAY BE LOADED IN THE CARS WHICH ARE PARTIALLY LOADED WITH THE DESIGNATED ITEM, PROVIDING THE TOTAL LOAD IS COMPATIBLE, EXISTING DIRECTIVES ARE NOT VIOLATED, THE INSPECTION/MONITORING DOOR OF THIS ITEM IS ACCESSIBLE, AND THE OTHER LADING ITEMS ARE BLOCKED AND BRACED TO EQUAL THE BLOCKING AND BRACING CRITERIA SPECIFIED HEREIN.
- N. DUNNAGE LUMBER SPECIFIED THROUGHOUT THIS PROCEDURAL DRAWING IS OF NOMINAL SIZE. FOR EXAMPLE, 2" X 3" MATERIAL IS ACTUALLY 1-5/8" THICK BY 2-5/8" WIDE AND 2" X 6" MATERIAL IS ACTUALLY 1-5/8" THICK BY 5-5/8" WIDE.
- O. THROUGHOUT THIS PROCEDURAL DRAWING PORTIONS OF THE BLOCKING COMPONENTS AND OF THE DEPICTED CARS, SUCH AS A CAR SIDE WALL, HAVE BEEN OMITTED FROM THE LOAD VIEWS FOR CLARITY PURPOSES.
- P. FOR SPECIFIC GUIDANCE, ATTENTION IS DIRECTED TO THE "UNITIZATION AND HANDLING PROCEDURES" ON PAGE 3 AND TO THE DELINEATED OUTLOADING METHODS CONTAINED HEREIN.
- Q. IN SOME INSTANCES, CONTAINERS WILL ALREADY BE UNITIZED INTO STACKS WHEN OFFERED FOR LOADING. THESE UNITIZED STACKS SHOULD BE INSPECTED AND AS REQUIRED, LOOSE UNITIZING STEEL STRAPPING MUST BE REPLACED.

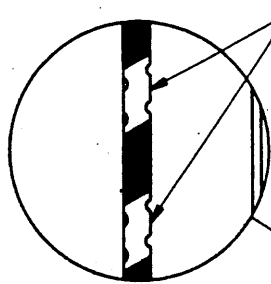
MATERIAL SPECIFICATIONS

LUMBER ----- : SEE TM 715-5500-1, 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-S-781.

WIRE ----- : FED SPEC QQ-W-461.



SEAL FOR 1-1/4" X .035" STEEL STRAPPING (2 REQD PER STRAP). DOUBLE CRIMP EACH SEAL AS SHOWN. SEE GENERAL NOTE "L" ON PAGE 2.

INDICATES CONTAINER END WHICH HAS INSPECTION/MONITORING DOOR. SEE GENERAL NOTE "J" ON PAGE 2.

7'-7¹¹/₁₆"

25¹¹/₁₆"

CONTAINER TIE DOWN POINT.

CONTAINER INSPECTION/MONITORING DOOR. SEE GENERAL NOTE "J" ON PAGE 2.

7'-6¹/₂"

1-1/4" X .035" UNITIZING STEEL STRAPPING (4 REQD PER STACK).

STACK DETAIL

UNITIZING AND HANDLING PROCEDURAL GUIDANCE

(UNITIZING AND HANDLING PROCEDURAL GUIDANCE CONTINUED)

1. STACKING CONTAINERS FOR UNITIZING.

- A. AN UPPER CONTAINER SHOULD BE PLACED AS CLOSE AS POSSIBLE IN VERTICAL ALIGNMENT WITH THE NEXT LOWER CONTAINER.
- B. POSITION THE INSPECTION/MONITORING DOOR OF AN UPPER CONTAINER ABOVE THE INSPECTION/MONITORING DOOR OF THE NEXT LOWER CONTAINER. SEE GENERAL NOTE "J" ON PAGE 2.

2. INSTALLATION OF 1-1/4" X .035" UNITIZING STEEL STRAPPING. SEE GENERAL NOTE "Q" ON PAGE 2.

- A. EACH OF THE TWO SETS OF UNITIZING STRAPS SHOULD BE POSITIONED AROUND THE CONTAINERS AS SHOWN. PLACE STRAPPING NEAR THE INSIDE ENDS OF THE SKIDS AND SO THAT THE STRAPPING LAYS FLAT AND STRAIGHT WITH THE BODY SURFACES OF THE CONTAINERS; I.E., VERTICAL ALONG SIDES AND STRAIGHT ACROSS THE TOP AND BOTTOM OF THE STACK.
- B. STRAPPING WILL BE FIRMLY TENSIONED, AND EACH END-OVER-END LAP JOINT WILL BE SEALED WITH TWO DOUBLE CRIMPED STRAP SEALS AS SHOWN. THE LAP JOINT WILL BE MADE ALONG THE SIDE OF THE STACK SO THAT THE SEALS WILL NOT BE IN CONTACT WITH THE CONTAINERS. DURING STRAP TENSIONING, CARE SHOULD BE EXERCISED TO INSURE THAT THE CONTAINERS ARE NOT DAMAGED. EXCESS STRAPPING (STRAP ENDS) SHOULD BE CUT OFF OR BROKEN OFF NEAR THE JOINT SEALS.

3. CONTAINER OR CONTAINER STACK HANDLING.

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

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

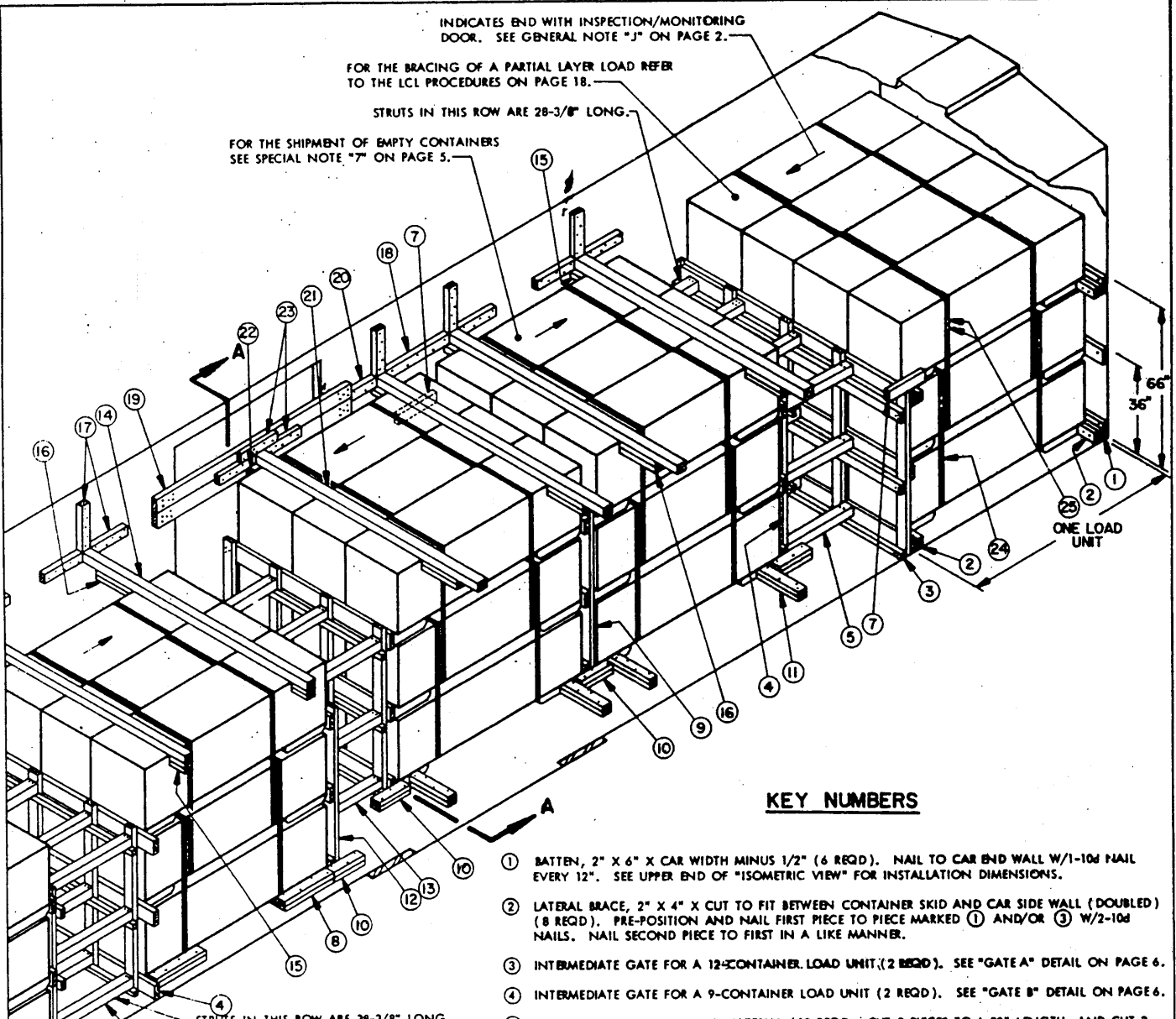
- A. ONLY APPROVED AND APPROPRIATELY SIZED MATERIALS HANDLING EQUIPMENT WILL BE USED FOR HANDLING THE DEPICTED CONTAINERS.
- B. IF HANDLING IS ACCOMPLISHED WITH A FORKLIFT TRUCK, THE CONTAINERS SHOULD BE HANDLED FROM A SIDE POSITION AS MUCH AS POSSIBLE. CARE MUST BE EXERCISED WHEN INSERTING FORKS UNDER A CONTAINER TO PREVENT DAMAGE TO THE CONTAINER BY THE FORK TINES OR THE FORKLIFT PACKAGE GUARD. FOR VERY SHORT "INCHING" SPEED MOVEMENTS, SUCH AS WILL BE EXPERIENCED DURING CAR LOADING, A UNITIZED TWO OR THREE-CONTAINER STACK MAY BE HANDLED BY INSERTING THE FORKS OF A FORKLIFT TRUCK UNDER THE BODY OF AN UPPER CONTAINER. IF ONE CONTAINER IS HANDLED BY SLINGING, THE SLING MUST BE OF SUCH A DESIGN THAT THE LIFTING IS DONE ON THE BOTTOM OF THE CONTAINER. CAUTION: DO NOT ATTACH SLING TO THE CONTAINER TIE DOWN POINTS ON THE ENDS OF THE CONTAINER. IF A TWO OR THREE HIGH STACK IS HANDLED BY SLINGING, THE SLING MUST BE OF SUCH A DESIGN THAT THE LIFTING IS DONE ON THE BOTTOM OF THE LOWEST CONTAINER.

INDICATES END WITH INSPECTION/MONITORING DOOR. SEE GENERAL NOTE "J" ON PAGE 2.

FOR THE BRACING OF A PARTIAL LAYER LOAD REFER TO THE LCL PROCEDURES ON PAGE 18.

STRUTS IN THIS ROW ARE 28-3/8" LONG.

FOR THE SHIPMENT OF EMPTY CONTAINERS SEE SPECIAL NOTE "7" ON PAGE 5.



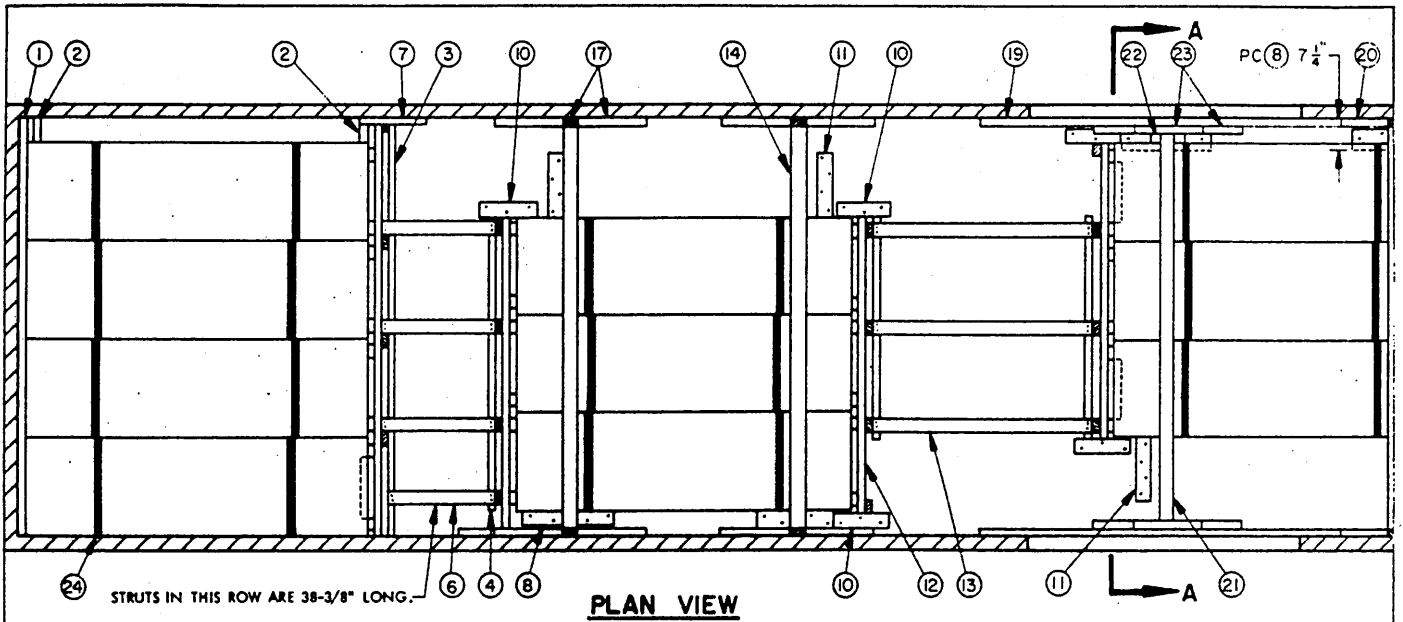
ISOMETRIC VIEW

A 50'-6" LONG X 9'-2" WIDE CONVENTIONAL BOX CAR WITH 6'-0" DOOR OPENINGS IS SHOWN.

KEY NUMBERS

- ① BATTEN, 2" X 6" X CAR WIDTH MINUS 1/2" (6 REQD.). NAIL TO CAR END WALL W/1-10d NAIL EVERY 12". SEE UPPER END OF "ISOMETRIC VIEW" FOR INSTALLATION DIMENSIONS.
- ② LATERAL BRACE, 2" X 4" X CUT TO FIT BETWEEN CONTAINER SKID AND CAR SIDE WALL (DOUBLED) (8 REQD.). PRE-POSITION AND NAIL FIRST PIECE TO PIECE MARKED ① AND/OR ③ W/2-10d NAILS. NAIL SECOND PIECE TO FIRST IN A LIKE MANNER.
- ③ INTERMEDIATE GATE FOR A 12-CONTAINER LOAD UNIT (2 REQD.). SEE "GATE A" DETAIL ON PAGE 6.
- ④ INTERMEDIATE GATE FOR A 9-CONTAINER LOAD UNIT (2 REQD.). SEE "GATE B" DETAIL ON PAGE 6.
- ⑤ INTERMEDIATE STRUT, 4" X 4" MATERIAL (12 REQD.). CUT 9 PIECES TO A 30" LENGTH, AND CUT 3 PIECES TO A 28-3/8" LENGTH. POSITION AS SHOWN AND TO NAIL TO INTERMEDIATE GATES MARKED ③ AND ④ W/2-16d NAILS AT EACH END.
- ⑥ INTERMEDIATE STRUT, 4" X 4" MATERIAL (12 REQD.; CUT 9 PIECES TO A 40" LENGTH, AND CUT 3 PIECES TO A 38-3/8" LENGTH). POSITION AS SHOWN AND TO NAIL TO INTERMEDIATE GATES MARKED ③ AND ④ W/2-16d NAILS AT EACH END.
- ⑦ GATE HOLD-DOWN CLEAT, 2" X 4" X 18" (3 REQD.). CENTER ABOVE INTERMEDIATE GATE MARKED ③ AND/OR SEPARATOR GATE MARKED ⑨ AND NAIL TO CAR SIDE WALL W/5-10d NAILS.
- ⑧ SIDE BLOCKING, 2" X 6" X 24" (DOUBLED) (6 REQD.). PRE-POSITION AND NAIL FIRST PIECE TO CAR FLOOR W/5-16d NAILS. NAIL SECOND PIECE TO FIRST IN A LIKE MANNER. SEE "PLAN VIEW" ON PAGE 5 FOR INSTALLATION DIMENSION. SEE SPECIAL NOTE "4" ON PAGE 5.
- ⑨ SEPARATOR GATE (1 REQD.). POSITION AS SHOWN, WITH HORIZONTAL PIECES ON THE SIDE NEAREST THE CENTER OF THE CAR. SEE "GATE C" DETAIL ON PAGE 7.
- ⑩ GUIDE RAIL, 2" X 4" X 15" (DOUBLED) (7 REQD.). CENTER AGAINST END OF GATES MARKED ④, ⑨, AND/OR ⑫ AND NAIL FIRST PIECE TO CAR FLOOR W/3-16d NAILS. NAIL SECOND PIECE TO FIRST IN A LIKE MANNER.
- ⑪ SIDE BLOCKING, 2" X 4" X 20" (DOUBLED) (6 REQD.). NAIL FIRST PIECE TO CAR FLOOR W/4-16d NAILS. NAIL SECOND PIECE TO FIRST IN A LIKE MANNER.
- ⑫ CENTER GATE (2 REQD.). SEE "GATE D" DETAIL ON PAGE 7.
- ⑬ CENTER STRUT, 4" X 4" X CUT TO FIT (9 REQD.). TO NAIL TO CENTER GATES MARKED ⑫ W/2-16d NAILS AT EACH END.
- ⑭ ANTI-SWAY BRACE, 4" X 4" X CAR WIDTH (CUT TO FIT) (5 REQD.).
- ⑮ ANTI-SWAY BLOCK, 2" X 4" X 6-1/8" (DOUBLED) (5 REQD.). NAIL FIRST PIECE TO ANTI-SWAY BRACE MARKED ⑭ W/2-12d NAILS. NAIL SECOND PIECE TO FIRST IN A LIKE MANNER.

(KEY NUMBERS CONTINUED ON PAGE 5)



STRUTS IN THIS ROW ARE 38-3/8" LONG.

PLAN VIEW

(KEY NUMBERS CONTINUED FROM PAGE 4)

SPECIAL NOTES

- 16 ANTI-SWAY BLOCK, 2" X 4" X 18" (DOUBLED) (6 REQ'D). NAIL FIRST PIECE TO ANTI-SWAY BRACE MARKED 14 AND/OR 21 W/5-12d NAILS. NAIL SECOND PIECE TO FIRST IN A LIKE MANNER.
- 17 POCKET CLEAT, 2" X 4" X 18" (24 REQ'D). NAIL TO CAR SIDE WALL W/5-10d NAILS. SEE SPECIAL NOTE "5" ON THIS PAGE.
- 18 SPACER CLEAT, 2" X 4" X 30" (2 REQ'D). NAIL TO CAR SIDE WALL W/5-10d NAILS.
- 19 DOOR SPANNER, 2" X 6" X DOOR OPENING WIDTH PLUS 24" (4 REQ'D). NAIL TO CAR SIDE WALL W/5-12d NAILS AT EACH END. SEE SPECIAL NOTE "2" ON THIS PAGE.
- 20 POCKET CLEAT, 2" X 4" X CUT TO FIT (2 REQ'D). NAIL TO CAR SIDE WALL W/3-10d NAILS.
- 21 ANTI-SWAY BRACE, 4" X 4" X CAR WIDTH MINUS 3-1/4" (CUT TO FIT) (1 REQ'D).
- 22 ANTI-SWAY BLOCK, 2" X 4" X 9" (DOUBLED) (1 REQ'D). POSITION AGAINST CONTAINER AND NAIL FIRST PIECE TO ANTI-SWAY BRACE MARKED 21 W/3-12d NAILS. NAIL SECOND PIECE TO FIRST IN A LIKE MANNER.
- 23 POCKET CLEAT, 2" X 4" X 18" (6 REQ'D). NAIL TO DOOR SPANNER MARKED 19 W/5-10d NAILS.
- 24 STEEL STRAPPING, 1-1/4" X .035" X 15'-0" (68 REQ'D). SEE GENERAL NOTE "L" ON PAGE 2. SEE "UNITIZING AND HANDLING PROCEDURAL GUIDANCE" ON PAGE 3.
- 25 SEAL FOR 1-1/4" STRAPPING (136 REQ'D).

