APPROVED BY
HAZARDOUS MATERIALS SYSTEMS
(BOE) ASSOCIATION OF AMERICAN
RAILROADS
J. H. Fleshman
DATE 2/20/80

LOADING AND BRACING (CL & LCL) IN BOX CARS OF BLU-80/B (BIGEYE) BINARY CHEMICAL WEAPON BALLONET, MXU-695/B, PACKED IN CNU-388/E STORAGE AND SHIPPING CONTAINER, UNITIZED 12 CONTAINERS PER METAL PALLET

INDEX

REVISIONS				DRAFTSMAN	TYPIST	CHECKED	TECHNICIAN	ENGINEER
		DEV DEO DE		Div	TM			MWD
		DEV DEO DE		SMCAC-DEV: TM	SMCAC-DEO: W. Trimble	SMCAC-DE: W. Ernst		
		DEV DEO DE		APPROVED, U.S. ARMY ARMAMENT, MUNITIONS AND CHEMICAL COMMAND: Virginia Doran-Kee Trujo, AMSMC-TMD				
		DEV DEO DE		APPROVED BY ORDER OF COMMANDING GENERAL, U.S. ARMY MATERIEL COMMAND (AMC): William F. Ernst, U.S. ARMY DEFENSE AMMUNITION CENTER AND SCHOOL				
		DEV DEO DE		U.S. ARMY MATERIEL COMMAND				
		DEV DEO DE		AUGUST 1990				
		DEV DEO DE		CLASS: 19	DIVISION: 48	DRAWING: 4574	FILE: CB5 PMI	

DO NOT SCALE

PROJECT CB 83-88

GENERAL NOTES

A. THIS DOCUMENT HAS BEEN PREPARED AND ISSUED IN ACCORDANCE WITH AR 740-1, AND AUGMENTS TM 743-200-1 (CHAPTER 5).

B. THE OUTLOADING PROCEDURES SPECIFIED IN THIS DRAWING ARE APPLICABLE TO THE BLU-80/B (BIGEYE) BINARY CHEMICAL WEAPON BALLONET, MXU-695/B, PACKED IN CNU 388/E STORAGE AND SHIPPING CONTAINER, UNITIZED 12 CONTAINERS PER METAL PALLET. SEE THE PICTORIAL VIEW ON PAGE 3 FOR SIZE AND WEIGHT.

C. THE OUTLOADING PROCEDURES SPECIFIED HEREIN ARE BASED ON 50'-6" LONG AND 60'-8" LONG BY 9'-2" WIDE (INSIDE DIMENSION) BOX CARS WITH WOOD LINED SIDEWALLS AND 10'-0" WIDE THRU DOOR OPENINGS. WIDER CARS AND CARS WITH THRU DOOR OPENINGS LESS THAN 10'-0" WIDE MAY BE USED. CARS WITH DOUBLE DOOR OPENINGS CAN ALSO BE USED. DOORS MAY BE OF THE CONVENTIONAL SLIDING TYPE OR PLUG TYPE. IF THE CAR HAS PLUG TYPE DOORS AND THE LENGTH OF THE LOAD REQUIRES USE OF DOORWAY PROTECTION, THE CAR MUST HAVE A NAILABLE FLOOR TO PERMIT INSTALLATION OF THE DOORWAY PROTECTION AS DETAILED ON PAGE 22.

D. ALL METAL CARS SHOULD NOT BE USED, HOWEVER, IF CARS WITH WOOD LINED SIDEWALLS ARE NOT AVAILABLE, AN ALL METAL CAR MAY BE USED BY LINING THE SIDEWALLS WITH PLYWOOD. SEE THE "SIDEWALL LINING" DETAIL ON PAGE 19.

E. THE PROCEDURES DEPICTED ON PAGES 4 THRU 7 ARE FOR SHIPMENTS IN CONVENTIONAL BOX CARS, WHEREAS, THE PROCEDURES SHOWN ON PAGES 8 AND 9 APPLY TO SHIPMENTS IN CUSHIONED BOX CARS EQUIPPED WITH LOAD-DIVIDER BULKHEADS, HOWEVER, ONLY THOSE LOAD-DIVIDER EQUIPPED CARS WHICH SATISFY THE SPECIFICATIONS CONTAINED ON PAGE 9 CAN BE USED. FOR ADDITIONAL GUIDANCE, ATTENTION IS DIRECTED TO THE "SPECIAL NOTES" SECTIONS WHICH ARE IMMEDIATELY ADJACENT TO THE DEPICTED OUTLOADING METHOD.