- 1. A 50'-6" LONG X 9'-2" WIDE CONVENTIONAL BOX CAR EQUIPPED WITH 6'-0" DOOR OPENINGS IS SHOWN. A CAR WIDTH OTHER THAN 9'-2" IS NOT RECOMMENDED FOR THE DEPICTED LOAD.
- 2. A CAR WITH WIDER OR STAGGERED DOORS CAN BE USED FOR THE SHIPMENT OF THE DEPICTED LOAD. THE DELINEATED PROCEDURE IS APPLICABLE IF THE DOOR OPENING IS NOT GREATER THAN 8'-0" IN WIDTH. FOR THROUGH DOOR OPENINGS WIDER THAN 8'-0" OMIT PIECES MARKED 14, 19, AND 17, AND REPLACE WITH PIECES MARKED 21, 22, AND 23, RESPECTIVELY. REPLACE PIECES MARKED 18 WITH CUT TO FIT PIECES (DOUBLED) AND OMIT PIECES MARKED 20 AS APPLICABLE FOR STAGGERED DOOR OPENINGS, IN ADDITION TO THE SPECIFICATIONS FOR THROUGH DOOR OPENINGS, OMIT PIECE MARKED 7 AND REPLACE WITH A 2" X 3" X 15-1/4" (DOUBLED) GATE HOLD-DOWN CLEAT AS SHOWN ON OPPOSITE END OF PIECE MARKED 9.
- 3. THE DUNNAGE ASSEMBLIES AND OTHER BLOCKING AND BRACING COMPONENTS AND THE LOADING PATTERN SHOWN HEREIN ARE DESIGNED TO FACILITATE THE IN-TRANSIT INSPECTION/MONITORING OF THE DESIGNATED ITEM. THE INSPECTION/MONITORING DOORS ON THE CONTAINERS MUST NOT BE RENDERED INACCESSIBLE.
- 4. IF THE CAR BEING USED FOR THE SHIPMENT OF THE DEPICTED LOAD IS EQUIPPED WITH A NAILABLE METAL FLOOR AND A NAIL SIZE FOR FLOOR NAILING IS MARKED ON THE SIDE WALL OF THE CAR, THAT GUIDANCE SHOULD BE APPLIED TO THE NAILING OF PIECES MARKED 8 AND 10. IF A NAIL SIZE IS NOT SPECIFIED IN THE CAR, 30d NAILS SHOULD BE USED. ADDITIONALLY, PIECES MARKED 6 AND 10 SHOULD BE CHANGED TO 2" X 6" MATERIAL TO RECEIVE THE LARGER SIZE NAILS. SEE THE "NAILABLE METAL FLOOR" DETAIL ON PAGE 27 FOR GUIDANCE.
- 5. THE VERTICALLY POSITIONED PIECES MARKED 17 SHOULD BE CUT TO FIT BETWEEN AN ANTI-SWAY BRACE MARKED 14 AND THE CAR ROOF IF THE CAR SIDE WALL HEIGHT IS NOT SUFFICIENT TO ALLOW THE USE OF AN 18" LONG PIECE.
- 6. IF THE DELINEATED OUTLOADING METHOD IS USED FOR THE SHIPMENT OF A LOAD WHICH CONTAINS A LOAD UNIT OF LESS CONTAINERS THAN SHOWN TO SATISFY A LESS-THAN-FULL-LOAD QUANTITY, A "FILLER ASSEMBLY", AS DETAILED ON PAGE 16, MUST BE SUBSTITUTED IN PLACE OF EACH OMITTED CONTAINER. THE TOP CONTAINER OF A CENTER CONTAINER STACK IN THE END LOAD UNIT IS THE PREFERRED POSITION FOR A "FILLER". IF THE QUANTITY TO BE SHIPPED CANNOT READILY BE ACHIEVED BY THE SUBSTITUTION OF ONE OR MORE FILLER ASSEMBLIES IN THE PLACE OF OMITTED CONTAINERS, IT WILL BE NECESSARY TO INSTALL A K-BRACE ASSEMBLY TO RETAIN A PARTIAL LAYER. REFER TO KEY NUMBERS 9 THROUGH 17 ON PAGE 18 FOR A TYPICAL INSTALLATION.
- 7. FOR THE SHIPMENT OF EMPTY CONTAINERS IN A 50'-6" LONG CAR THE FOLLOWING PROCEDURE IS APPLICABLE:
 - A. THE LOAD MAY BE INCREASED TO SIXTY-SIX (66) CONTAINERS, TWENTY-TWO (22) CONTAINER STACKS.
 - B. INCREASE LENGTH OF UNITIZING STRAP MARKED 24 TO 20'-6" AND APPLY TO ENIRCLE A STACK OF THREE (3) CONTAINERS (44 REQ'D).
 - C. POSITION CONTAINERS IN THE CAR WITH THE 91-11/16" DIMENSION ACROSS THE WIDTH OF THE CAR. POSITION FIRST STACK DIRECTLY AGAINST THE CAR END WALL AND AGAINST A CAR SIDE WALL. POSITION SECOND STACK IN LINE WITH THE FIRST. PROVIDE SIDE BLOCKING BY INSTALLING A DOUBLED 2" X 4" X 12" PIECE LONGITUDINALLY IN THE CAR AND AGAINST THE ENDS OF THE SKIDS AND CENTERED ON THE JOINT OF THE TWO CONTAINER STACKS. NAIL FIRST PIECE TO CAR FLOOR W/2-16d NAILS. NAIL SECOND PIECE TO FIRST IN A LIKE MANNER.
 - D. POSITION THE THIRD AND FOURTH CONTAINER STACKS AGAINST THE OPPOSITE WALL AND BLOCK AS SPECIFIED FOR THE FIRST TWO STACKS. CONTINUE BY ALTERNATELY LOADING AND BLOCKING PAIRS OF CONTAINER STACKS AGAINST OPPOSITE SIDE WALLS.
 - E. THE CONTAINER STACKS ADJACENT TO THE CENTER GATES AND EACH CONTAINER STACK WHICH IS NOT RETAINED BY AT LEAST 6" OF CAR SIDE WALL MUST BE CENTERED IN THE WIDTH OF THE CAR AND LOCKED WITH DOUBLED 2" X 4" X 12" PIECES ON EACH END.

(SPECIAL NOTES CONTINUED)

- F. CONSTRUCT TWO CENTER GATES. POSITION TWO (2) 2" X 4" X 7'-8" VERTICAL PIECES SUCH THAT THEIR OVERALL DIMENSION IS 7'-5-1/2". APPLY THREE STRUT LEDGERS, THE FIRST PIECE 7'-7-3/4" LONG AND RESTING ON THE FLOOR WITH 1-1/4" EXTENDING BEYOND THE VERTICAL PIECES AT EACH END. THE OTHER STRUT LEDGERS SHOULD BE CAR WIDTH PIECES CENTERED ON THE VERTICALS AND INSTALLED WITH THEIR TOP SURFACES AT 43" AND 7'-3" HEIGHTS ABOVE THE CAR FLOOR.
- G. POSITION CENTER GATES WITH THE VERTICAL PIECES AGAINST THE LOAD. INSTALL 6'-4" X 4" STRUTS CUT TO FIT BETWEEN GATE VERTICAL PIECES. PROVIDE LATERAL BLOCKING FOR GATES WITH DOUBLED 2" X 4" X 12" PIECES POSITIONED LONGITUDINALLY IN THE CAR AND IN CONTACT WITH THE END OF THE GATE (4 REQ'D). PROVIDE A GATE HOLD DOWN BY APPLYING A DOOR SPANNER, 2" X 6" X DOOR OPENING WIDTH PLUS 24", ACROSS EACH DOORWAY AND RESTING ON THE TOP STRUT LEDGER. CENTER OVER THE STRUT LEDGER, NAIL A 2" X 4" X 18" HOLD-DOWN CLEAT TO THE DOOR SPANNER (4 REQ'D).

BILL OF MATERIAL		
LUMBER	LINEAR FEET	BOARD FEET
2" X 2"	86	29
2" X 3"	18	9
2" X 4"	330	220
2" X 6"	297	297
4" X 4"	160	214
NAILS	NO. REQ'D	POUNDS
10d (3")	764	12
12d (3-1/4")	126	2-1/4
16d (3-1/2")	282	6-1/4
STEEL STRAPPING, 1-1/4" X .035" -- 1,020' REQ'D -- 146 LBS		
SEAL FOR 1-1/4"		
STRAPPING ----- 136 REQ'D -- 7 LB.		

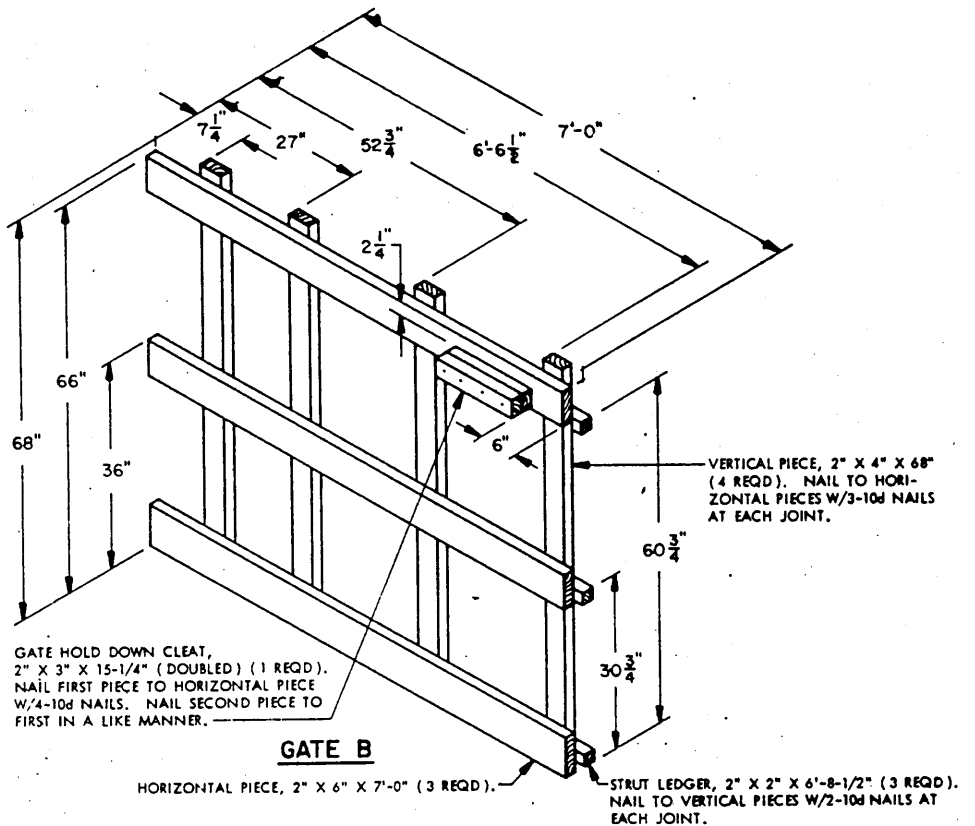
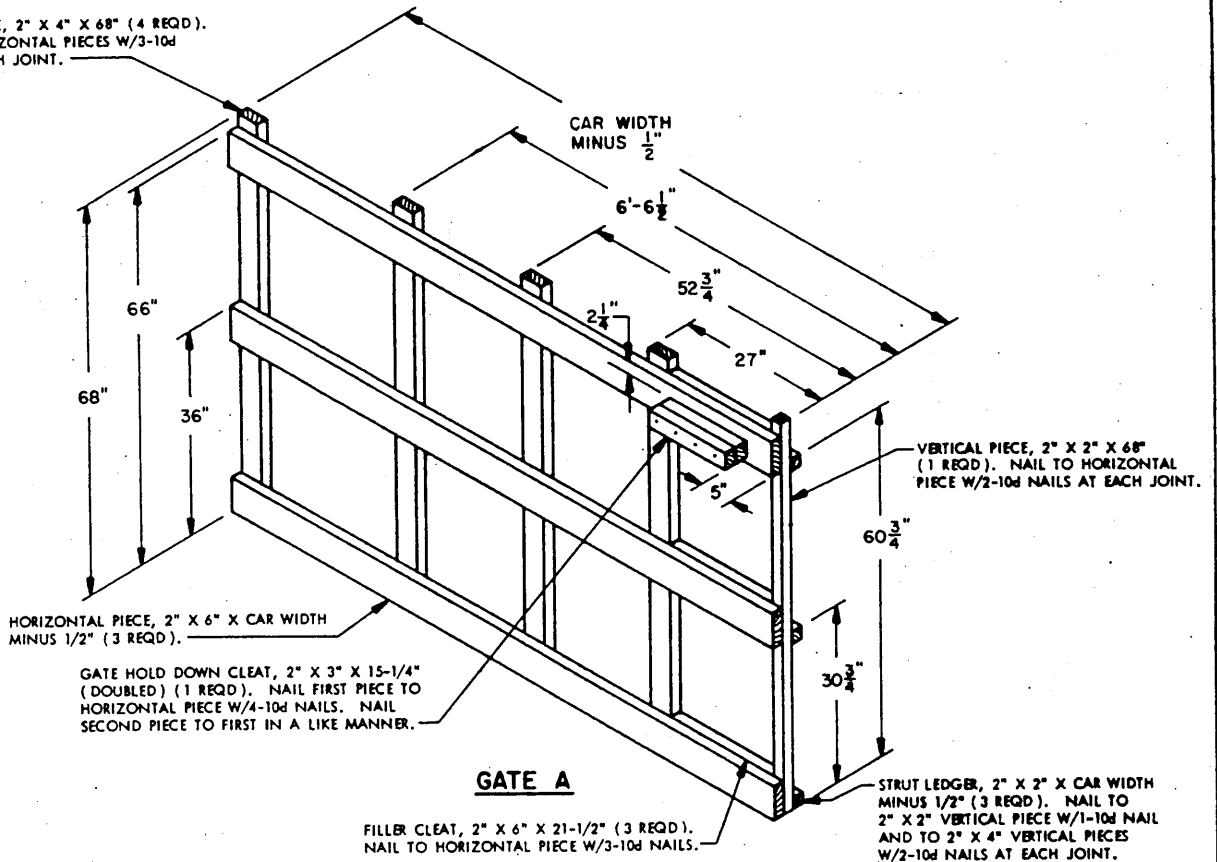
LOAD AS SHOWN

ITEM	QUANTITY	WEIGHT (APPROX)
CONTAINER ----- 51	---	33,150 LBS
(W/CANISTERS)		
DUNNAGE -----		2,097 LBS
TOTAL WEIGHT ---		35,247 LBS

- 7. FOR THE SHIPMENT OF EMPTY CONTAINERS IN A 50'-6" LONG CAR THE FOLLOWING PROCEDURE IS APPLICABLE:
 - A. THE LOAD MAY BE INCREASED TO SIXTY-SIX (66) CONTAINERS, TWENTY-TWO (22) CONTAINER STACKS.
 - B. INCREASE LENGTH OF UNITIZING STRAP MARKED 24 TO 20'-6" AND APPLY TO ENIRCLE A STACK OF THREE (3) CONTAINERS (44 REQ'D).
 - C. POSITION CONTAINERS IN THE CAR WITH THE 91-11/16" DIMENSION ACROSS THE WIDTH OF THE CAR. POSITION FIRST STACK DIRECTLY AGAINST THE CAR END WALL AND AGAINST A CAR SIDE WALL. POSITION SECOND STACK IN LINE WITH THE FIRST. PROVIDE SIDE BLOCKING BY INSTALLING A DOUBLED 2" X 4" X 12" PIECE LONGITUDINALLY IN THE CAR AND AGAINST THE ENDS OF THE SKIDS AND CENTERED ON THE JOINT OF THE TWO CONTAINER STACKS. NAIL FIRST PIECE TO CAR FLOOR W/2-16d NAILS. NAIL SECOND PIECE TO FIRST IN A LIKE MANNER.
 - D. POSITION THE THIRD AND FOURTH CONTAINER STACKS AGAINST THE OPPOSITE WALL AND BLOCK AS SPECIFIED FOR THE FIRST TWO STACKS. CONTINUE BY ALTERNATELY LOADING AND BLOCKING PAIRS OF CONTAINER STACKS AGAINST OPPOSITE SIDE WALLS.
 - E. THE CONTAINER STACKS ADJACENT TO THE CENTER GATES AND EACH CONTAINER STACK WHICH IS NOT RETAINED BY AT LEAST 6" OF CAR SIDE WALL MUST BE CENTERED IN THE WIDTH OF THE CAR AND LOCKED WITH DOUBLED 2" X 4" X 12" PIECES ON EACH END.

(SPECIAL NOTES CONTINUED IN COLUMN AT LEFT)

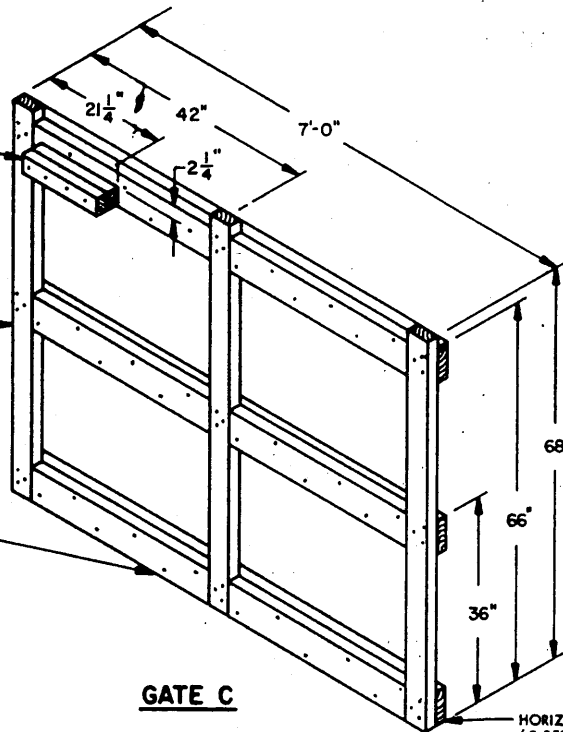
VERTICAL PIECE, 2" X 4" X 68" (4 REQD).
NAIL TO HORIZONTAL PIECES W/3-10d
NAILS AT EACH JOINT.



GATE HOLD-DOWN CLEAT, 2" X 3" X 15-1/4" (DOUBLED) (1 REQD). NAIL FIRST PIECE TO FILLER CLEAT W/4-10d NAILS. NAIL SECOND PIECE TO FIRST IN A LIKE MANNER.

VERTICAL PIECE, 2" X 4" X 68" (3 REQD). NAIL TO HORIZONTAL PIECES W/3-10d NAILS AT EACH JOINT.

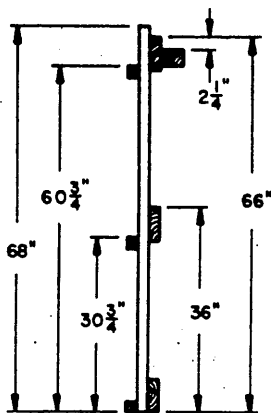
FILLER CLEAT, 2" X 6" X 36" (6 REQD). NAIL TO HORIZONTAL PIECE W/6-10d NAILS.



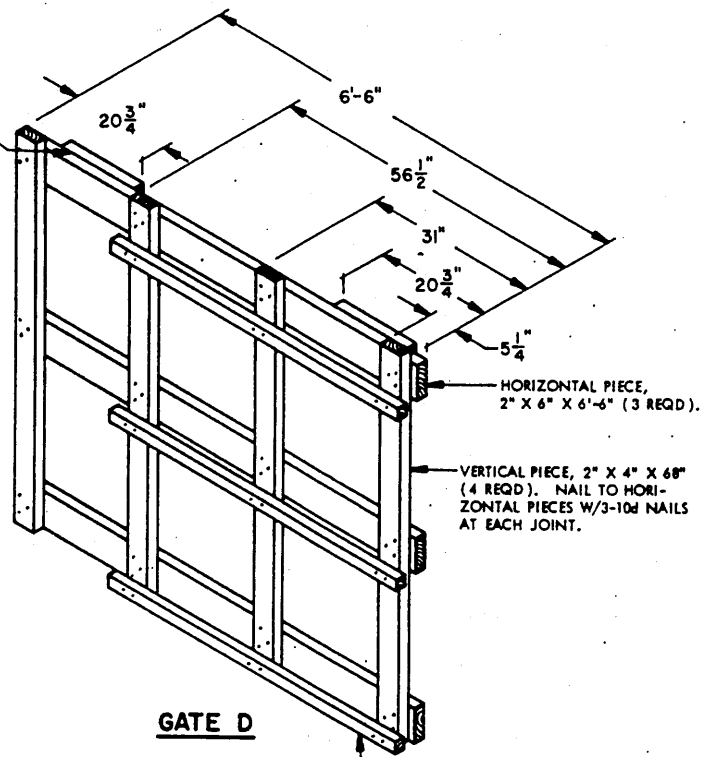
GATE C

HORIZONTAL PIECE, 2" X 6" X 7'-0" (3 REQD).

GATE HOLD-DOWN CLEAT, 2" X 3" X 15-1/4" (DOUBLED) (2 REQD). NAIL FIRST PIECE TO HORIZONTAL PIECE W/4-10d NAILS. NAIL SECOND PIECE TO FIRST IN A LIKE MANNER.



END VIEW



GATE D

HORIZONTAL PIECE, 2" X 6" X 6'-6" (3 REQD).

VERTICAL PIECE, 2" X 4" X 68" (4 REQD). NAIL TO HORIZONTAL PIECES W/3-10d NAILS AT EACH JOINT.

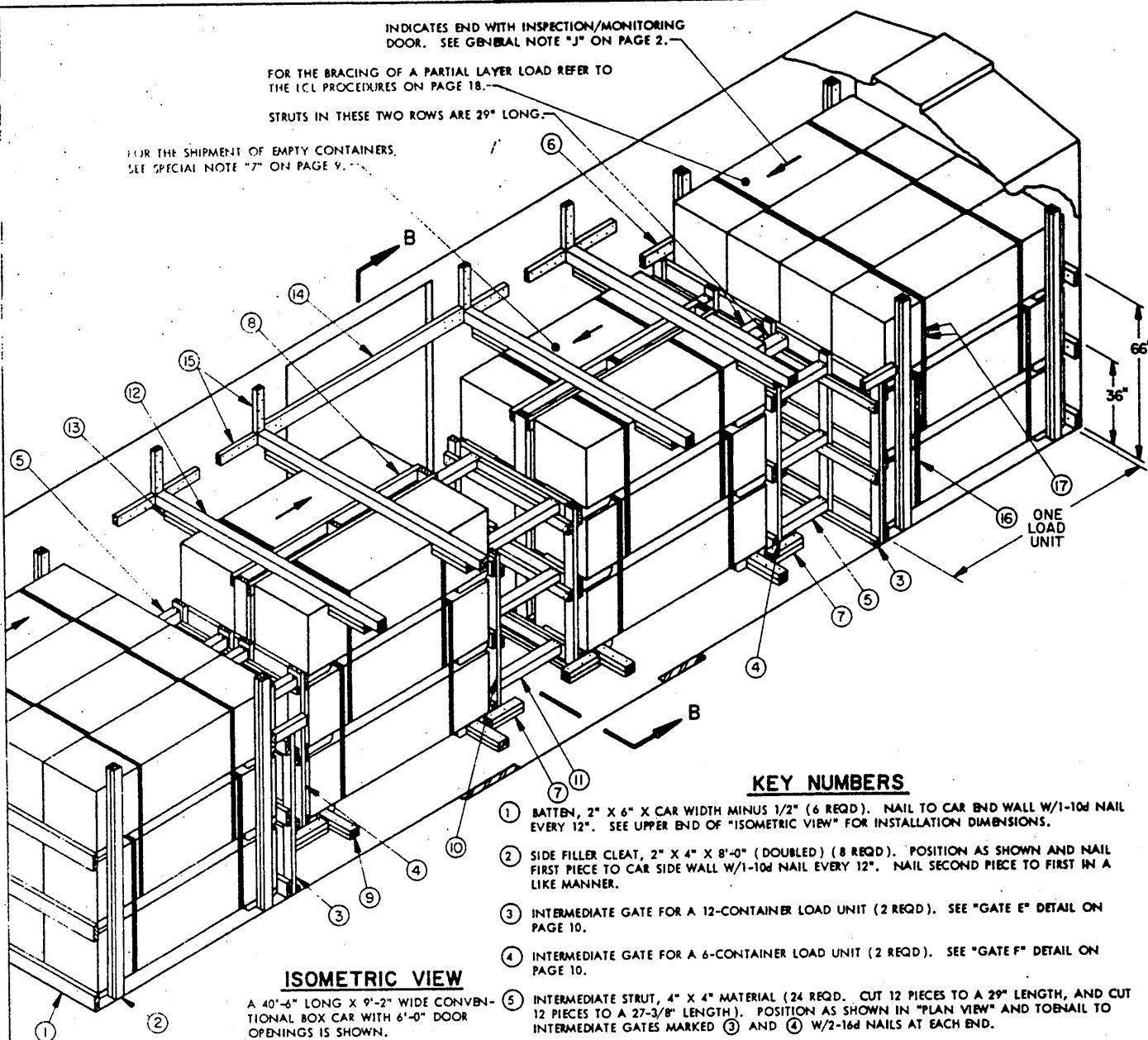
STRUT LEDGER, 2" X 2" X 58-1/2" (3 REQD). NAIL TO VERTICAL PIECES W/2-10d NAILS AT EACH JOINT.

INDICATES END WITH INSPECTION/MONITORING DOOR. SEE GENERAL NOTE "J" ON PAGE 2.

FOR THE BRACING OF A PARTIAL LAYER LOAD REFER TO THE ICL PROCEDURES ON PAGE 18.

STRUTS IN THESE TWO ROWS ARE 29" LONG.

FOR THE SHIPMENT OF EMPTY CONTAINERS, SEE SPECIAL NOTE "7" ON PAGE 9.

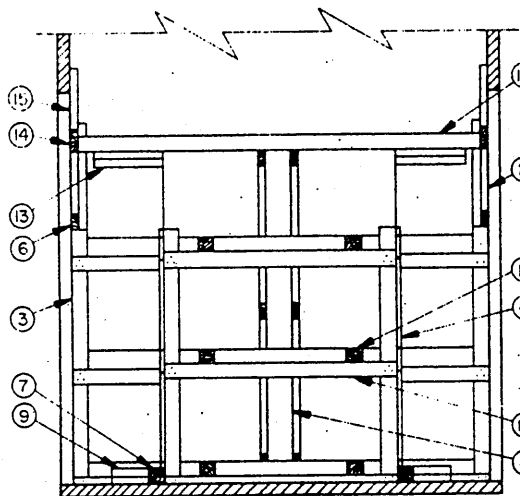


ISOMETRIC VIEW

A 40'-6" LONG X 9'-2" WIDE CONVENTIONAL BOX CAR WITH 6'-0" DOOR OPENINGS IS SHOWN.

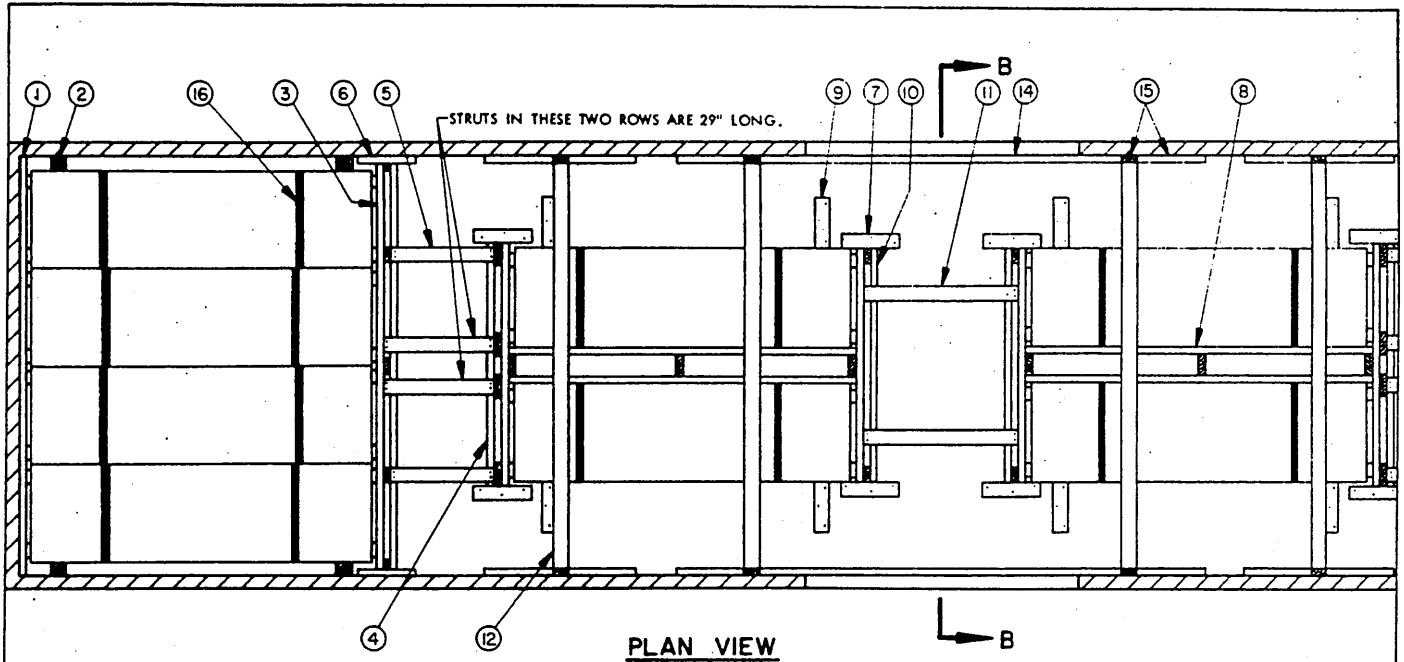
KEY NUMBERS

- ① BATTEN, 2" X 6" X CAR WIDTH MINUS 1/2" (6 REQD). NAIL TO CAR END WALL W/1-10d NAIL EVERY 12". SEE UPPER END OF "ISOMETRIC VIEW" FOR INSTALLATION DIMENSIONS.
- ② SIDE FILLER CLEAT, 2" X 4" X 8'-0" (DOUBLED) (8 REQD). POSITION AS SHOWN AND NAIL FIRST PIECE TO CAR SIDE WALL W/1-10d NAIL EVERY 12". NAIL SECOND PIECE TO FIRST IN A LIKE MANNER.
- ③ INTERMEDIATE GATE FOR A 12-CONTAINER LOAD UNIT (2 REQD). SEE "GATE E" DETAIL ON PAGE 10.
- ④ INTERMEDIATE GATE FOR A 6-CONTAINER LOAD UNIT (2 REQD). SEE "GATE F" DETAIL ON PAGE 10.
- ⑤ INTERMEDIATE STRUT, 4" X 4" MATERIAL (24 REQD). CUT 12 PIECES TO A 29" LENGTH, AND CUT 12 PIECES TO A 27-3/8" LENGTH. POSITION AS SHOWN IN "PLAN VIEW" AND TOENAIL TO INTERMEDIATE GATES MARKED ③ AND ④ W/2-16d NAILS AT EACH END.
- ⑥ GATE HOLD-DOWN CLEAT, 2" X 4" X 15" (4 REQD). CENTER ABOVE INTERMEDIATE GATE MARKED ③ AND NAIL TO CAR SIDE WALL W/4-10d NAILS.
- ⑦ GUIDE RAIL, 2" X 4" X 15" (DOUBLED) (8 REQD). CENTER AGAINST END OF GATES MARKED ④ AND/OR ⑩ AND NAIL FIRST PIECE TO CAR FLOOR W/3-16d NAILS. NAIL SECOND PIECE TO FIRST IN A LIKE MANNER. SEE SPECIAL NOTE "4" ON PAGE 9.
- ⑧ "SPACER A" ASSEMBLY (2 REQD). SEE DETAIL ON PAGE 11.
- ⑨ SIDE BLOCKING, 2" X 4" X 15" (DOUBLED) (8 REQD). NAIL FIRST PIECE TO CAR FLOOR W/3-16d NAILS. NAIL SECOND PIECE TO FIRST IN A LIKE MANNER.
- ⑩ CENTER GATE (2 REQD). SEE "GATE G" DETAIL ON PAGE 11.
- ⑪ CENTER STRUT, 4" X 4" X CUT TO FIT (6 REQD). TOENAIL TO CENTER GATES MARKED ⑩ W/2-16d NAILS AT EACH END.
- ⑫ ANTI-SWAY BRACE, 4" X 4" X CAR WIDTH (CUT TO FIT) (4 REQD).
- ⑬ ANTI-SWAY BLOCK, 2" X 4" X 18" (DOUBLED) (8 REQD). NAIL FIRST PIECE TO ANTI-SWAY BRACE MARKED ⑫ W/5-12d NAILS. NAIL SECOND PIECE TO FIRST IN A LIKE MANNER.
- ⑭ DOOR SPANNER, 2" X 6" X DOOR OPENING WIDTH PLUS 24" (2 REQD). NAIL TO CAR SIDE WALL W/5-12d NAILS AT EACH END. SEE SPECIAL NOTE "2" ON PAGE 9.
- ⑮ POCKET CLEAT, 2" X 4" X 18" (20 REQD). NAIL TO CAR SIDE WALL W/5-10d NAILS. SEE SPECIAL NOTE "5" ON PAGE 9.
- ⑯ STEEL STRAPPING, 1-1/4" X .035" X 15'-0" (48 REQD). SEE GENERAL NOTE "L" ON PAGE 2. SEE "UNITIZING AND HANDLING PROCEDURAL GUIDANCE" ON PAGE 3.
- ⑰ SEAL FOR 1-1/4" STRAPPING (96 REQD).



SECTION B-B

36-UNIT LOAD IN A 40'-6" LONG X 9'-2" WIDE CAR (CONVENTIONAL)



PLAN VIEW

SPECIAL NOTES

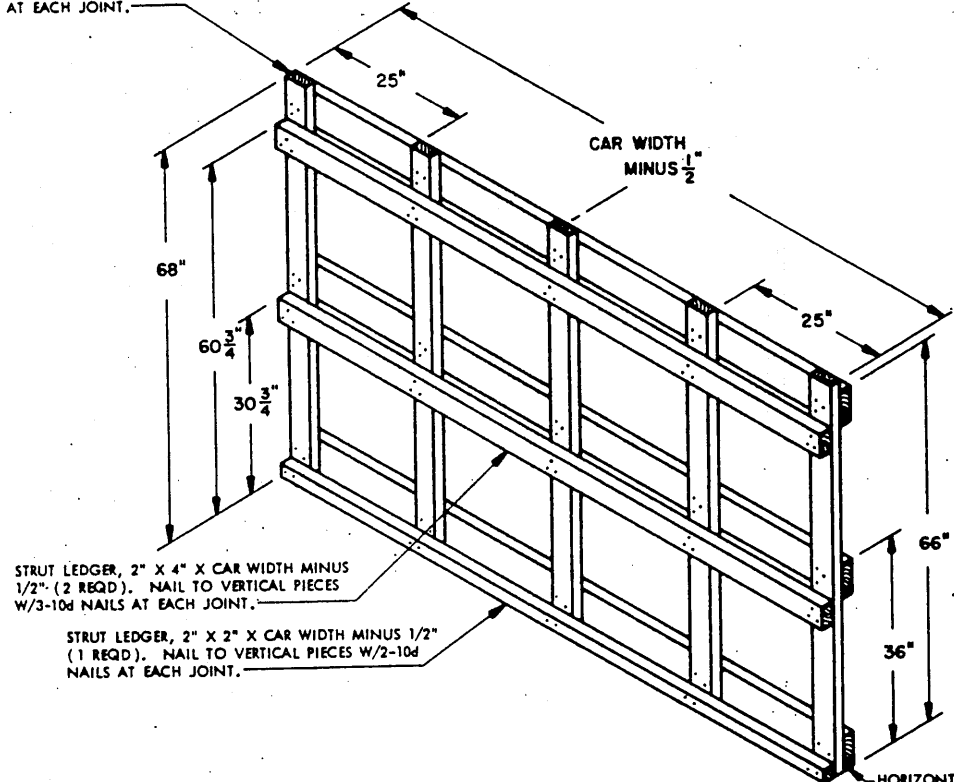
1. A 40'-6" LONG X 9'-2" WIDE CONVENTIONAL BOX CAR EQUIPPED WITH 6'-0" DOOR OPENINGS IS SHOWN. A WIDER CAR CAN BE USED FOR THE SHIPMENT OF THE DEPICTED LOAD OR A CAR OF LESSER WIDTH (8'-8" MIN) MAY BE USED. ADJUST THICKNESS OF SIDE FILLER CLEAT MARKED (2) AS REQUIRED. CAUTION: THE ALIGNMENT OF THE CONTAINERS MUST BE MAINTAINED AS SHOWN. REPLACE GATE HOLD-DOWN CLEATS MARKED (6) WITH DOUBLED 2" X 3" X 15-1/4" GATE HOLD-DOWN CLEATS, AS SHOWN ON "GATE F" IF CAR WIDTH IS LESS THAN 8'-11".
2. A CAR WITH WIDER OR STAGGERED DOORS CAN BE USED FOR THE SHIPMENT OF THE DEPICTED LOAD. IF THROUGH DOOR OPENINGS ARE GREATER THAN 6'-0" OR IF THE CAR IS EQUIPPED WITH STAGGERED DOOR OPENINGS, THE QUANTITY OF DOOR SPANNER PIECES MARKED (14) MUST BE DOUBLED (REFER TO PIECES MARKED (16) ON PAGE 4) AND PIECES MARKED (15) WHICH ARE IN THE DOORWAY AREA MUST BE APPLIED SIMILAR TO THE APPLICATION OF PIECES MARKED (23) ON PAGE 4.
3. THE DUNNAGE ASSEMBLIES AND OTHER BLOCKING AND BRACING COMPONENTS AND THE LOADING PATTERN SHOWN HEREIN ARE DESIGNED TO FACILITATE THE IN-TRANSIT INSPECTION/MONITORING OF THE DESIGNATED ITEM. THE INSPECTION/MONITORING DOORS ON THE CONTAINERS MUST NOT BE RENDERED INACCESSIBLE.
4. IF THE CAR BEING USED FOR THE SHIPMENT OF THE DEPICTED LOAD IS EQUIPPED WITH A NAILABLE METAL FLOOR AND A NAIL SIZE FOR FLOOR NAILING IS MARKED ON THE SIDE WALL OF THE CAR, THAT GUIDANCE SHOULD BE APPLIED TO THE NAILING OF PIECES MARKED (7) AND (9). IF A NAIL SIZE IS NOT SPECIFIED IN THE CAR, 30d NAILS SHOULD BE USED. ADDITIONALLY, PIECES MARKED (7) AND (9) SHOULD BE CHANGED TO 2" X 6" MATERIAL TO RECEIVE THE LARGER SIZE NAILS. SEE THE "NAILABLE METAL FLOOR" DETAIL ON PAGE 27 FOR GUIDANCE.
5. THE VERTICALLY POSITIONED PIECES MARKED (15) SHOULD BE CUT TO FIT BETWEEN AN ANTI-SWAY BRACE MARKED (12) AND THE CAR ROOF IF THE CAR SIDE HEIGHT IS NOT SUFFICIENT TO ALLOW THE USE OF AN 18" LONG PIECE.
6. IF THE DELINEATED OUTLOADING METHOD IS USED FOR THE SHIPMENT OF A LOAD WHICH CONTAINS AN END LOAD UNIT OF LESS CONTAINERS THAN SHOWN TO SATISFY A LESS-THAN-FULL-LOAD QUANTITY, A "FILLER ASSEMBLY", AS DETAILED ON PAGE 16, MUST BE SUBSTITUTED IN PLACE OF EACH OMITTED CONTAINER. A "FILLER ASSEMBLY" CAN ONLY BE USED IN THE TOP LAYER OF A LOAD UNIT IN THE END OF THE CAR. NOTE: RATHER THAN USING FOUR (4) FILLER ASSEMBLIES IN THE PLACE OF FOUR (4) OMITTED CONTAINERS IN ONE OF THE END LOAD UNITS, A K-BRACE ASSEMBLY MAY BE INSTALLED FOR THE BRACING OF THE REMAINING PARTIAL LAYER. REFER TO KEY NUMBERS (9) THROUGH (17) ON PAGE 18 FOR A TYPICAL INSTALLATION, AND SPECIAL NOTE "3" ON THAT PAGE FOR SPECIFICATIONS.
7. FOR THE SHIPMENT OF EMPTY CONTAINERS IN A 40'-6" LONG CAR THE FOLLOWING PROCEDURE IS APPLICABLE:
 - A. THE LOAD MAY BE INCREASED TO FIFTY-FOUR (54) CONTAINERS, EIGHTEEN (18) CONTAINER STACKS.
 - B. INCREASE LENGTH OF UNITIZING STRAP MARKED (16) TO 20'-6" AND APPLY TO ENCIRCLE A STACK OF THREE (3) CONTAINERS (36 REQD).
 - C. SEE SPECIAL NOTE "7-C THROUGH 7-G" ON PAGE 5 FOR LOADING AND BLOCKING PROCEDURES.

BILL OF MATERIAL		
LUMBER	LINEAR FEET	BOARD FEET
2" X 2"	60	20
2" X 3"	16	8
2" X 4"	517	345
2" X 6"	248	248
4" X 4"	115	154
NAILS	NO. REQD	POUNDS
10d (3")	854	13-1/4
12d (3-1/4")	100	1-3/4
16d (3-1/2")	216	4-3/4
STEEL STRAPPING, 1-1/4" X .035" -----		720' REQD ----- 103 LBS
SEAL FOR 1-1/4" STRAPPING -----		96 REQD ----- 5 LBS

LOAD AS SHOWN

ITEM	QUANTITY	WEIGHT (APPROX)
CONTAINER -----	36 -----	23,400 LBS
(W/CANISTERS)		
DUNNAGE -----		2,066 LBS
TOTAL WEIGHT ---		25,466 LBS

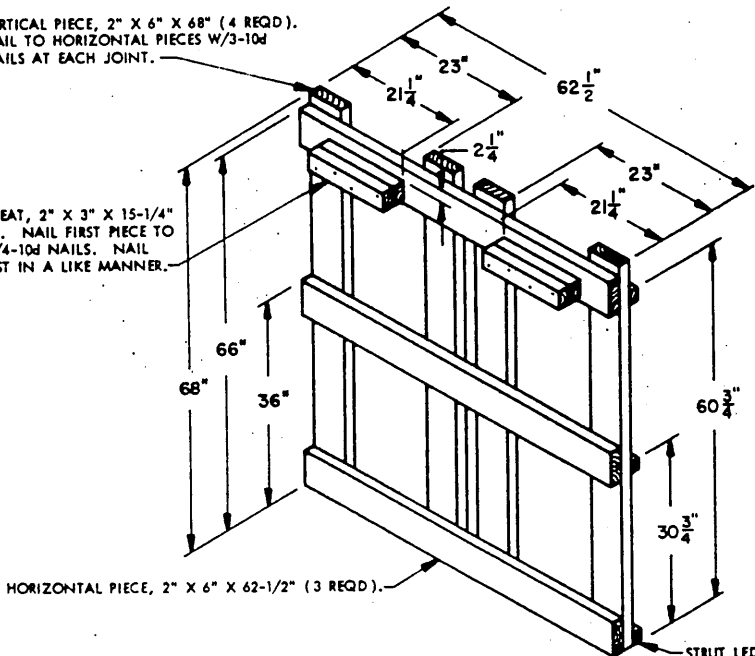
VERTICAL PIECE, 2" X 4" X 68" (5 REQD).
NAIL TO HORIZONTAL PIECES W/3-10d
NAILS AT EACH JOINT.



GATE E

VERTICAL PIECE, 2" X 6" X 68" (4 REQD).
NAIL TO HORIZONTAL PIECES W/3-10d
NAILS AT EACH JOINT.

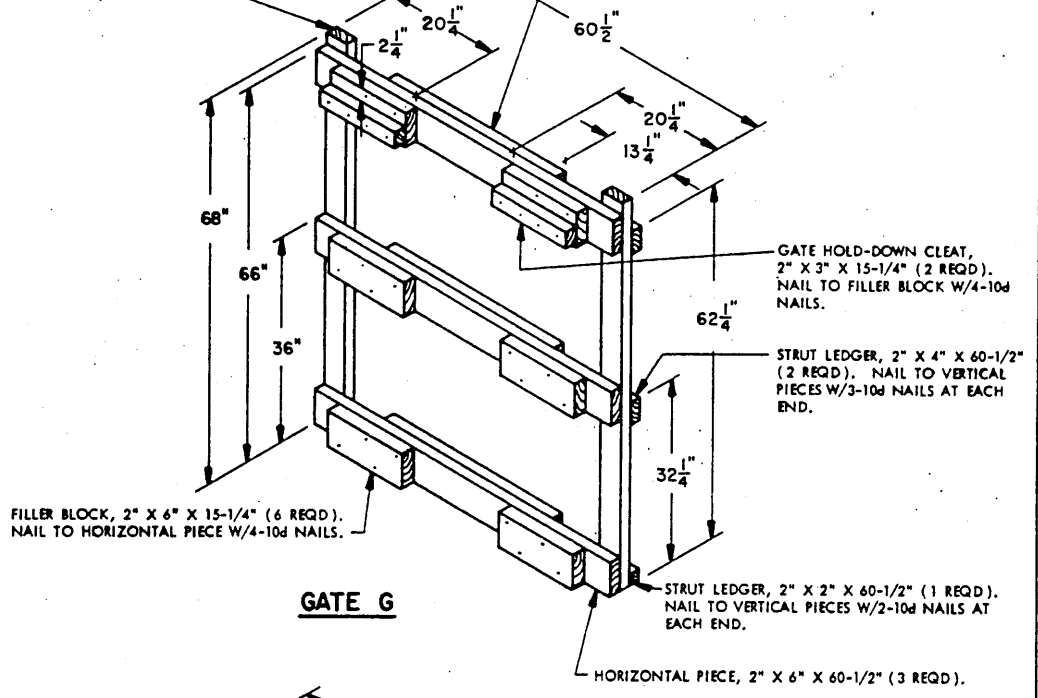
GATE HOLD-DOWN CLEAT, 2" X 3" X 15-1/4"
(DOUBLED) (2 REQD). NAIL FIRST PIECE TO
HORIZONTAL PIECE W/4-10d NAILS. NAIL
SECOND PIECE TO FIRST IN A LIKE MANNER.