F. IF THE CAR IS EQUIPPED WITH PLUG TYPE DOORS, AFTER THE DOORS ARE CLOSED AND READY FOR THE INSTALLATION OF "CAR SEALS", A PIECE OF WIRE OF SUITABLE SIZE WILL BE USED IN ADDITION TO AND IN CONJUNCTION WITH EACH CAR SEAL USED TO "SEAL" THE CAR. THE WIRE WILL BE THREADED THROUGH THE HOLES IN THE DOOR LATCH ASSEMBLY ONE OR MORE TIMES, AND THE WIRE ENDS WILL BE TWISTED TOGETHER.

G. 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 FOR FULL OR PARTIAL CARLOADS MUST BE FOLLOWED AS CLOSELY AS POSSIBLE FOR BLOCKING, BRACING AND STAYING OF THE DESIGNATED ITEMS.

H. OTHER TYPES OF LADING ITEMS MAY BE LOADED INTO BOX CARS WHICH ARE PARTIALLY LOADED WITH THE DESIGNATED ITEMS, PROVIDING THE TOTAL LOAD IS COMPATIBLE, EXISTING DIRECTIVES ARE NOT VIOLATED, AND THE OTHER LADING ITEMS ARE BLOCKED, AND BRACED TO EQUAL THE BLOCKING AND BRACING CRITERIA SPECIFIED HEREIN.

J. DUNNAGE LUMBER SPECIFIED THROUGHOUT THIS PROCEDURAL DRAWING IS OF NOMINAL SIZE. FOR EXAMPLE, 2" X 4" MATERIAL IS ACTUALLY 1-1/2" THICK BY 3-1/2" WIDE AND 1" X 6" MATERIAL IS ACTUALLY 3/4" THICK BY 5-1/2" WIDE.

K. NOTICE: A STAGGERED NAILING PATTERN WILL BE USED WHEREVER POSSIBLE WHEN NAILS ARE DRIVEN INTO JOINTS OF DUNNAGE ASSEMBLIES. ALSO, A STAGGERED NAILING PATTERN WILL BE USED WHEN DUNNAGE IS NAILED TO THE FLOOR OF THE TRANSPORTING VEHICLE, OR WHEN LAMINATING DUNNAGE. 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. SEE GENERAL NOTES "M" AND "N" AT RIGHT.

L. THE SELECTION OF RAILCARS FOR TRANSPORT OF THE DESIGNATED ITEMS WILL BE IN ACCORDANCE WITH HAZARDOUS MATERIALS REGULATIONS OF DOT AND AR 55-355, CHAPTER 29, FOR EXPLOSIVES OR OTHER DANGEROUS ARTICLES, IN FULL. WHEN SELECTING RAIL CARS, EVERY EFFORT SHOULD BE MADE TO OBTAIN BOX CARS THAT DO NOT HAVE BOWED END WALLS. CARS WITH BOWED ENDS CAN BE USED. HOWEVER, IF AN END WALL IS BOWED OUTWARD MORE THAN TWO INCHES (2"), EITHER FROM SIDE TO SIDE OR FROM FLOOR TO ROOF, SHIM MATERIAL WILL BE REQUIRED. DIMENSIONAL LUMBER OR PLYWOOD 6" WIDE OF A THICKNESS AND A LENGTH REQUIRED TO FILL THE VOID BETWEEN THE BOX CAR END WALL AND THE END WALL GATE, WILL BE LAMINATED TO THE HORIZONTAL WALL BEARING PIECES OF THE GATE TO PROVIDE A "SQUARED OFF" SURFACE FOR THE LOAD AT THE END OF THE CAR.

(CONTINUED AT RIGHT)

MATERIAL SPECIFICATIONS

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

NAILS ----------: FED SPEC FF-N-105, COMMON.

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

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

PLYWOOD -------: GROUP B, CONSTRUCTION AND INDUSTRIAL PLYWOOD, INTERIOR WITH EXTERIOR GLUE, GRADE C-D, FED SPEC NN-P-530. IF SPECIFIED GRADE IS NOT AVAILABLE, A BETTER INTERIOR OR AN EXTERIOR GRADE MAY BE SUBSTITUTED.