GATE F

VERTICAL PIECE, 2" X 4" X 68" (2 REQD).
NAIL TO VERTICAL PIECES W/3-10d NAILS
AT EACH JOINT.

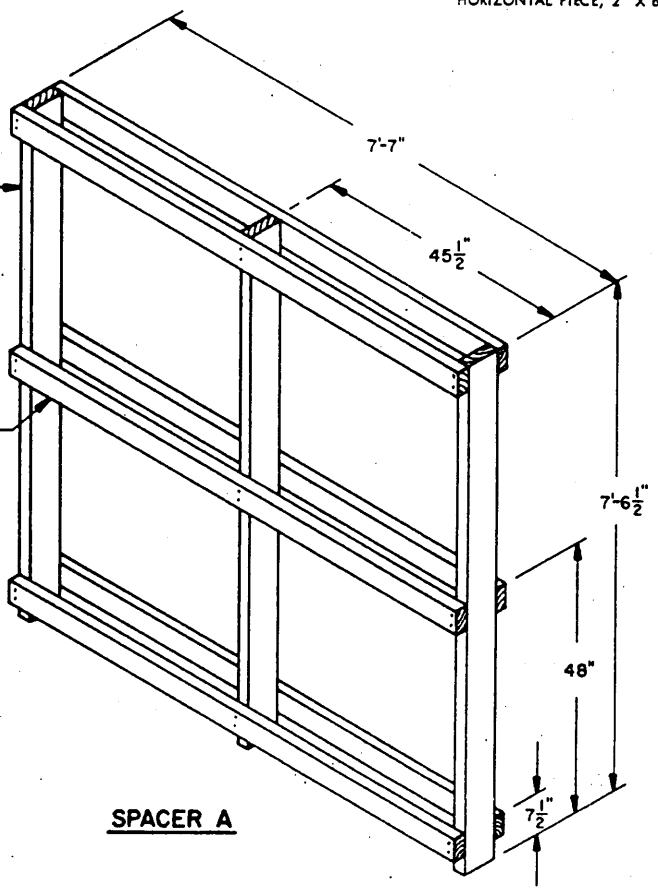
SPACER CLEAT, 2" X 4" X 34" (3 REQD). NAIL TO
HORIZONTAL PIECE W/5-10d NAILS.



GATE G

VERTICAL PIECE, 2" X 6" X 7'-6-1/2"
(3 REQD).

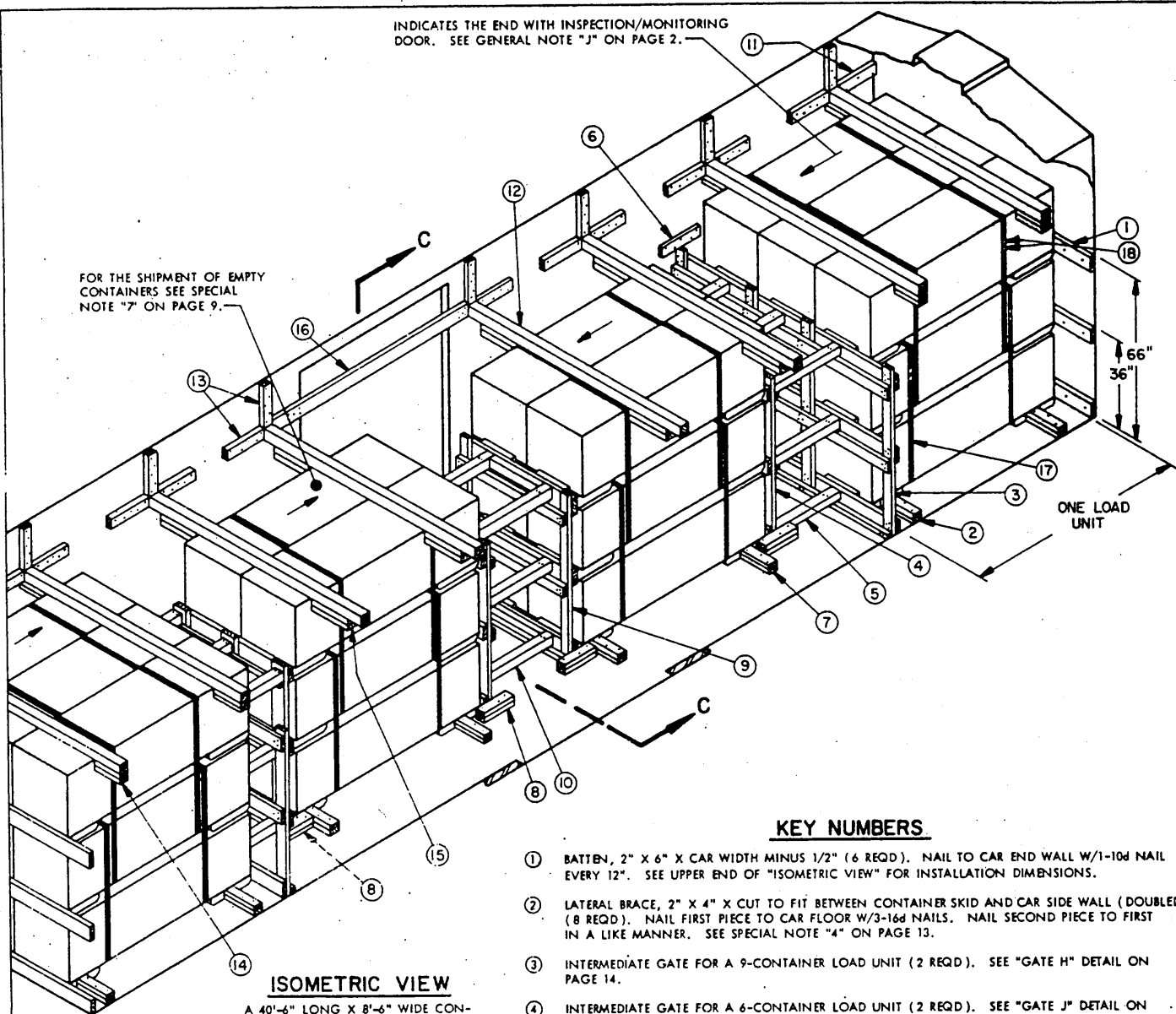
HORIZONTAL PIECE, 2" X 4" X 7'-7"
(6 REQD). NAIL TO VERTICAL PIECES
W/2-10d NAILS AT EACH JOINT.



SPACER A

INDICATES THE END WITH INSPECTION/MONITORING DOOR. SEE GENERAL NOTE "J" ON PAGE 2.

FOR THE SHIPMENT OF EMPTY CONTAINERS SEE SPECIAL NOTE "7" ON PAGE 9.

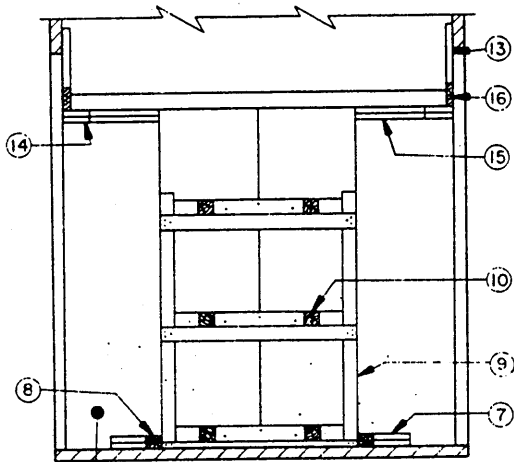


ISOMETRIC VIEW

A 40'-6" LONG X 8'-6" WIDE CONVENTIONAL BOX CAR WITH 6'-0" DOOR OPENINGS IS SHOWN.

KEY NUMBERS

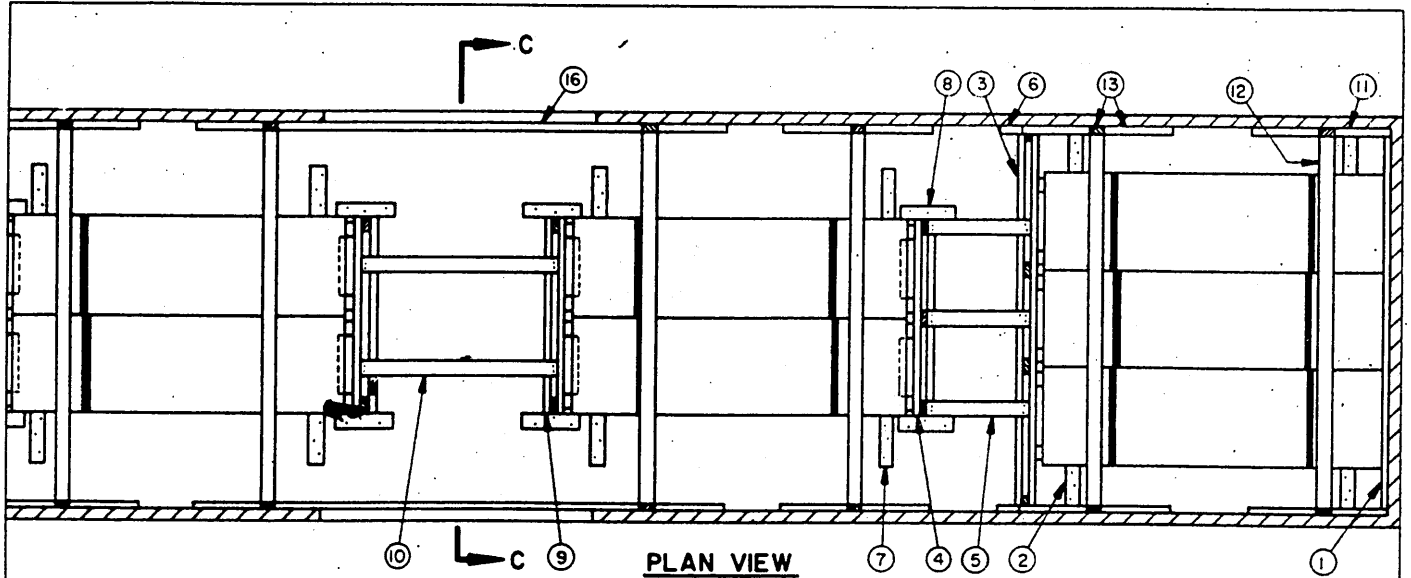
- ① BATTEN, 2" X 6" X CAR WIDTH MINUS 1/2" (6 REQD). NAIL TO CAR END WALL W/1-10d NAIL EVERY 12". SEE UPPER END OF "ISOMETRIC VIEW" FOR INSTALLATION DIMENSIONS.
- ② LATERAL BRACE, 2" X 4" X CUT TO FIT BETWEEN CONTAINER SKID AND CAR SIDE WALL (DOUBLED) (8 REQD). NAIL FIRST PIECE TO CAR FLOOR W/3-16d NAILS. NAIL SECOND PIECE TO FIRST IN A LIKE MANNER. SEE SPECIAL NOTE "4" ON PAGE 13.
- ③ INTERMEDIATE GATE FOR A 9-CONTAINER LOAD UNIT (2 REQD). SEE "GATE H" DETAIL ON PAGE 14.
- ④ INTERMEDIATE GATE FOR A 6-CONTAINER LOAD UNIT (2 REQD). SEE "GATE J" DETAIL ON PAGE 14.
- ⑤ INTERMEDIATE STRUT, 4" X 4" X 27" (18 REQD). TOENAIL TO GATES MARKED ③ AND ④ W/2-16d NAILS AT EACH END.
- ⑥ GATE HOLD-DOWN CLEAT, 2" X 4" X 18" (4 REQD). CENTER ABOVE GATE MARKED ③ AND NAIL TO CAR SIDE WALL W/5-10d NAILS.
- ⑦ SIDE BLOCKING, 2" X 4" X 15" (DOUBLED) (8 REQD). NAIL FIRST PIECE TO CAR FLOOR W/3-16d NAILS. NAIL SECOND PIECE TO FIRST IN A LIKE MANNER.
- ⑧ GUIDE RAIL, 2" X 4" X 15" (DOUBLED) (8 REQD). CENTER AGAINST END OF GATES MARKED ④ AND/OR ③ AND NAIL FIRST PIECE TO CAR FLOOR W/3-16d NAILS. NAIL SECOND PIECE TO FIRST IN A LIKE MANNER.
- ⑨ CENTER GATE (2 REQD). SEE "GATE K" DETAIL ON PAGE 15.
- ⑩ CENTER STRUT, 4" X 4" X CUT TO FIT (6 REQD). TOENAIL TO CENTER GATES MARKED ⑨ W/2-16d NAILS AT EACH END.
- ⑪ POCKET CLEAT, 2" X 4" X 15" (4 REQD). NAIL TO CAR SIDE WALL W/3-10d NAILS.
- ⑫ ANTI-SWAY BRACE, 4" X 4" X CAR WIDTH (CUT TO FIT) (8 REQD).
- ⑬ POCKET CLEAT, 2" X 4" X 18" (40 REQD). NAIL TO CAR SIDE WALL W/5-10d NAILS. SEE SPECIAL NOTE "5" ON PAGE 13.
- ⑭ ANTI-SWAY BLOCK, 2" X 4" X CUT TO FIT BETWEEN CONTAINER AND CAR SIDE WALL (REF 12-1/2") DOUBLED (8 REQD). NAIL FIRST PIECE TO ANTI-SWAY BRACE MARKED ⑫ W/3-12d NAILS. NAIL SECOND PIECE TO FIRST IN A LIKE MANNER.
- ⑮ ANTI-SWAY BLOCK, 2" X 4" X 18" (DOUBLED) (8 REQD). NAIL FIRST PIECE TO ANTI-SWAY BRACE MARKED ⑫ W/5-12d NAILS. NAIL SECOND PIECE TO FIRST IN A LIKE MANNER.
- ⑯ DOOR SPANNER, 2" X 6" X DOOR OPENING WIDTH PLUS 24" (2 REQD). NAIL TO CAR SIDE WALL W/5-12d NAILS AT EACH END. SEE SPECIAL NOTE "2" ON PAGE 13.



SECTION C-C

THE LOAD UNIT IN THE END OF THE CAR AND DUNNAGE PIECE MARKED ③ HAVE BEEN OMITTED FOR CLARITY.

(KEY NUMBERS CONTINUED ON PAGE 13)



(KEY NUMBERS CONTINUED FROM PAGE 12)

PLAN VIEW

SPECIAL NOTES

- 17 STEEL STRAPPING, 1-1/4" X .035" X 15'-0" (40 REQD). SEE GENERAL NOTE "L" ON PAGE 2. SEE "UNITIZING AND HANDLING PROCEDURAL GUIDANCE" ON PAGE 3.
- 18 SEAL FOR 1-1/4" STEEL STRAPPING (80 REQD).

- 1. A 40'-6" LONG X 8'-6" WIDE CONVENTIONAL BOX CAR EQUIPPED WITH 6'-0" DOOR OPENINGS IS SHOWN. A WIDER CAR CAN BE USED FOR THE SHIPMENT OF THE DEPICTED LOAD.
- 2. A CAR WITH WIDER OR STAGGERED DOORS CAN BE USED FOR THE SHIPMENT OF THE DEPICTED LOAD. IF THROUGH DOOR OPENINGS ARE GREATER THAN 6'-0" OR IF THE CAR IS EQUIPPED WITH STAGGERED DOOR OPENINGS, THE QUANTITY OF DOOR SPANNER PIECES MARKED 16 MUST BE DOUBLED (REFER TO PIECES MARKED 19 ON PAGE 4) AND PIECES MARKED 13 WHICH ARE IN THE DOORWAY AREA MUST BE APPLIED SIMILAR TO THE APPLICATION OF PIECES MARKED 23 ON PAGE 4.
- 3. THE DUNNAGE ASSEMBLIES AND OTHER BLOCKING AND BRACING COMPONENTS AND THE LOADING PATTERN SHOWN HEREIN ARE DESIGNED TO FACILITATE THE IN-TRANSIT INSPECTION/MONITORING OF THE DESIGNATED ITEM. THE INSPECTION/MONITORING DOORS ON THE CONTAINERS MUST NOT BE RENDERED INACCESSIBLE.
- 4. IF THE CAR BEING USED FOR THE SHIPMENT OF THE DEPICTED LOAD IS EQUIPPED WITH A NAILABLE METAL FLOOR AND A NAIL SIZE FOR FLOOR NAILING IS MARKED ON THE SIDE WALL OF THE CAR, THAT GUIDANCE SHOULD BE APPLIED TO THE NAILING OF PIECES MARKED 2, 7, AND 8. IF A NAIL SIZE IS NOT SPECIFIED IN THE CAR, 30d NAILS SHOULD BE USED. ADDITIONALLY, PIECES MARKED 2, 7, AND 8 SHOULD BE CHANGED TO 2" X 6" MATERIAL TO RECEIVE THE LARGER SIZE NAILS. SEE THE "NAILABLE METAL FLOOR" DETAIL ON PAGE 27 FOR GUIDANCE.
- 5. THE VERTICALLY POSITIONED PIECES MARKED 13 SHOULD BE CUT TO FIT BETWEEN AN ANTI-SWAY BRACE MARKED 12 AND THE CAR ROOF IF THE CAR SIDE WALL HEIGHT IS NOT SUFFICIENT TO ALLOW THE USE OF AN 18" LONG PIECE.
- 6. IF THE DELINEATED OUTLOADING METHOD IS USED FOR THE SHIPMENT OF A LOAD WHICH CONTAINS AN END LOAD UNIT OF ONE LESS CONTAINER THAN SHOWN TO SATISFY A LESS-THAN-FULL-LOAD QUANTITY, A "FILLER ASSEMBLY", AS DETAILED ON PAGE 16, MUST BE SUBSTITUTED IN PLACE OF EACH OMITTED CONTAINER. ONLY THE MIDDLE CONTAINER IN THE TOP LAYER OF AN END LOAD UNIT MAY BE REPLACED WITH A "FILLER ASSEMBLY". NOTE IF THREE (3) CONTAINERS ARE TO BE OMITTED, THEY SHOULD ALL BE OMITTED FROM ONE LOAD UNIT.
- 7. FOR THE SHIPMENT OF EMPTY CONTAINERS IN A 40'-6" LONG CAR SEE SPECIAL NOTE "7" ON PAGE 9.

BILL OF MATERIAL

LUMBER	LINEAR FEET	BOARD FEET
2" X 2"	53	18
2" X 3"	16	8
2" X 4"	301	201
2" X 6"	235	235
4" X 4"	133	178
NAILS	NO. REQD	POUNDS
10d (3")	774	12
12d (3-1/4")	148	2-1/2
16d (3-1/2")	240	5-1/4
STEEL STRAPPING, 1-1/4" X .035"	600' REQD	86 LBS
SEAL FOR 1-1/4" STRAPPING	80 REQD	4 LBS

LOAD AS SHOWN

ITEM	QUANTITY	WEIGHT (APPROX)
CONTAINER	30	19,500 LBS
(W/CANISTERS)		
DUNNAGE		1,710 LBS
TOTAL WEIGHT		21,210 LBS

30-UNIT LOAD IN A 40'-6" LONG X 8'-6" WIDE CAR (CONVENTIONAL)

VERTICAL PIECE, 2" X 4" X 68" (4 REQD).
NAIL TO HORIZONTAL PIECES W/3-10d
NAILS AT EACH JOINT.

FILLER BLOCK, 2" X 4" X 15-1/4" (9 REQD).
NAIL TO HORIZONTAL PIECE W/4-10d NAILS.

CAR WIDTH
MINUS 1/2"

STRUT LEDGER, 2" X 4" X CAR
WIDTH MINUS 1/2" (2 REQD).
NAIL TO VERTICAL PIECES
W/3-10d NAILS AT EACH JOINT.

62 1/4"
32 1/4"

GATE H

HORIZONTAL PIECE, 2" X 6" X CAR
WIDTH MINUS 1/2" (3 REQD).

STRUT LEDGER, 2" X 2" X CAR WIDTH MINUS 1/2" (1 REQD).
NAIL TO VERTICAL PIECES W/2-10d NAILS AT EACH JOINT.

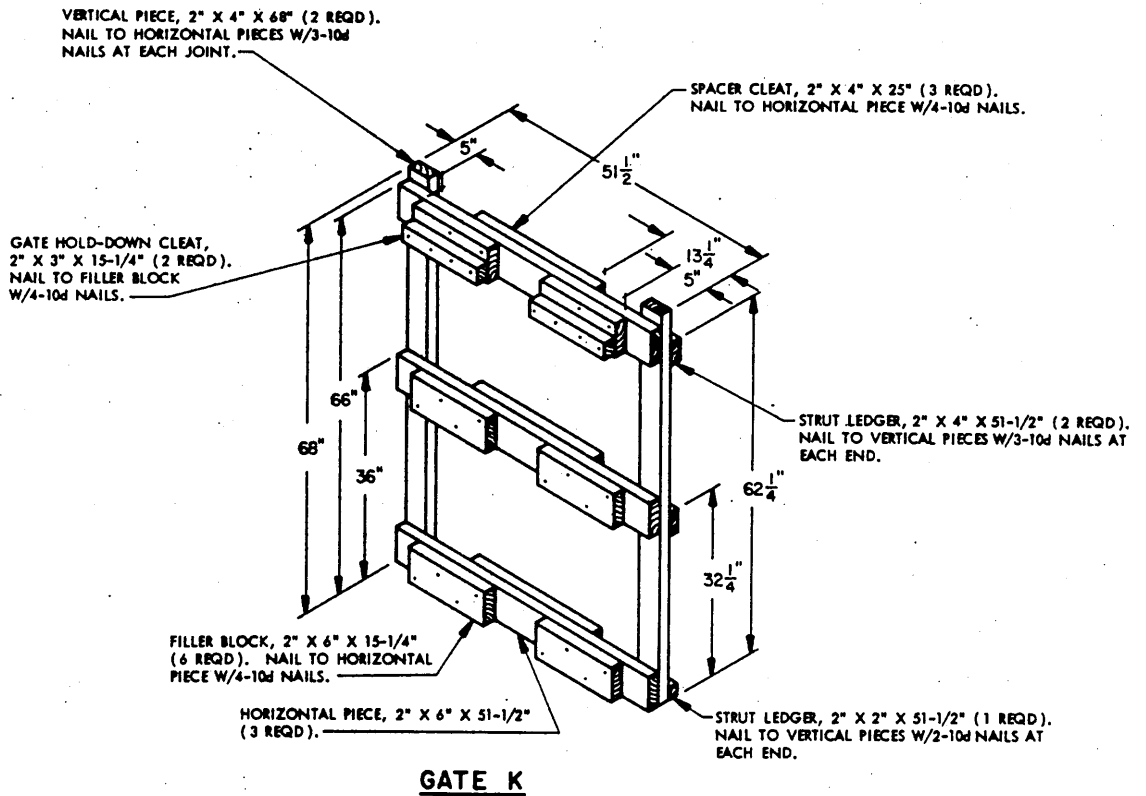
VERTICAL PIECE, 2" X 6" X 68" (3 REQD).
NAIL TO HORIZONTAL PIECES W/3-10d
NAILS AT EACH JOINT.

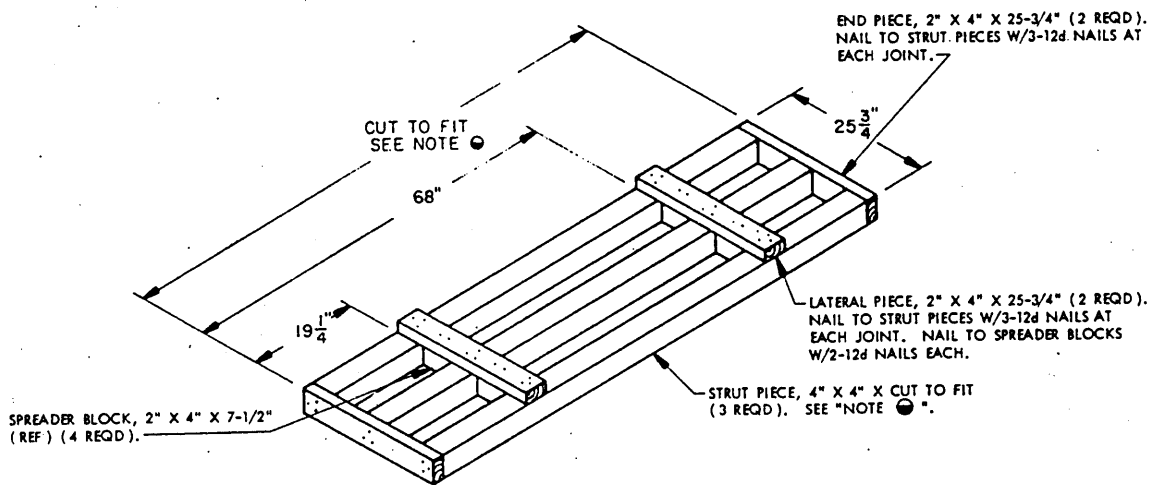
GATE HOLD-DOWN CLEAT, 2" X 3" X 15-1/4"
(DOUBLED) (2 REQD). NAIL FIRST PIECE TO
HORIZONTAL PIECE W/4-10d NAILS. NAIL
SECOND PIECE TO FIRST IN A LIKE MANNER.

HORIZONTAL PIECE, 2" X 6" X 53-1/2"
(3 REQD).

STRUT LEDGER, 2" X 2" X 53-1/2" (3 REQD).
NAIL TO VERTICAL PIECES W/2-10d NAILS AT
EACH JOINT.

GATE J





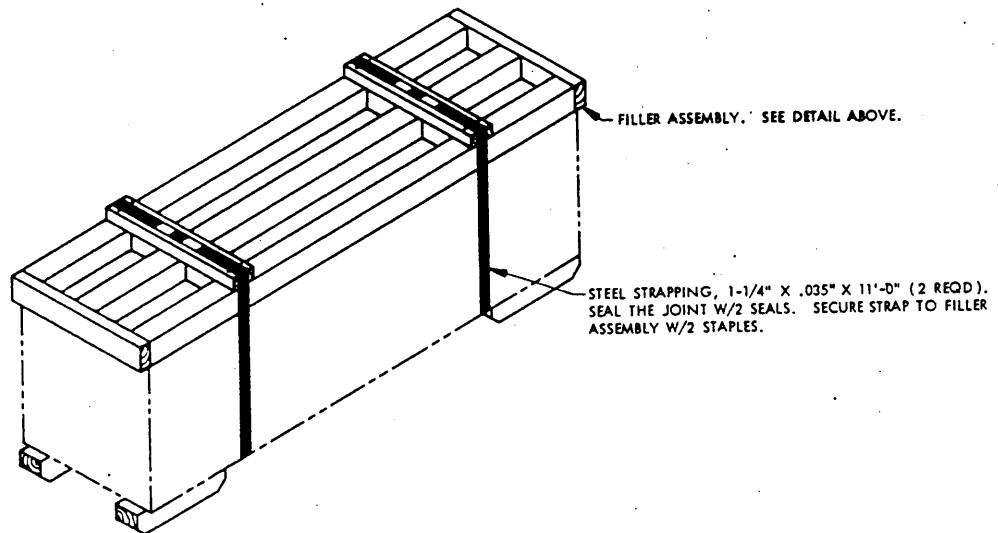
FILLER ASSEMBLY

ONE (1) REQUIRED FOR EACH OMITTED CONTAINER.

NOTE ●:

THE REFERENCED OVERALL LENGTH OF THE FILLER ASSEMBLY IS AS FOLLOWS:

- A. 7'-7-11/16" FOR THE LOAD ON PAGE 4.
- B. 7'-7-11/16" FOR THE END LOAD UNITS IN THE LOAD ON PAGE 8.
- C. 7'-6-7/16" FOR THE LOAD ON PAGE 12.

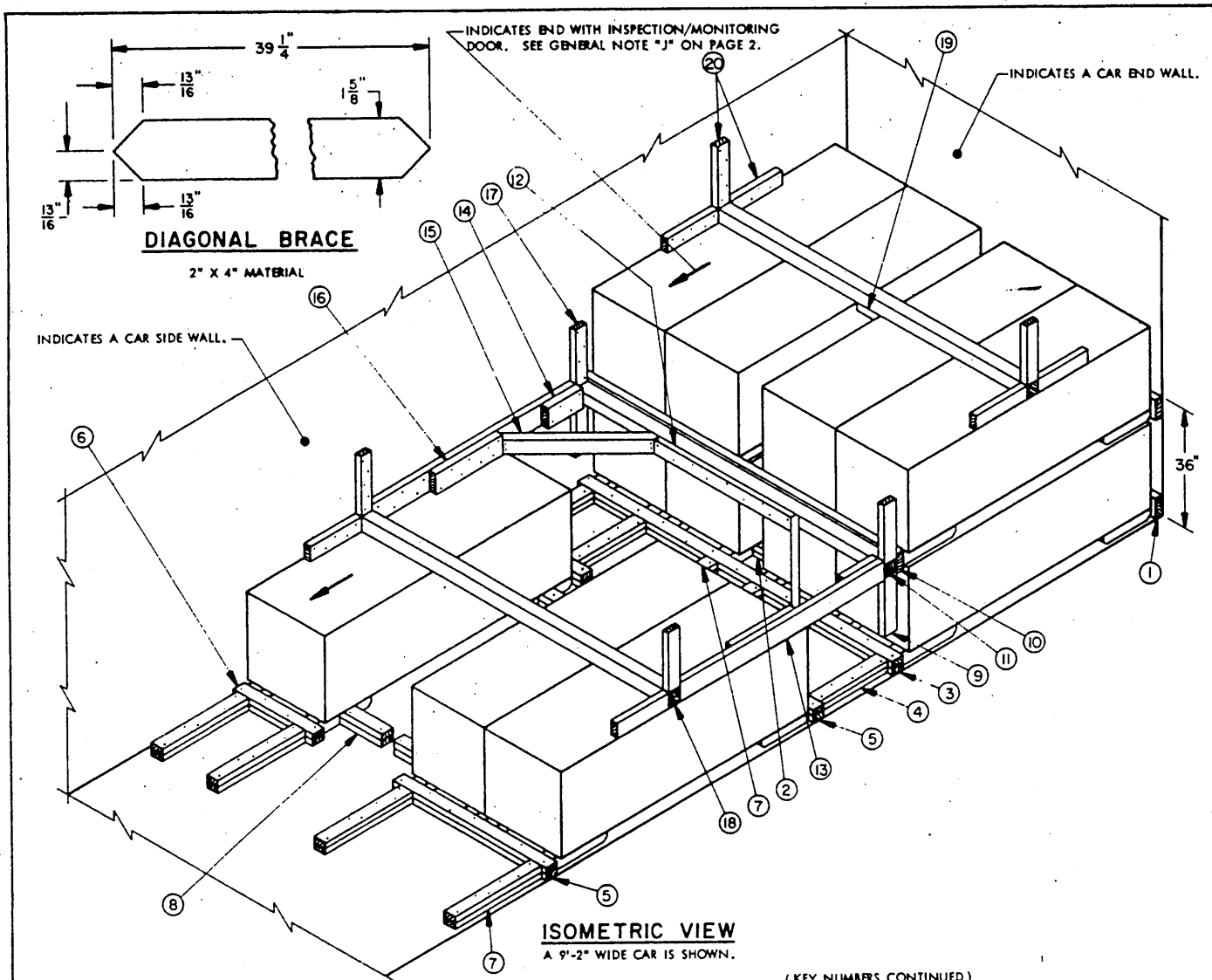


APPLICATION OF FILLER ASSEMBLY

IT MAY BE NECESSARY TO USE THE "APPLICATION OF FILLER ASSEMBLY" PROCEDURE SHOWN ABOVE FOR THE OMISSION OF ONE OR MORE CONTAINERS FROM THE LOADS SHOWN ON PAGES 4, 8, AND 12. IT WILL NOT BE NECESSARY TO USE A FILLER ASSEMBLY IN A CAR EQUIPPED WITH MECHANICAL BRACING. REFER TO THE LCL PROCEDURES ON PAGES 24, 25, AND 26 FOR A LESS THAN FULL LOAD UNIT QUANTITY IN A MECHANICAL CAR.

NOTE: IF A FILLER ASSEMBLY IS IN A LOCATION WHERE IT WILL CONTACT A 2" X 3" X 15-1/4" GATE HOLD-DOWN CLEAT, THIS CLEAT MUST BE MOVED TO THE SAME RELATIVE POSITION ON THE NEXT LOWER HORIZONTAL PIECE OF THE GATE.

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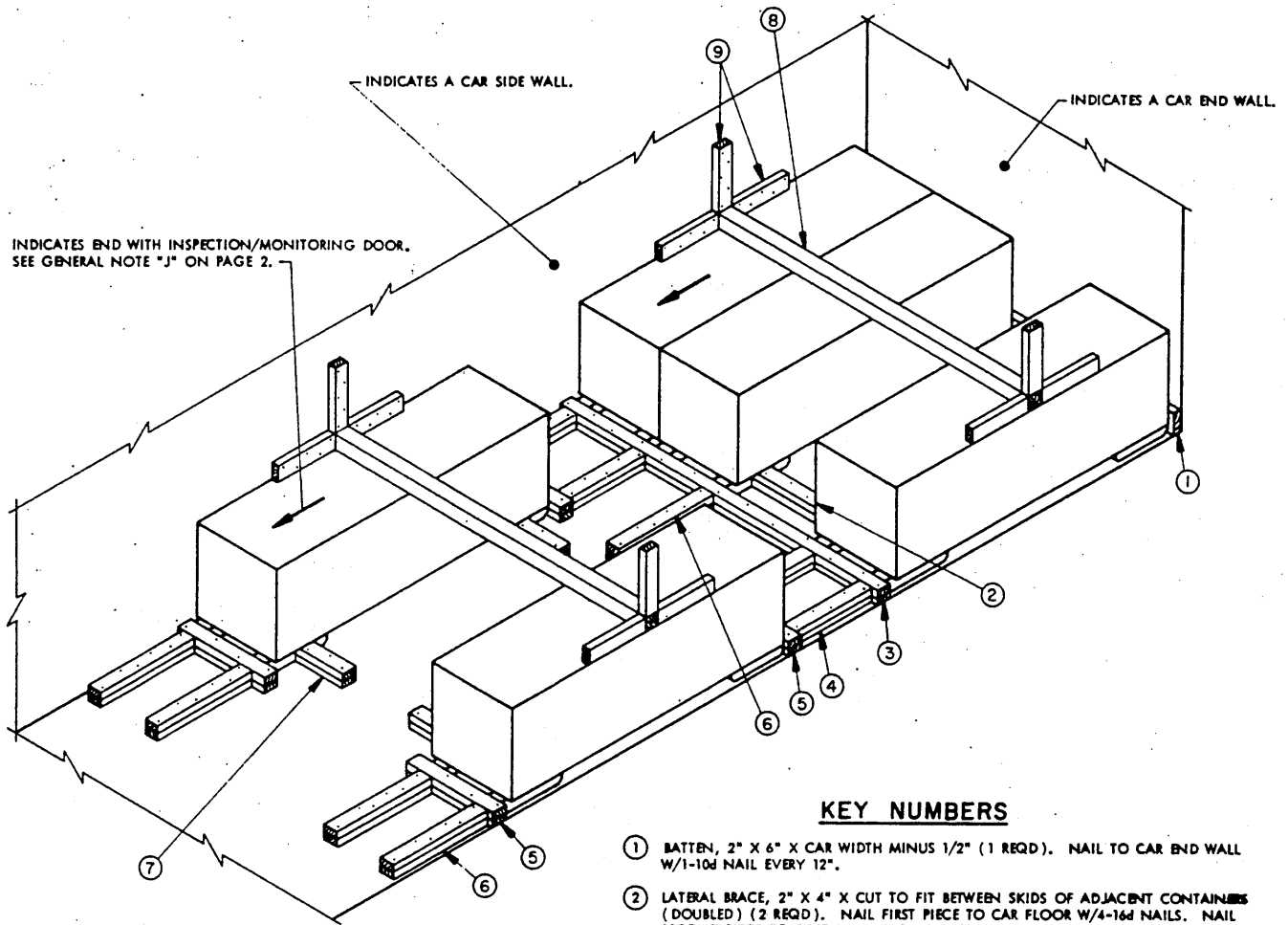
KEY NUMBERS

(KEY NUMBERS CONTINUED)

- ① BATTEN, 2" X 6" X CAR WIDTH MINUS 1/2" (2 REQD). NAIL TO CAR END WALL W/1-10d NAIL EVERY 12". SEE UPPER END OF "ISOMETRIC VIEW" FOR INSTALLATION DIMENSIONS.
- ② LATERAL BRACE, 2" X 4" X CUT TO FIT BETWEEN SKIDS OF ADJACENT CONTAINERS (DOUBLED) (2 REQD). PRE-POSITION AND NAIL FIRST PIECE TO CAR FLOOR W/3-16d NAILS. NAIL SECOND PIECE TO FIRST IN A LIKE MANNER. SEE SPECIAL NOTE "4".
- ③ HEADER, 2" X 4" X CAR WIDTH MINUS 1/2" (DOUBLED) (1 REQD). NAIL FIRST PIECE TO CAR FLOOR W/1-16d NAIL EVERY 8". NAIL SECOND PIECE TO FIRST W/1-40d NAIL EVERY 8".
- ④ STRUT, 2" X 4" X 24" (DOUBLED) (4 REQD). POSITION AS SHOWN AND NAIL FIRST PIECE TO CAR FLOOR W/5-16d NAILS. NAIL SECOND PIECE TO FIRST W/5-40d NAILS.
- ⑤ HEADER, 2" X 4" X 54" (DOUBLED) (2 REQD). NAIL FIRST PIECE TO CAR FLOOR W/7-16d NAILS. NAIL SECOND PIECE TO FIRST W/7-40d NAILS.
- ⑥ HEADER, 2" X 4" X 28" (DOUBLED) (2 REQD). NAIL FIRST PIECE TO CAR FLOOR W/4-16d NAILS. NAIL SECOND PIECE TO FIRST W/4-40d NAILS.
- ⑦ BACK-UP CLEAT, 2" X 4" X 30" (DOUBLED) (5 REQD). ALIGN WITH A CONTAINER SKID AS SHOWN. NAIL FIRST PIECE TO CAR FLOOR W/6-16d NAILS. NAIL SECOND PIECE TO FIRST W/6-40d NAILS. SEE SPECIAL NOTE "2".
- ⑧ SIDE BLOCKING, 2" X 4" X 15" (DOUBLED) (4 REQD). NAIL FIRST PIECE TO CAR FLOOR W/3-16d NAILS. NAIL SECOND PIECE TO FIRST IN A LIKE MANNER.
- ⑨ WALL CLEAT, 2" X 4" X 18" (2 REQD). NAIL TO CAR SIDE WALL W/5-12d NAILS. SEE SPECIAL NOTE "3".
- ⑩ HORIZONTAL PIECE, 2" X 6" X CAR WIDTH (CUT TO FIT) (1 REQD). NAIL TO CROSS CAR BRACE MARKED ⑪ W/1-12d NAIL EVERY 6".
- ⑪ CROSS CAR BRACE, 4" X 4" X CAR WIDTH (CUT TO FIT) (1 REQD).
- ⑫ CENTER CLEAT, 2" X 4" X 48" (1 REQD). NAIL TO CROSS CAR BRACE MARKED ⑪ W/9-12d NAILS.
- ⑬ HORIZONTAL WALL CLEAT, 2" X 6" X 72" (2 REQD). NAIL TO CAR SIDE WALL W/16-12d NAILS.
- ⑭ POCKET CLEAT, 2" X 6" X 12" (2 REQD). NAIL TO HORIZONTAL WALL CLEAT MARKED ⑬ W/4-16d NAILS.
- ⑮ DIAGONAL BRACE, 2" X 4" X 39-1/2" (2 REQD). SEE "DIAGONAL BRACE" DETAIL ABOVE. TO NAIL TO CROSS CAR BRACE MARKED ⑪ AND HORIZONTAL WALL CLEAT MARKED ⑬ W/2-16d NAILS AT EACH END.
- ⑯ BACK-UP CLEAT, 2" X 6" X 24" (2 REQD). NAIL TO HORIZONTAL WALL CLEAT MARKED ⑬ W/8-16d NAILS.
- ⑰ HOLD-DOWN CLEAT, 2" X 4" X 18" (2 REQD). NAIL TO CAR SIDE WALL W/4-12d NAILS.
- ⑱ ANTI-SWAY BRACE, 4" X 4" X CAR WIDTH (CUT TO FIT) (2 REQD).
- ⑲ ANTI-SWAY BLOCK, 2" X 4" X CUT TO FIT BETWEEN CONTAINERS (1 REQD). NAIL TO UNDER SIDE OF THE ANTI-SWAY BRACE MARKED ⑱ WHICH IS TO BE INSTALLED ON THE SECOND LAYER CONTAINERS.
- ⑳ POCKET CLEAT, 2" X 4" X 18" (10 REQD). NAIL TO CAR SIDE WALL W/5-10d NAILS.

SPECIAL NOTES

- 1. A 9'-2" WIDE CONVENTIONAL BOX CAR IS SHOWN. A WIDER CAR CAN BE USED FOR THE SHIPMENT OF THE DEPICTED LOAD. A NARROWER CAR CAN BE USED IF 61" LONG SIDE FILLER CLEATS (REF KEY NUMBER ② ON PAGE 8) ARE USED TO FILL VOID ACROSS THE CAR WIDTH FOR THE END LOAD UNIT AND AN EQUAL THICKNESS (30" LONG) IS APPLIED TO THE CAR WALL TO ALIGN THE SECOND LOAD UNIT WITH THE FIRST.
- 2. A SET OF TWO (2) BACK-UP CLEATS MARKED ⑦ IS ADEQUATE FOR RETAINING A 9,000 POUND LCL LOAD.
- 3. A K-BRACE ASSEMBLY SHOWN AS PIECES MARKED ⑨ THROUGH ⑰ IS ADEQUATE FOR RETAINING A PARTIAL LAYER LOAD OF NOT MORE THAN 4,000 POUNDS OR SIX (6) CONTAINERS WITH CONTENTS. IF IT IS NECESSARY TO BLOCK A HEAVIER



ISOMETRIC VIEW
AN 8'-6" WIDE CAR IS SHOWN.

KEY NUMBERS

- ① BATTEN, 2" X 6" X CAR WIDTH MINUS 1/2" (1 REQD.). NAIL TO CAR END WALL W/1-10d NAIL EVERY 12".
- ② LATERAL BRACE, 2" X 4" X CUT TO FIT BETWEEN SKIDS OF ADJACENT CONTAINERS (DOUBLED) (2 REQD.). NAIL FIRST PIECE TO CAR FLOOR W/4-16d NAILS. NAIL SECOND PIECE TO FIRST IN A LIKE MANNER. SEE SPECIAL NOTE "3".
- ③ HEADER, 2" X 4" X CAR WIDTH MINUS 1/2" (DOUBLED) (1 REQD.). NAIL FIRST PIECE TO CAR FLOOR W/1-16d NAIL EVERY 8". NAIL SECOND PIECE TO FIRST W/1-40d NAIL EVERY 8".
- ④ STRUT, 2" X 4" X 24" (DOUBLED) (4 REQD.). POSITION AS SHOWN AND NAIL FIRST PIECE TO CAR FLOOR W/5-16d NAILS. NAIL SECOND PIECE TO FIRST W/5-40d NAILS.
- ⑤ HEADER, 2" X 4" X 28" (DOUBLED) (4 REQD.). NAIL FIRST PIECE TO CAR FLOOR W/4-16d NAILS. NAIL SECOND PIECE TO FIRST W/4-40d NAILS.
- ⑥ BACK-UP CLEAT, 2" X 4" X 30" (DOUBLED) (5 REQD.). ALIGN WITH A CONTAINER SKID. NAIL FIRST PIECE TO CAR FLOOR W/6-16d NAILS. NAIL SECOND PIECE TO FIRST W/6-40d NAILS. SEE SPECIAL NOTE "2".
- ⑦ SIDE BLOCKING, 2" X 4" X 15" (DOUBLED) (4 REQD.). NAIL FIRST PIECE TO CAR FLOOR W/3-16d NAILS. NAIL SECOND PIECE TO FIRST IN A LIKE MANNER.
- ⑧ CONTAINER HOLD-DOWN, 4" X 4" X CAR WIDTH (CUT TO FIT) (2 REQD.).
- ⑨ POCKET CLEAT, 2" X 4" X 18" (12 REQD.). NAIL TO CAR SIDE WALL W/5-10d NAILS.

SPECIAL NOTES

- 1. AN 8'-6" WIDE CONVENTIONAL BOX CAR IS SHOWN. A WIDER CAR CAN BE USED FOR THE SHIPMENT OF THE DEPICTED LOAD.
- 2. A SET OF TWO (2) BACK-UP CLEATS MARKED ⑥ IS ADEQUATE FOR RETAINING A 9,000 POUND LCL LOAD.
- 3. IF THE CAR BEING USED FOR THE SHIPMENT OF THE DEPICTED LOAD IS EQUIPPED WITH A NAILABLE METAL FLOOR REFER TO THE "NAILABLE METAL FLOOR" DETAIL ON PAGE 27 FOR GUIDANCE.
- 4. FOR THE SHIPMENT OF EMPTY CONTAINERS OMIT STRUTS MARKED ④ AND TWO (2) EACH OF HEADERS MARKED ⑤. MOVE CONTAINERS TOGETHER SO THEY ARE SEPARATED ONLY BY THE HEADER MARKED ③. THE REMAINDER OF THE BLOCKING WILL BE UNCHANGED.

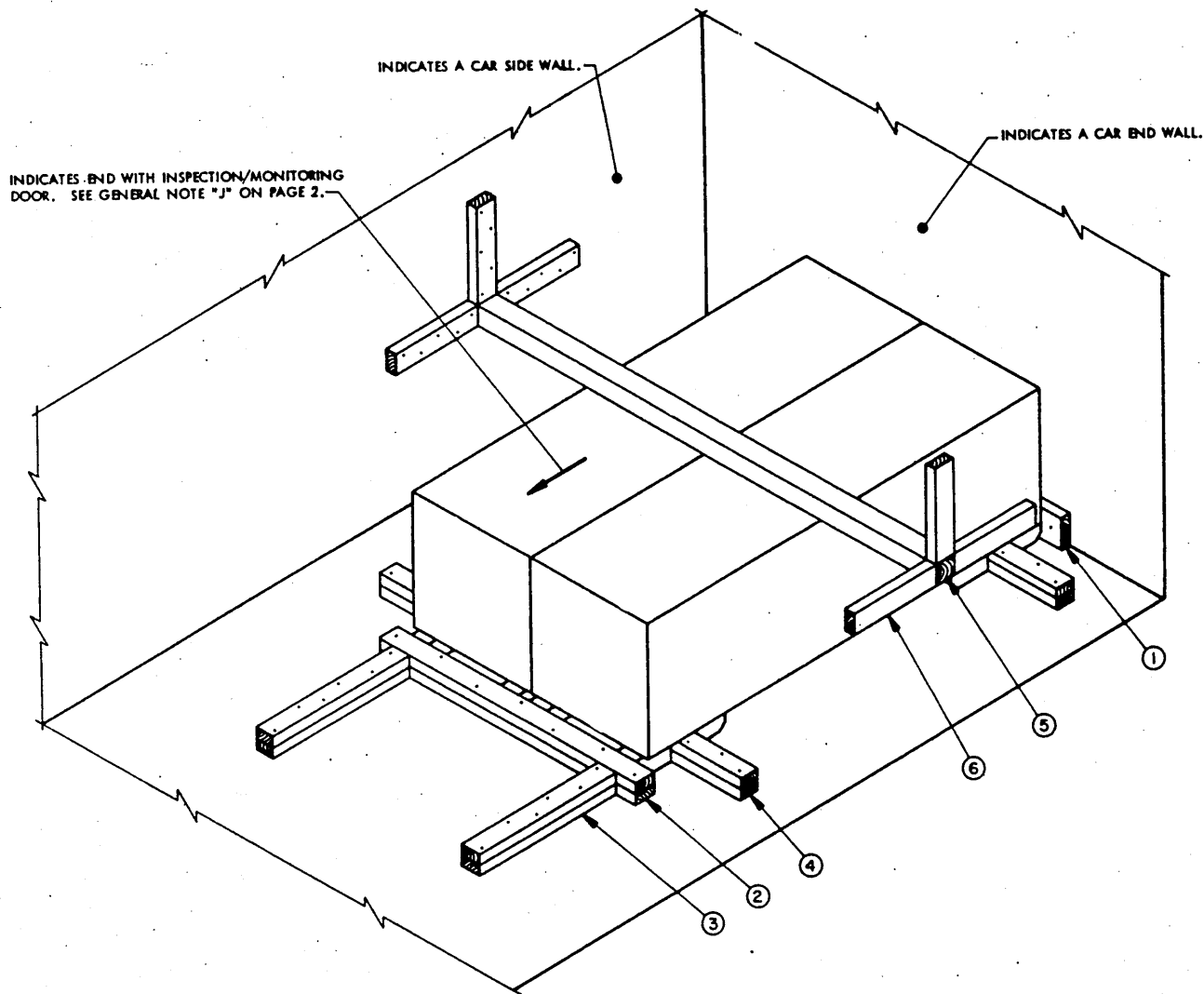
(SPECIAL NOTES CONTINUED FROM PAGE 18)

LOAD, REFER TO DRAWING 19-48-4016-SM1001 FOR THE APPLICABLY SIZED K-BRACE TO USE AND THE DESIGN SPECIFICATIONS FOR THE BRACE.

CAUTION: SOME CARS ARE NOT SUITED FOR THE APPLICATION OF "PARTIAL LAYER BRACING" BECAUSE THE LENGTH OF THE PARTIAL LAYER TO BE SHIPPED AND/OR THE SIZE OR CONFIGURATION OF THE CAR DOORS WILL NOT PERMIT PROPER INSTALLATION OF THE SPECIFIED K-BRACE DUNNAGE. PIECES MARKED ⑨, ⑩, ⑪, ⑬ AND ⑭ OR THE COMPARABLE PIECES ON A HEAVIER BRACE MUST BE SUPPORTED AT THE SIDES OF A CAR BY A CAR SIDE WALL. IT IS ALRIGHT FOR THE END OF THE DIAGONAL BRACE MARKED ⑫, OR THE COMPARABLE PIECE ON A HEAVIER BRACE, TO BEAR IN FRONT OF A DOOR OPENING; HOWEVER, THE ADJACENT PIECE MARKED ⑬, OR THE COMPARABLE PIECE ON A HEAVIER BRACE MUST BE DOUBLED AND EXTENDED ACROSS AND FAR ENOUGH PAST THE DOOR OPENING TO PROVIDE FOR THE SPECIFIED NAILING OF EACH PIECE.

- 4. IF THE CAR BEING USED FOR THE SHIPMENT OF THE DEPICTED LOAD IS EQUIPPED WITH A NAILABLE METAL FLOOR REFER TO THE "NAILABLE METAL FLOOR" DETAIL ON PAGE 27 FOR GUIDANCE.
- 5. FOR THE SHIPMENT OF EMPTY CONTAINERS OMIT STRUTS MARKED ④ AND ONE (1) EACH OF HEADERS MARKED ⑤ AND ⑥, AND WALL CLEATS MARKED ⑨. MOVE CONTAINERS TOGETHER SO THEY ARE SEPARATED ONLY BY THE HEADER MARKED ③. TURN ONE SIDE BLOCKING PIECE MARKED ⑧ LENGTHWISE AGAINST CONTAINER SKID TO PERMIT PLACING PIECE MARKED ⑦. POSITION ONE (1) ANTI-SWAY BRACE MARKED ⑮, CUT TO A LENGTH OF CAR WIDTH MINUS 3-1/4", AT THE BACK END OF BACK-UP CLEATS MARKED ⑥ AND POCKET CLEAT WITH DOUBLED PIECES MARKED ⑨. THE REMAINDER OF THE BLOCKING WILL BE UNCHANGED.

TYPICAL LCL (5-UNIT LOAD) IN AN 8'-6" WIDE CAR (CONVENTIONAL)



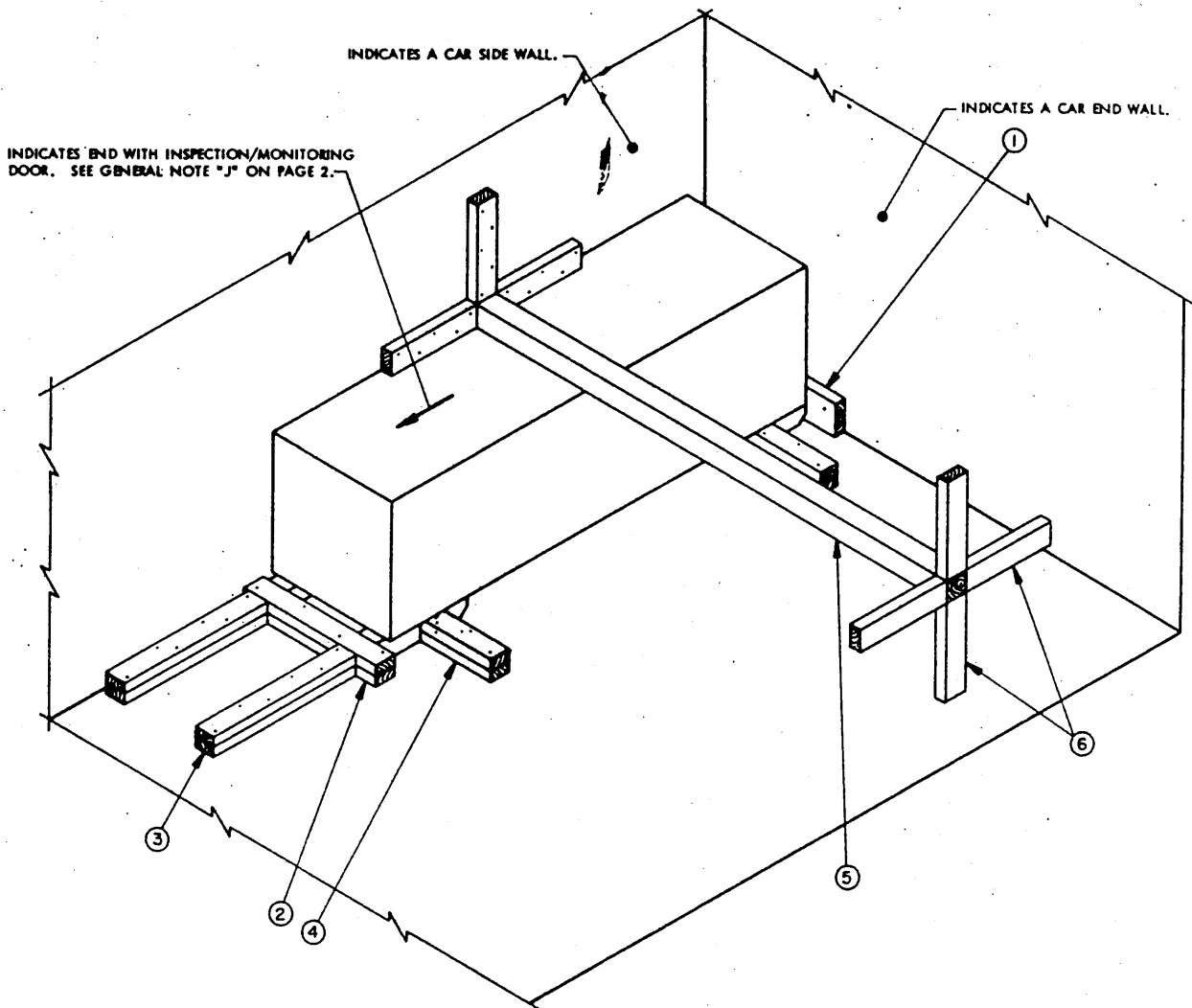
ISOMETRIC VIEW
AN 8'-6" WIDE CAR IS SHOWN.

SPECIAL NOTES

1. AN 8'-6" WIDE CONVENTIONAL BOX CAR IS SHOWN. A WIDER CAR CAN BE USED FOR THE SHIPMENT OF THE DEPICTED LOAD.
2. TWO (2) BACK-UP CLEATS MARKED ③ ARE ADEQUATE FOR RETAINING A 9,000 POUND LCL LOAD.
3. IF THE CAR BEING USED FOR THE SHIPMENT OF THE DEPICTED LOAD IS EQUIPPED WITH A NAILABLE METAL FLOOR REFER TO THE "NAILABLE METAL FLOOR" DETAIL ON PAGE 27 FOR GUIDANCE.
4. THIS PROCEDURE IS ALSO APPLICABLE FOR THE SHIPMENT OF EMPTY CONTAINERS.

KEY NUMBERS

- ① BATTIN, 2" X 6" X 54" (1 REQD). NAIL TO CAR END WALL W/5-10d NAILS.
- ② HEADER, 2" X 4" X 54" (DOUBLED) (1 REQD). NAIL FIRST PIECE TO CAR FLOOR W/7-16d NAILS. NAIL SECOND PIECE TO FIRST W/7-40d NAILS. SEE SPECIAL NOTE "3".
- ③ BACK-UP CLEAT, 2" X 4" X 30" (DOUBLED) (2 REQD). ALIGN WITH AN OUTWARD SKID OF A CONTAINER. NAIL FIRST PIECE TO CAR FLOOR W/6-16d NAILS. NAIL SECOND PIECE TO FIRST W/6-40d NAILS. SEE SPECIAL NOTE "2".
- ④ SIDE BLOCKING, 2" X 4" X 15" (DOUBLED) (4 REQD). NAIL FIRST PIECE TO CAR FLOOR W/3-16d NAILS. NAIL SECOND PIECE TO FIRST IN A LIKE MANNER.
- ⑤ CONTAINER HOLD-DOWN, 4" X 4" X CAR WIDTH (CUT TO FIT) (1 REQD).
- ⑥ POCKET CLEAT, 2" X 4" X 18" (6 REQD). NAIL TO CAR SIDE WALL W/5-10d NAILS.



ISOMETRIC VIEW

AN 8'-6" WIDE CAR IS SHOWN.

SPECIAL NOTES

1. AN 8'-6" WIDE CONVENTIONAL BOX CAR IS SHOWN. A WIDER CAR CAN BE USED FOR THE SHIPMENT OF THE DEPICTED LOAD.
2. TWO (2) BACK-UP CLEATS MARKED ③ ARE ADEQUATE FOR RETAINING A 9,000 POUND LCL LOAD.
3. IF THE CAR BEING USED FOR THE SHIPMENT OF THE DEPICTED LOAD IS EQUIPPED WITH A NAILABLE METAL FLOOR REFER TO THE "NAILABLE METAL FLOOR" DETAIL ON PAGE 27 FOR GUIDANCE.
4. THIS PROCEDURE IS ALSO APPLICABLE FOR THE SHIPMENT OF AN EMPTY CONTAINER.

KEY NUMBERS

- ① BATTEN, 2" X 6" X 28" (1 REQD). NAIL TO CAR END WALL W/3-10d NAILS.
- ② HEADER, 2" X 4" X 28" (DOUBLED) (1 REQD). NAIL FIRST PIECE TO CAR FLOOR W/4-16d NAILS. NAIL SECOND PIECE TO FIRST W/4-40d NAILS. SEE SPECIAL NOTE "3".
- ③ BACK-UP CLEAT, 2" X 4" X 30" (DOUBLED) (2 REQD). NAIL FIRST PIECE TO CAR FLOOR W/6-16d NAILS. NAIL SECOND PIECE TO FIRST W/6-40d NAILS. SEE SPECIAL NOTE "2".
- ④ SIDE BLOCKING, 2" X 4" X 15" (DOUBLED) (2 REQD). NAIL FIRST PIECE TO CAR FLOOR W/3-16d NAILS. NAIL SECOND PIECE TO FIRST IN A LIKE MANNER.
- ⑤ CONTAINER HOLD-DOWN, 4" X 4" X CAR WIDTH (CUT TO FIT) (1 REQD).
- ⑥ POCKET CLEAT, 2" X 4" X 18" (7 REQD). NAIL TO CAR SIDE WALL W/5-10d NAILS.

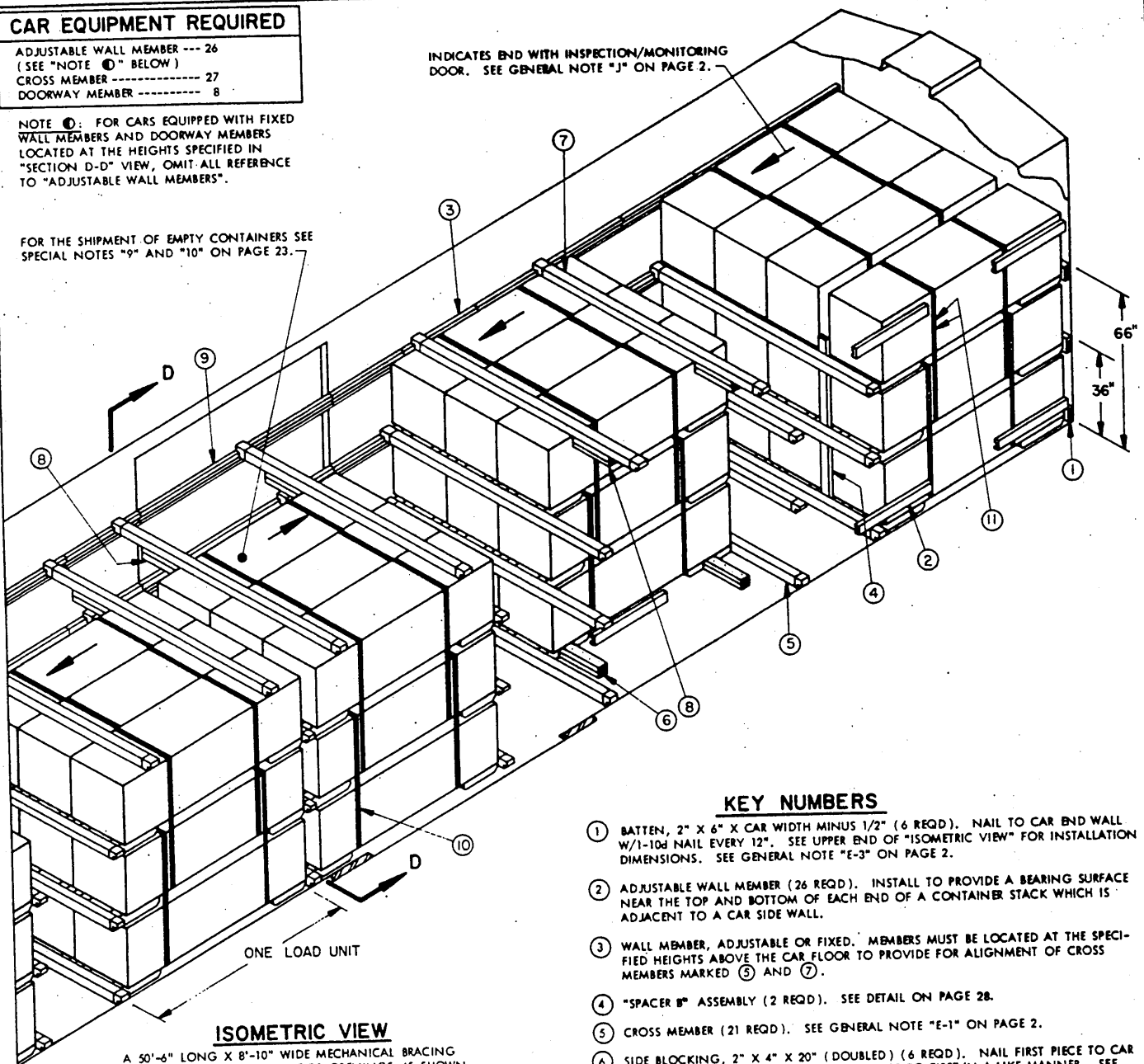
CAR EQUIPMENT REQUIRED

ADJUSTABLE WALL MEMBER --- 26
 (SEE "NOTE 1" BELOW)
 CROSS MEMBER ----- 27
 DOORWAY MEMBER ----- 8

NOTE 1: FOR CARS EQUIPPED WITH FIXED WALL MEMBERS AND DOORWAY MEMBERS LOCATED AT THE HEIGHTS SPECIFIED IN "SECTION D-D" VIEW, OMIT ALL REFERENCE TO "ADJUSTABLE WALL MEMBERS".

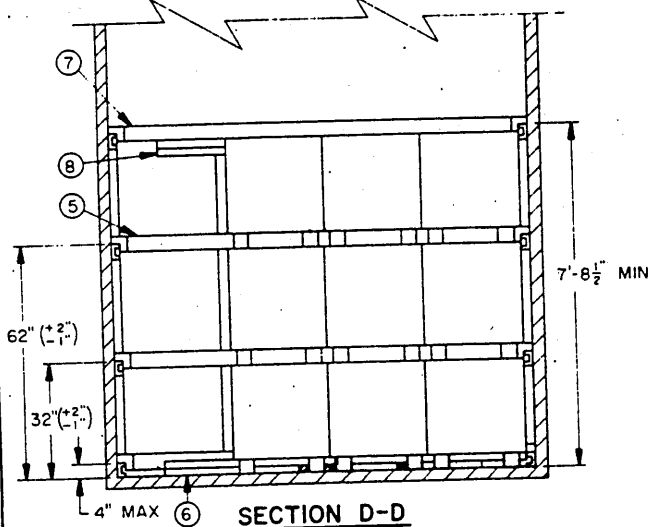
FOR THE SHIPMENT OF EMPTY CONTAINERS SEE SPECIAL NOTES "9" AND "10" ON PAGE 23.

INDICATES END WITH INSPECTION/MONITORING DOOR. SEE GENERAL NOTE "J" ON PAGE 2.



ISOMETRIC VIEW

A 50'-6" LONG X 8'-10" WIDE MECHANICAL BRACING EQUIPPED CAR WITH 8'-0" DOOR OPENINGS IS SHOWN.

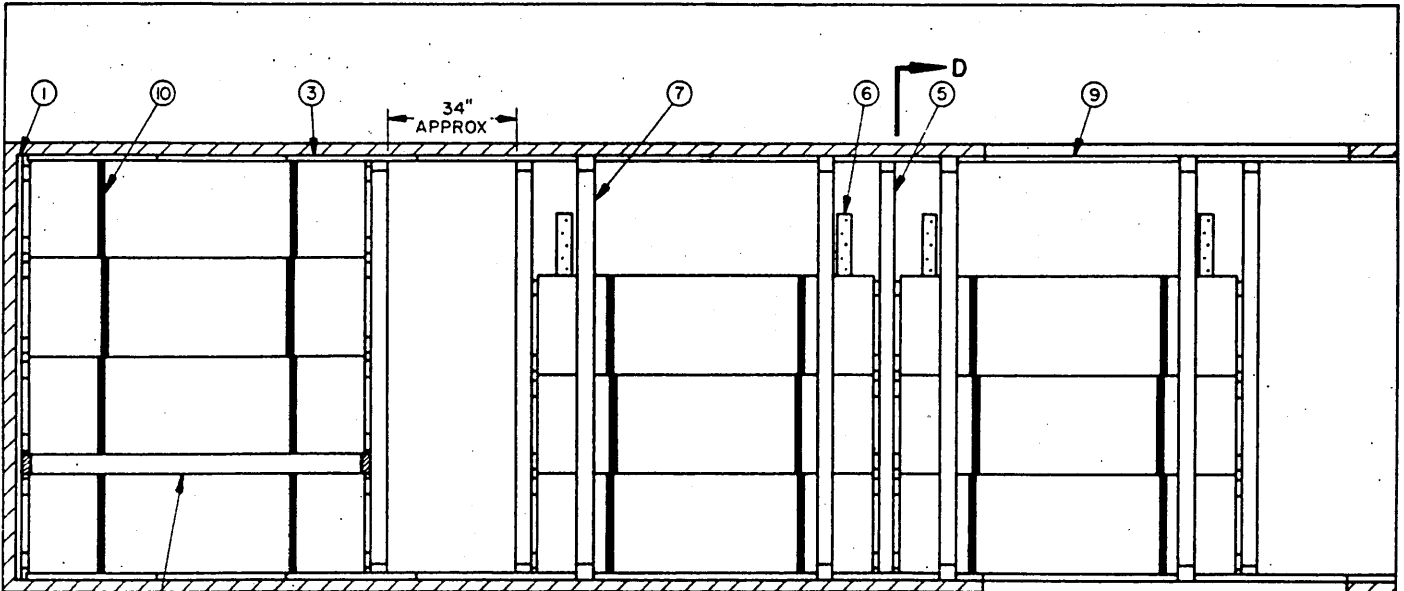


SECTION D-D

51-UNIT LOAD IN A 50'-6" LONG X 8'-10" WIDE CAR (MECHANICAL)

KEY NUMBERS

- 1 BATTEN, 2" X 6" X CAR WIDTH MINUS 1/2" (6 REQD). NAIL TO CAR END WALL W/1-10d NAIL EVERY 12". SEE UPPER END OF "ISOMETRIC VIEW" FOR INSTALLATION DIMENSIONS. SEE GENERAL NOTE "E-3" ON PAGE 2.
- 2 ADJUSTABLE WALL MEMBER (26 REQD). INSTALL TO PROVIDE A BEARING SURFACE NEAR THE TOP AND BOTTOM OF EACH END OF A CONTAINER STACK WHICH IS ADJACENT TO A CAR SIDE WALL.
- 3 WALL MEMBER, ADJUSTABLE OR FIXED. MEMBERS MUST BE LOCATED AT THE SPECIFIED HEIGHTS ABOVE THE CAR FLOOR TO PROVIDE FOR ALIGNMENT OF CROSS MEMBERS MARKED 5 AND 7.
- 4 "SPACER B" ASSEMBLY (2 REQD). SEE DETAIL ON PAGE 28.
- 5 CROSS MEMBER (21 REQD). SEE GENERAL NOTE "E-1" ON PAGE 2.
- 6 SIDE BLOCKING, 2" X 4" X 20" (DOUBLED) (6 REQD). NAIL FIRST PIECE TO CAR FLOOR W/4-10d NAILS. NAIL SECOND PIECE TO FIRST IN A LIKE MANNER. SEE SPECIAL NOTE "5" ON PAGE 23.
- 7 CROSS MEMBER (ANTI-SWAY) (6 REQD). SEE SPECIAL NOTE "6" ON PAGE 23.
- 8 ANTI-SWAY BLOCK, 2" X 4" X 18" (DOUBLED) (6 REQD). NAIL FIRST PIECE TO CROSS MEMBER (ANTI-SWAY) MARKED 7 W/5-10d NAILS. NAIL SECOND PIECE TO FIRST IN A LIKE MANNER. SEE SPECIAL NOTE "7" ON PAGE 23.
- 9 DOORWAY MEMBER (8 REQD). POSITION AT THE HEIGHTS SPECIFIED IN "SECTION D-D" VIEW.
- 10 STEEL STRAPPING, 1-1/4" X .035" X 15'-0" (68 REQD). SEE GENERAL NOTE "L" ON PAGE 2. SEE "UNITIZING AND HANDLING PROCEDURAL GUIDANCE" ON PAGE 3.
- 11 SEAL FOR 1-1/4" STRAPPING (136 REQD).



PLAN VIEW

(SPECIAL NOTES CONTINUED)

SPECIAL NOTES

1. A 50'-6" LONG X 8'-10" WIDE (INSIDE CLEARANCE) BOX CAR EQUIPPED WITH ADJUSTABLE AND/OR FIXED WALL MEMBERS, AND WITH 8'-0" DOOR OPENINGS IS SHOWN. A 6'-0" DOOR OPENING IS ADEQUATE WIDTH FOR LOADING THE DESIGNATED ITEM.
2. A WIDER CAR CAN BE USED FOR THE SHIPMENT OF THE DEPICTED LOAD.
3. A CAR WITH WIDER OR STAGGERED DOORS CAN BE USED FOR THE SHIPMENT OF THE DEPICTED LOAD.
4. THE LOADING PATTERN SHOWN HEREIN IS DESIGNED TO FACILITATE THE IN-TRANSIT INSPECTION/MONITORING OF THE DESIGNATED ITEM. THE INSPECTION/MONITORING DOORS ON THE CONTAINERS MUST NOT BE RENDERED INACCESSIBLE.
5. IF THE CAR BEING USED FOR THE SHIPMENT OF THE DEPICTED LOAD IS EQUIPPED WITH A NAILABLE METAL FLOOR AND A NAIL SIZE FOR FLOOR NAILING IS MARKED ON THE SIDE WALL OF THE CAR, THAT GUIDANCE SHOULD BE APPLIED TO THE NAILING OF PIECES MARKED (6). IF A NAIL SIZE IS NOT SPECIFIED IN THE CAR, 30d NAILS SHOULD BE USED. ADDITIONALLY, PIECES MARKED (6) SHOULD BE CHANGED TO 2" X 6" MATERIAL TO RECEIVE THE LARGER SIZE NAILS. SEE THE "NAILABLE METAL FLOOR" DETAIL ON PAGE 27 FOR GUIDANCE.
6. THE 7'-8-1/2" MIN LOCATION DIMENSION MAY BE INCREASED A MAXIMUM OF 1-3/4". FILLER MATERIAL, 4" WIDE BY CAR WIDTH WILL BE NAILED TO THE BOTTOM SURFACE OF CROSS MEMBER (ANTI-SWAY) MARKED (7) PRIOR TO INSTALLATION. IF CROSS MEMBERS ARE ALL METAL, SECURE FILLER MATERIAL WITH NO. 8 GAGE BLACK ANNEALED WIRE 36" LONG (3 REQD).
7. IF THE CAR IS EQUIPPED WITH CROSS MEMBERS WHICH ARE ALL METAL, THE FIRST LAYER OF THE ANTI-SWAY BLOCKS MARKED (8) MUST BE WIRE TIED TO THE CROSS MEMBER WITH TWO (2) PIECES OF NO. 8 GAGE BLACK ANNEALED WIRE 36" LONG. LAMINATE SECOND LAYER TO FIRST W/5-10d NAILS. NOTE: IF NO. 8 GAGE BLACK ANNEALED WIRE IS NOT AVAILABLE, TWO (2) STRANDS OF NO. 14 GAGE BLACK ANNEALED WIRE MAY BE SUBSTITUTED FOR EACH STRAND OF NO. 8 GAGE.

8. TO SATISFY A LESS-THAN-FULL-LOAD QUANTITY, ONE OR TWO CONTAINERS MAY BE OMITTED FROM THE THIRD LAYER OF AN END LOAD UNIT. FOR THREE CONTAINERS OR A MULTIPLE OF THREE CONTAINERS LESS THAN A FULL LOAD, OMIT THE ENTIRE THIRD LAYER FROM ONE OR MORE OF THE CENTER AREA LOAD UNITS AND RELOCATE ANTI-SWAY PIECES MARKED (7) AND (8). THE LCL PROCEDURES ON PAGES 24, 25, AND 26 MAY ALSO BE APPLIED FOR THE ADJUSTMENT OF THE LOAD QUANTITY.
9. FOR THE SHIPMENT OF EMPTY CONTAINERS IN A 50'-6" LONG CAR THE FOLLOWING PROCEDURE IS APPLICABLE:
 - A. THE LOAD MAY BE INCREASED TO SIXTY-NINE (69) CONTAINERS, TWENTY-THREE (23) CONTAINER STACKS.
 - B. INCREASE LENGTH OF UNITIZING STRAP MARKED (10) TO 20'-6" AND APPLY TO ENCIRCLE A STACK OF THREE (3) CONTAINERS (46 REQD).
 - C. POSITION CONTAINERS IN THE CAR WITH THE 91-11/16" DIMENSION ACROSS THE WIDTH OF THE CAR. POSITION FIRST STACK DIRECTLY AGAINST THE CAR END WALL AND AGAINST A CAR SIDE WALL. POSITION SECOND STACK IN LINE WITH THE FIRST. PROVIDE SIDE BLOCKING BY INSTALLING A DOUBLED 2" X 4" X 12" PIECE LONGITUDINALLY IN THE CAR AND AGAINST THE ENDS OF THE SKIDS AND CENTERED ON THE JOINT OF THE TWO CONTAINER STACKS. NAIL FIRST PIECE TO CAR FLOOR W/2-16d NAILS. NAIL SECOND PIECE TO FIRST IN A LIKE MANNER.
 - D. POSITION THE THIRD AND FOURTH CONTAINER STACKS AGAINST THE OPPOSITE WALL AND BLOCK AS SPECIFIED FOR THE FIRST TWO STACKS. CONTINUE BY ALTERNATELY LOADING AND BLOCKING PAIRS OF CONTAINER STACKS AGAINST OPPOSITE SIDE WALLS.
 - E. CONTAINER STACKS IN THE DOORWAY AREA WHICH ARE NOT RETAINED BY AT LEAST 6" OF CAR SIDE WALL MUST BE CENTERED IN THE WIDTH OF THE CAR AND BLOCKED WITH DOUBLED 2" X 4" X 12" PIECES ON EACH END.
 - F. INSTALL THREE (3) CROSS MEMBERS AGAINST THE LOAD IN EACH END OF THE CAR. POSITION AT HEIGHTS ABOVE THE CAR FLOOR AS FOLLOWS: 11" PLUS OR MINUS 5", 48" PLUS OR MINUS 10", AND 6'-8" PLUS OR MINUS 10".
10. FOR THE SHIPMENT OF EMPTY CONTAINERS IN A 40'-6" LONG CAR THE FOLLOWING PROCEDURE IS APPLICABLE:
 - A. FIFTY-FOUR (54) CONTAINERS, EIGHTEEN (18) CONTAINER STACKS, MAY BE OUTLOADED.
 - B. INCREASE LENGTH OF UNITIZING STRAP MARKED (10) TO 20'-6" AND APPLY TO ENCIRCLE A STACK OF THREE (3) CONTAINERS (36 REQD).
 - C. STEPS "C" THROUGH "F" SPECIFIED IN SPECIAL NOTE "9" FOR A 50'-6" LONG CAR ARE ALSO APPLICABLE FOR A 40'-6" LONG CAR.

BILL OF MATERIAL

LUMBER	LINEAR FEET	BOARD FEET
2" X 4"	38	26
2" X 6"	107	107
NAILS	NO. REQD	POUNDS
10d (3")	130	2
-16d (3-1/2")	48	1-1/4
STEEL STRAPPING, 1-1/4" X .035"	1,020' REQD	146 LBS
SEAL FOR 1-1/4" STRAPPING	136 REQD	7 LBS

LOAD AS SHOWN

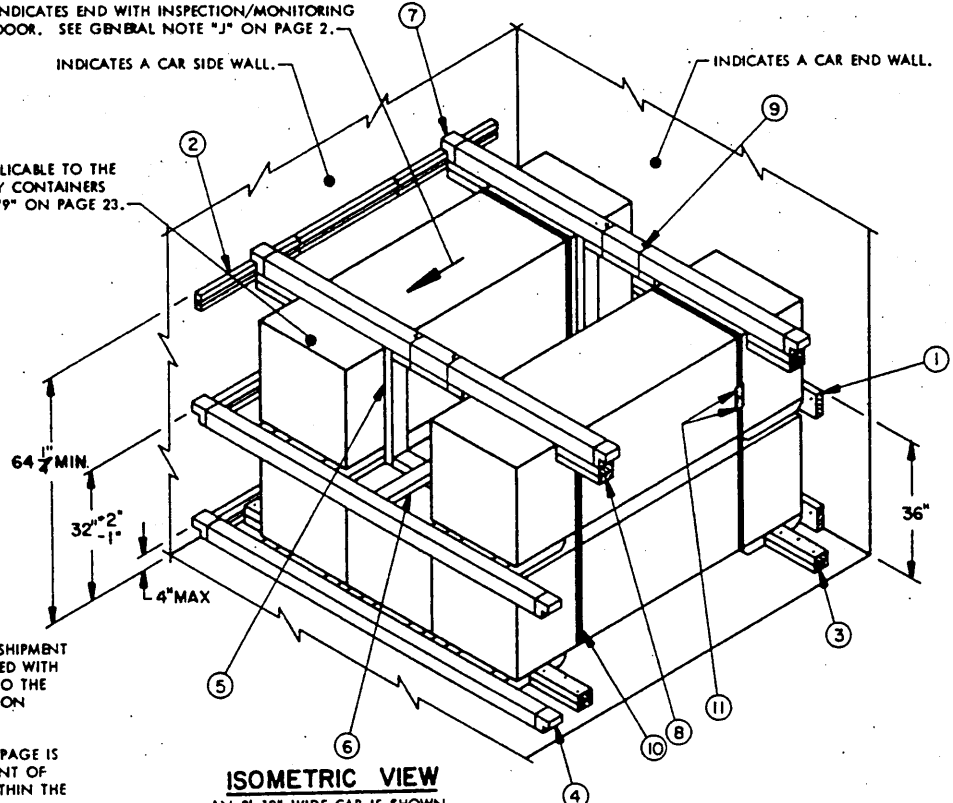
ITEM	QUANTITY	WEIGHT (APPROX)
CONTAINER	51	33,150 LBS
(W/CANISTERS)		
DUNNAGE		490 LBS
		TOTAL WEIGHT --- 33,640 LBS

INDICATES END WITH INSPECTION/MONITORING DOOR. SEE GENERAL NOTE "J" ON PAGE 2.

INDICATES A CAR SIDE WALL.

INDICATES A CAR END WALL.

FOR GUIDANCE APPLICABLE TO THE SHIPMENT OF EMPTY CONTAINERS SEE SPECIAL NOTE "9" ON PAGE 23.



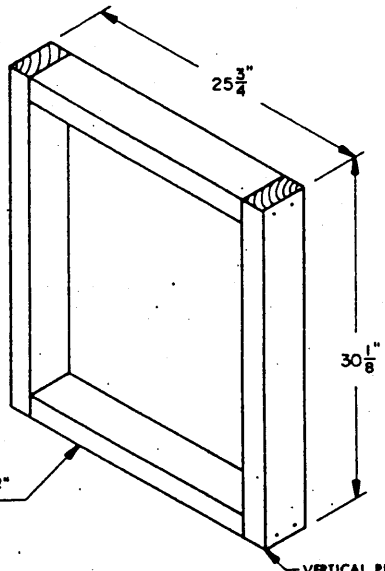
ISOMETRIC VIEW
AN 8'-10" WIDE CAR IS SHOWN.

SPECIAL NOTES

1. IF THE CAR BEING USED FOR THE SHIPMENT OF THE DEPICTED LOAD IS EQUIPPED WITH A NAILABLE METAL FLOOR REFER TO THE "NAILABLE METAL FLOOR" DETAIL ON PAGE 27 FOR GUIDANCE.
2. THE PROCEDURE SHOWN ON THIS PAGE IS ALSO APPLICABLE FOR THE SHIPMENT OF LESS THAN A FULL LOAD UNIT WITHIN THE LOAD SHOWN ON PAGE 22.
3. IF NO. 8 GAGE BLACK ANNEALED WIRE IS NOT AVAILABLE, TWO (2) STRANDS OF NO. 14 GAGE BLACK ANNEALED WIRE MAY BE SUBSTITUTED FOR EACH STRAND OF NO. 8 GAGE.

KEY NUMBERS

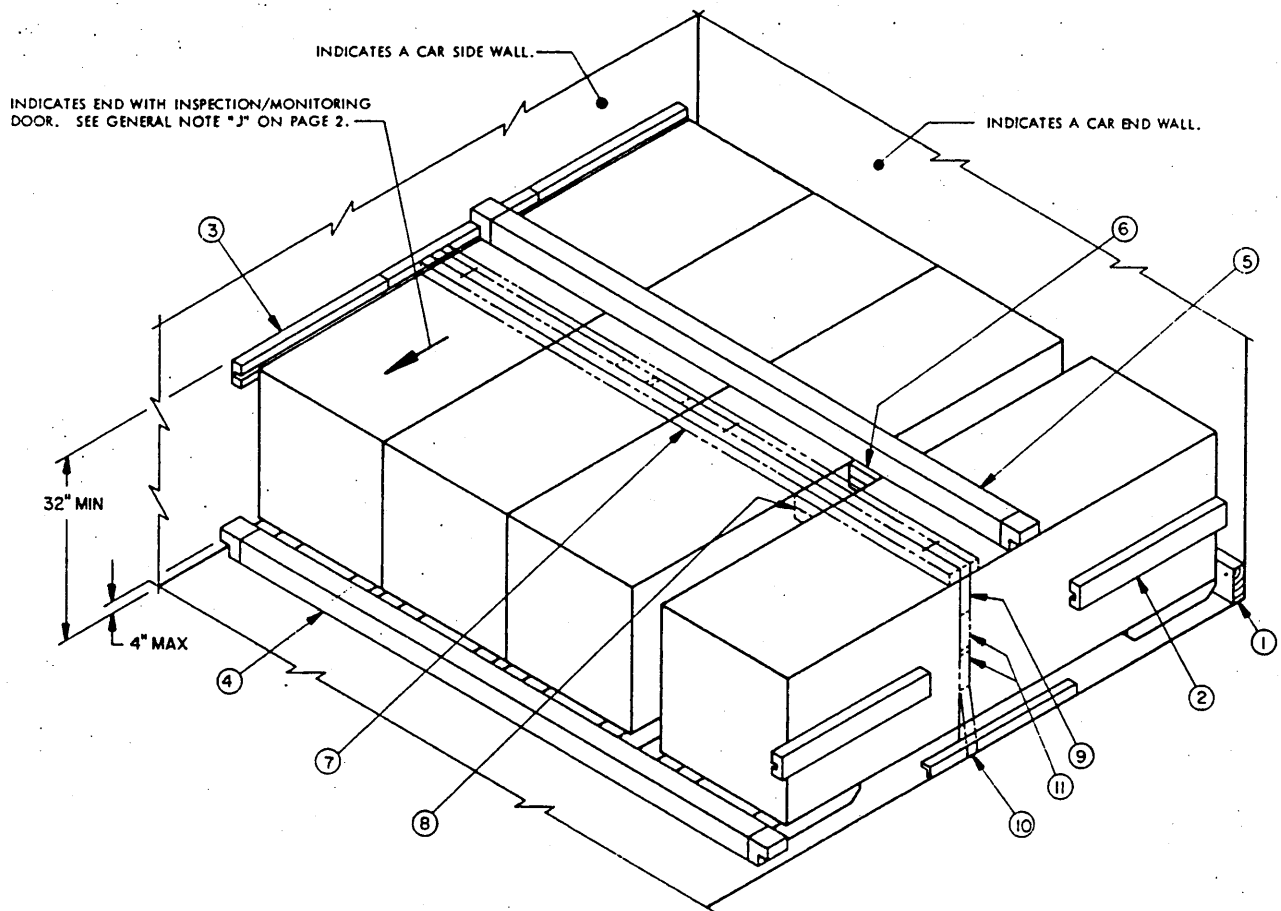
- ① BATTEN, 2" X 6" X 6'-10" (2 REQD). NAIL TO CAR END WALL W/1-10d NAIL EVERY 12". SEE UPPER END OF "ISOMETRIC VIEW" FOR INSTALLATION DIMENSIONS. SEE GENERAL NOTE "E-3" ON PAGE 2.
- ② WALL MEMBER, ADJUSTABLE OR FIXED. MEMBERS MUST BE LOCATED AT THE SPECIFIED HEIGHTS ABOVE THE CAR FLOOR TO PROVIDE FOR ALIGNMENT OF CROSS MEMBERS MARKED ④ AND ⑦.
- ③ SIDE BLOCKING, 2" X 4" X 15" (DOUBLED) (4 REQD). NAIL FIRST PIECE TO CAR FLOOR W/3-16d NAILS. NAIL SECOND PIECE TO FIRST IN A LIKE MANNER. SEE SPECIAL NOTE "1".
- ④ CROSS MEMBER (2 REQD). SEE GENERAL NOTE "E-1" ON PAGE 2.
- ⑤ OMITTED CONTAINER BLOCKING (2 REQD). POSITION AS SHOWN. SEE "SPACER C" DETAIL BELOW.
- ⑥ TIE PIECE, 2" X 4" X 7'-7-1/2" (1 REQD). NAIL TO "SPACER C" MARKED ⑤ W/3-10d NAILS AT EACH JOINT.
- ⑦ CROSS MEMBER (ANTI-SWAY) (2 REQD). SEE SPECIAL NOTE "1" ON PAGE 25.
- ⑧ ANTI-SWAY BLOCK, 2" X 4" X CUT TO FIT BETWEEN CONTAINER AND CAR SIDE WALL (DOUBLED) (4 REQD). NAIL FIRST PIECE TO CROSS MEMBER MARKED ⑦ W/3-10d NAILS. NAIL SECOND PIECE TO FIRST IN A LIKE MANNER. SEE SPECIAL NOTE "3" ON PAGE 25.
- ⑨ NO. 8 GAGE ANNEALED WIRE 36" LONG (4 REQD). INSTALL TO EN-CIRCLE PIECES MARKED ⑤ AND ⑦ AND TWIST-TIE ENDS TOGETHER TIGHTLY. SEE SPECIAL NOTE "3" ON THIS PAGE.
- ⑩ STEEL STRAPPING, 1-1/4" X .035" X 15'-0" (4 REQD). SEE GENERAL NOTE "L" ON PAGE 2. SEE "UNITIZING AND HANDLING PROCEDURAL GUIDANCE" ON PAGE 3.
- ⑪ SEAL FOR 1-1/4" STRAPPING (8 REQD).



SPACER C.

VERTICAL PIECE, 2" X 4" X 30-1/2" (2 REQD). NAIL TO CROSS BRACES W/2-10d NAILS AT EACH END.

CROSS BRACE, 2" X 4" X 22-1/2" (2 REQD).



ISOMETRIC VIEW

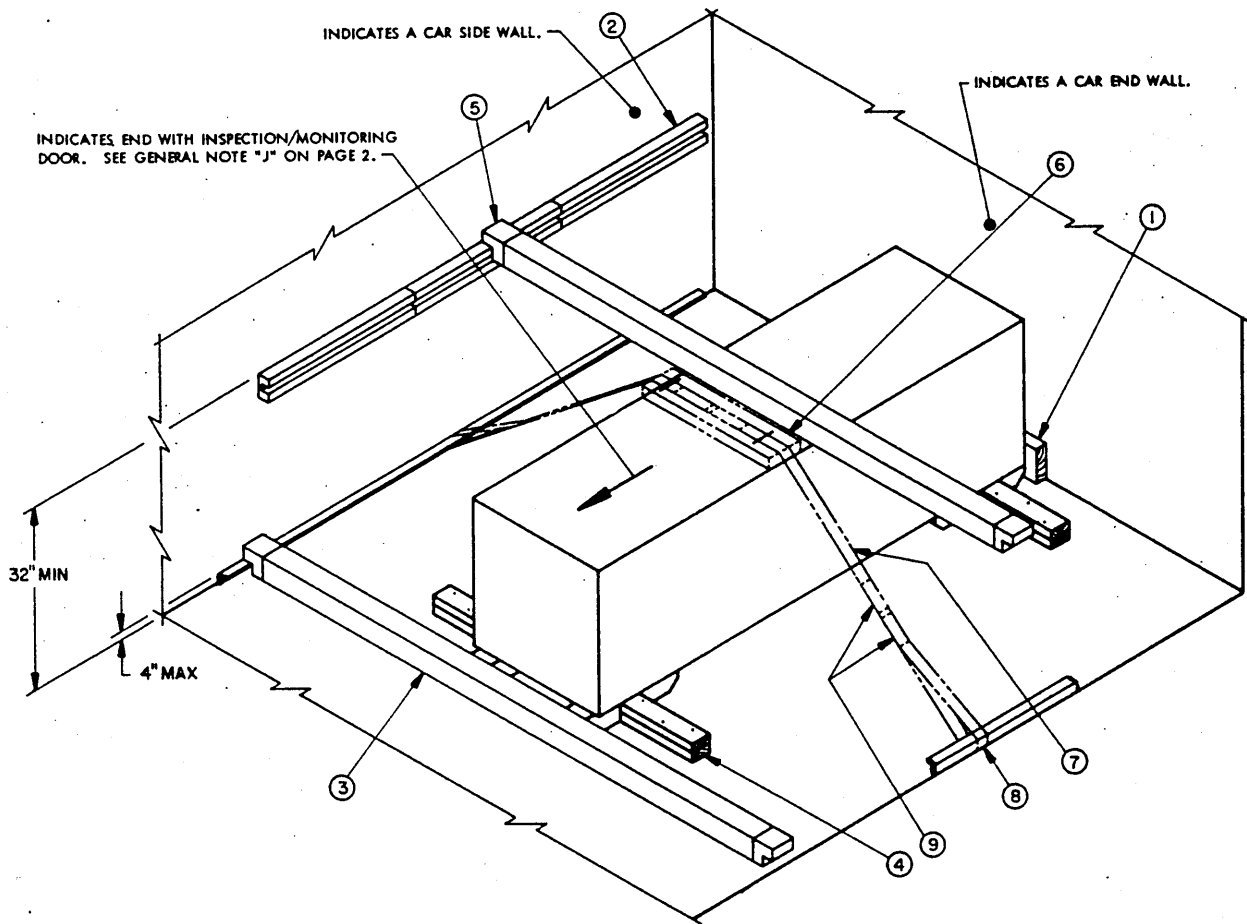
A 9'-0" WIDE CAR IS SHOWN.

SPECIAL NOTES

1. THE 64-1/4" LOCATION DIMENSION ON PAGE 24 AND/OR THE 32" LOCATION DIMENSION ON THIS PAGE MAY BE INCREASED A MAXIMUM OF 1-3/4". FILLER MATERIAL, 4" WIDE BY CAR WIDTH WILL BE NAILED TO THE BOTTOM SURFACE OF CROSS MEMBER (ANTI-SWAY) PRIOR TO INSTALLATION. IF CROSS MEMBERS ARE ALL METAL, SECURE FILLER MATERIAL WITH NO. 8 GAGE BLACK ANNEALED WIRE 36" LONG (3 REQD). SEE SPECIAL NOTE "3" ON PAGE 24.
2. IF THE CAR IS EQUIPPED WITH WALL MEMBERS AT HEIGHTS WHICH PRECLUDE PROPER APPLICATION OF CROSS MEMBER (ANTI-SWAY) MARKED ③, PIECES MARKED ⑦ THROUGH ⑪ WILL BE USED AS SHOWN. OMIT PIECES MARKED ⑤ AND ⑥.
3. IF THE CAR IS EQUIPPED WITH CROSS MEMBERS WHICH ARE ALL METAL, THE FIRST LAYER OF THE ANTI-SWAY BLOCKS MARKED ⑧ ON PAGE 24 AND/OR THE ANTI-SWAY BLOCK MARKED ⑥ ON THIS PAGE MUST BE WIRE TIED TO THE CROSS MEMBER WITH TWO (2) PIECES OF NO. 8 GAGE BLACK ANNEALED WIRE. LAMINATE SECOND LAYER TO FIRST AS SPECIFIED IN THE APPLICABLE KEY NUMBER.
4. THE PROCEDURE SHOWN ON THIS PAGE IS ALSO APPLICABLE FOR THE SHIPMENT OF LESS THAN A FULL LOAD UNIT WITHIN THE LOAD SHOWN ON PAGE 22, OR IT MAY BE USED FOR THE SHIPMENT OF FOUR (4) EMPTY CONTAINERS.

KEY NUMBERS

- ① BATTEN, 2" X 6" X CAR WIDTH MINUS 1/2" (1 REQD). NAIL TO CAR END WALL W/1-10d NAIL EVERY 12". SEE GENERAL NOTE "E-3" ON PAGE 2.
- ② ADJUSTABLE WALL MEMBER (4 REQD). INSTALL TO PROVIDE A BEARING SURFACE AT EACH END OF A CONTAINER WHICH IS ADJACENT TO A CAR SIDE WALL.
- ③ WALL MEMBER, ADJUSTABLE OR FIXED. MEMBERS MUST BE LOCATED AT THE SPECIFIED HEIGHTS ABOVE THE CAR FLOOR TO PROVIDE FOR ALIGNMENT OF CROSS MEMBERS MARKED ④ AND ⑤.
- ④ CROSS MEMBER (1 REQD). SEE GENERAL NOTE "E-1" ON PAGE 2.
- ⑤ CROSS MEMBER (ANTI-SWAY) (1 REQD). SEE SPECIAL NOTES "1" AND "2".
- ⑥ ANTI-SWAY BLOCK, 2" X 6" X CUT TO FIT BETWEEN CONTAINERS (DOUBLED) (1 REQD). NAIL FIRST PIECE TO CROSS MEMBER MARKED ⑤ W/2-10d NAILS. NAIL SECOND PIECE TO FIRST IN A LIKE MANNER. SEE SPECIAL NOTE "3".
- ⑦ STRAPPING BOARD, 2" X 6" X LOAD WIDTH (1 REQD).
- ⑧ ANTI-SWAY BLOCK, 2" X 6" X CUT TO FIT BETWEEN CONTAINERS (DOUBLED) (1 REQD). NAIL FIRST PIECE TO STRAPPING BOARD MARKED ⑦ W/2-10d NAILS. NAIL SECOND PIECE TO FIRST IN A LIKE MANNER.
- ⑨ STEEL STRAPPING, 2" X .050" X 21'-0" (1 REQD). SEE GENERAL NOTE "L" ON PAGE 2. STAPLE TO STRAPPING BOARD MARKED ⑦ W/3 STAPLES.
- ⑩ PAD, 2" X .050" STRAP 24" LONG (2 REQD). POSITION UNDER AND SEAL TO PIECE MARKED ⑨. SEE "STRAPPING DETAILS" ON PAGE 27.
- ⑪ SEAL FOR 2" STRAPPING (8 REQD).



ISOMETRIC VIEW
AN 8'-10" WIDE CAR IS SHOWN.

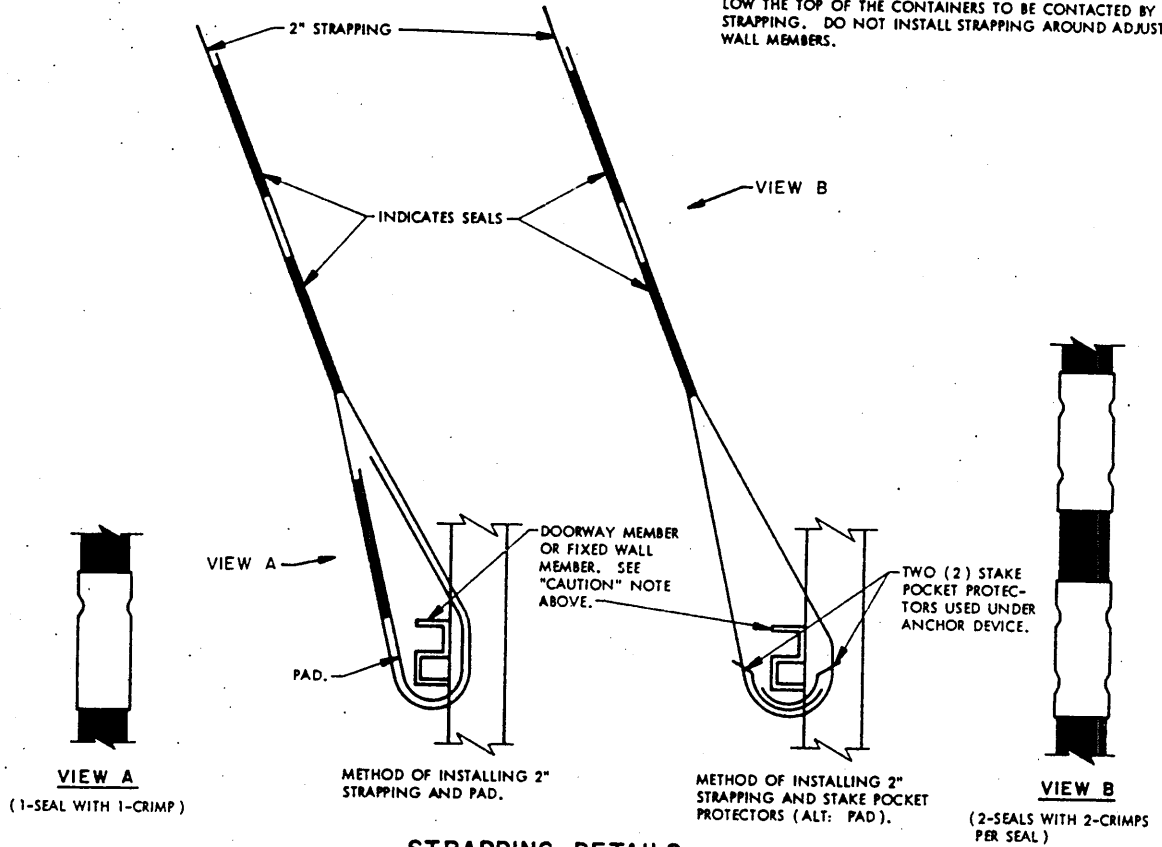
SPECIAL NOTES

1. IF THE CAR BEING USED FOR THE SHIPMENT OF THE DEPICTED LOAD IS EQUIPPED WITH A NAILABLE METAL FLOOR REFER TO THE "NAILABLE METAL FLOOR" DETAIL ON PAGE 27 FOR GUIDANCE.
2. THE 32" LOCATION DIMENSION MAY BE INCREASED A MAXIMUM OF 1-3/4". FILLER MATERIAL, 4" WIDE BY 26" LONG WILL BE NAILED TO THE BOTTOM SURFACE OF THE CROSS MEMBER (ANTI-SWAY) PRIOR TO INSTALLATION. IF CROSS MEMBERS ARE ALL METAL, SECURE FILLER MATERIAL WITH NO. 8 GAGE BLACK ANNEALED WIRE 36" LONG (2 REQD).
3. IF THE CAR IS EQUIPPED WITH WALL MEMBERS WHICH PRECLUDE THE PROPER APPLICATION OF CROSS MEMBER (ANTI-SWAY) MARKED ⑤, PIECES MARKED ⑥ THROUGH ⑨ WILL BE USED AS SHOWN. OMIT PIECE MARKED ⑤.
4. THE PROCEDURE SHOWN ON THIS PAGE IS ALSO APPLICABLE FOR THE SHIPMENT OF LESS THAN A FULL LOAD UNIT WITHIN THE LOAD SHOWN ON PAGE 22, OR IT MAY BE USED FOR THE SHIPMENT OF AN EMPTY CONTAINER.

KEY NUMBERS

- ① BATTEN, 2" X 6" X 28" (1 REQD). NAIL TO CAR END WALL W/3-16d NAILS.
- ② WALL MEMBER, ADJUSTABLE OR FIXED. MEMBERS MUST BE LOCATED AT THE SPECIFIED HEIGHTS ABOVE THE CAR FLOOR TO PROVIDE FOR ALIGNMENT OF CROSS MEMBERS MARKED ③ AND ⑤.
- ③ CROSS MEMBER (1 REQD). SEE GENERAL NOTE "E-1" ON PAGE 2.
- ④ SIDE BLOCKING, 2" X 4" X 15" (DOUBLED) (4 REQD). NAIL FIRST PIECE TO CAR FLOOR W/3-16d NAILS. NAIL SECOND PIECE TO FIRST IN A LIKE MANNER. SEE SPECIAL NOTE "1".
- ⑤ CROSS MEMBER (ANTI-SWAY) (1 REQD). SEE SPECIAL NOTES "2" AND "3".
- ⑥ STRAPPING BOARD, 2" X 6" X 25-3/4" (1 REQD).
- ⑦ STEEL STRAPPING, 2" X .050" X 17'-0" (1 REQD). SEE GENERAL NOTE "L" ON PAGE 2. STAPLE TO STRAPPING BOARD MARKED ⑥ W/2 STAPLES.
- ⑧ PAD, 2" X .050" STRAP 24" LONG (2 REQD). POSITION UNDER AND SEAL TO PIECE MARKED ⑦. SEE "STRAPPING DETAILS" ON PAGE 27.
- ⑨ SEAL FOR 2" STRAPPING (8 REQD).

CAUTION: INSTALL STRAPPING AROUND FIXED WALL MEMBERS OR DOORWAY MEMBERS WHICH ARE LOCATED A MINIMUM OF 27" BELOW THE TOP OF THE CONTAINERS TO BE CONTACTED BY THE STRAPPING. DO NOT INSTALL STRAPPING AROUND ADJUSTABLE WALL MEMBERS.

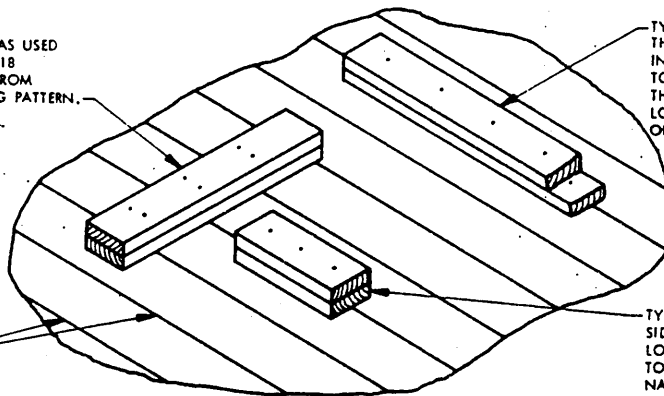


STRAPPING DETAILS

THE STRAPPING DETAILS ABOVE DEPICT LAPPED-BACK-ON-SELF JOINTS AND ARE APPLICABLE TO THE LCL LOADS SHOWN ON PAGES 25 AND 26.

TYPICALLY INDICATES A BACK-UP CLEAT AS USED WITHIN THE LOADS DEPICTED ON PAGES 18 THROUGH 21. INCREASE THE MATERIAL FROM 2" X 4" TO 2" X 6". NOTE THE NAILING PATTERN.

INDICATES NAILING CHANNELS RUNNING LATERALLY ACROSS THE CAR WIDTH APPROXIMATELY 8" ON CENTER.

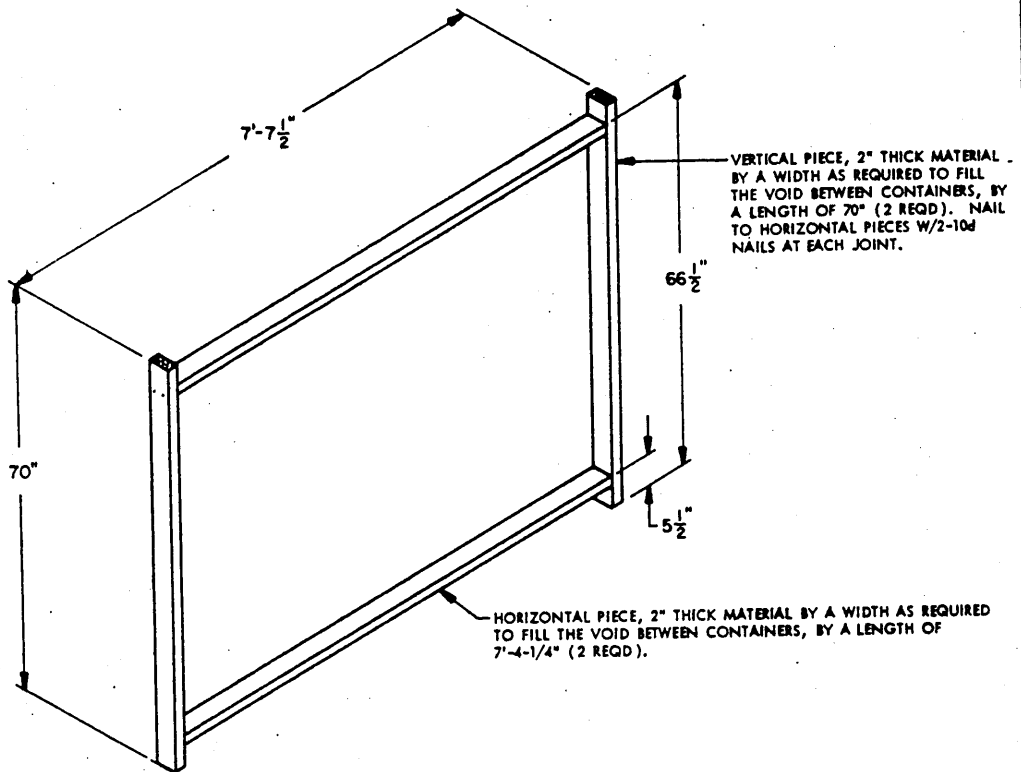


TYPICALLY INDICATES A HEADER AS USED WITHIN THE LOADS DEPICTED ON PAGES 18 THROUGH 21. INCREASE THE MATERIAL FROM 2" X 4" TO 2" X 6" TO BETTER RECEIVE THE LARGER SIZE NAILS AND THE STRAIGHT-LINE NAILING PATTERN. IF THE LOCATION OF THE HEADER PIECE IN THE LENGTH OF THE CAR DOES NOT ALLOW FASTENING INTO THE NAILING CHANNELS IN THE CAR FLOOR, THE WIDTH OF THESE PIECES MAY BE INCREASED AS NECESSARY.

TYPICALLY INDICATES A LATERAL BRACE AND/OR SIDE BLOCKING PIECE USED WITHIN THE DEPICTED LOADS. INCREASE THE MATERIAL FROM 2" X 4" TO 2" X 6" TO BETTER RECEIVE THE LARGER SIZE NAILS AND THE STRAIGHT-LINE NAILING PATTERN REQUIRED IN CARS EQUIPPED WITH NAILABLE METAL FLOORS. INSTALL PIECES TO CENTER OVER THE NAILING CHANNEL WHICH IS NEAREST THE CENTER OF THE SKID LENGTH.

NAILABLE METAL FLOOR

THIS VIEW DEPICTS A NAILABLE METAL FLOOR WITH WHICH SOME BOX CARS MAY BE EQUIPPED. IF A NAIL SIZE FOR FLOOR NAILING IS MARKED ON THE SIDE WALL OF THE CAR THAT GUIDANCE SHOULD BE APPLIED. IF A NAIL SIZE IS NOT SPECIFIED IN THE CAR, 30d NAILS SHOULD BE USED FOR THE NAILING OF BOTH LAYERS OF ALL HEADERS, LATERAL BRACING OR SIDE BLOCKING PIECES, AND BACK-UP CLEATS TO THE CAR FLOOR.



SPACER B