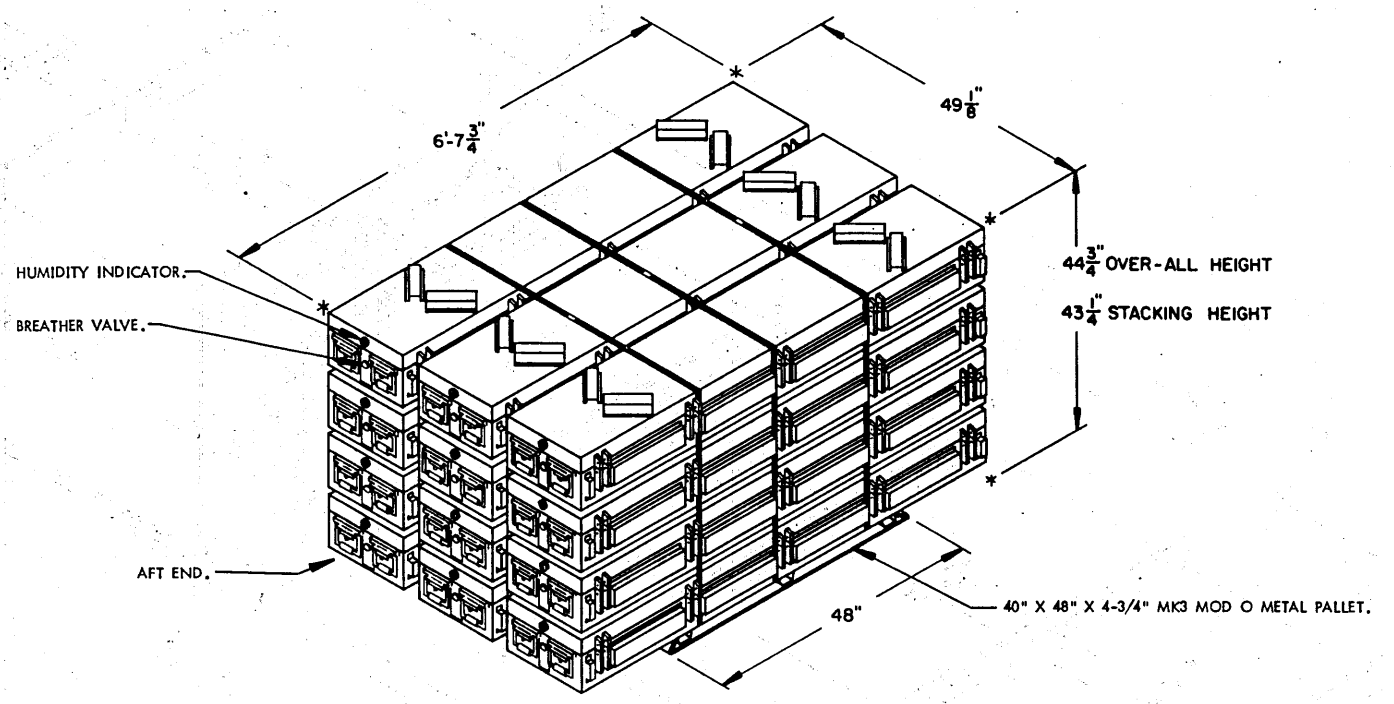
(GENERAL NOTES CONTINUED)

M. POWER DRIVEN STAPLES MAY BE USED AS ALTERNATIVE FASTENERS FOR NAILS WHEN CONSTRUCTING DUNNAGE ASSEMBLIES WHICH ARE TO BE USED IN THE DELINEATED LOADS SHOWN THROUGHOUT THIS DRAWING. THE STAPLES TO BE USED MUST BE EQUAL IN LENGTH TO THE SPECIFIED NAIL SIZE AND MUST BE SUBSTITUTED ON A ONE STAPLE FOR ONE NAIL BASIS. STAPLES WHICH ARE 2-1/2" OR LESS IN LENGTH SHOULD BE IN ACCORDANCE WITH FEDERAL SPECIFICATION FF-N-105 AS NEARLY AS PRACTICABLE. STAPLES WHICH ARE LONGER THAN 2-1/2" WILL BE A COMMERCIAL GRADE, OF A QUALITY EQUIVALENT TO THOSE MANUFACTURED BY SENCO PRODUCTS INCORPORATED. NOTE: STAPLES WILL NOT BE SUBSTITUTED FOR NAILS IN ANY LOAD RESTRAINING FLOOR DUNNAGE APPLICATION.

N. IF THE CAR BEING USED FOR A SHIPMENT IS EQUIPPED WITH A NAILABLE METAL FLOOR AND A NAIL SIZE FOR FLOOR NAILING IS MARKED ON THE SIDEWALL OF THE CAR, THAT GUIDANCE SHOULD BE APPLIED TO THE NAILING OF THE LCL BRACES AND KNEE BRACE ASSEMBLIES IN THE LESS-THAN-FULL LOADS. IF A NAIL SIZE IS NOT SPECIFIED IN THE CAR, 30d NAILS SHOULD BE USED IN LIEU OF THOSE SPECIFIED IN THE APPLICABLE LOADS AND DETAILS ON PAGES 16 THRU 18.

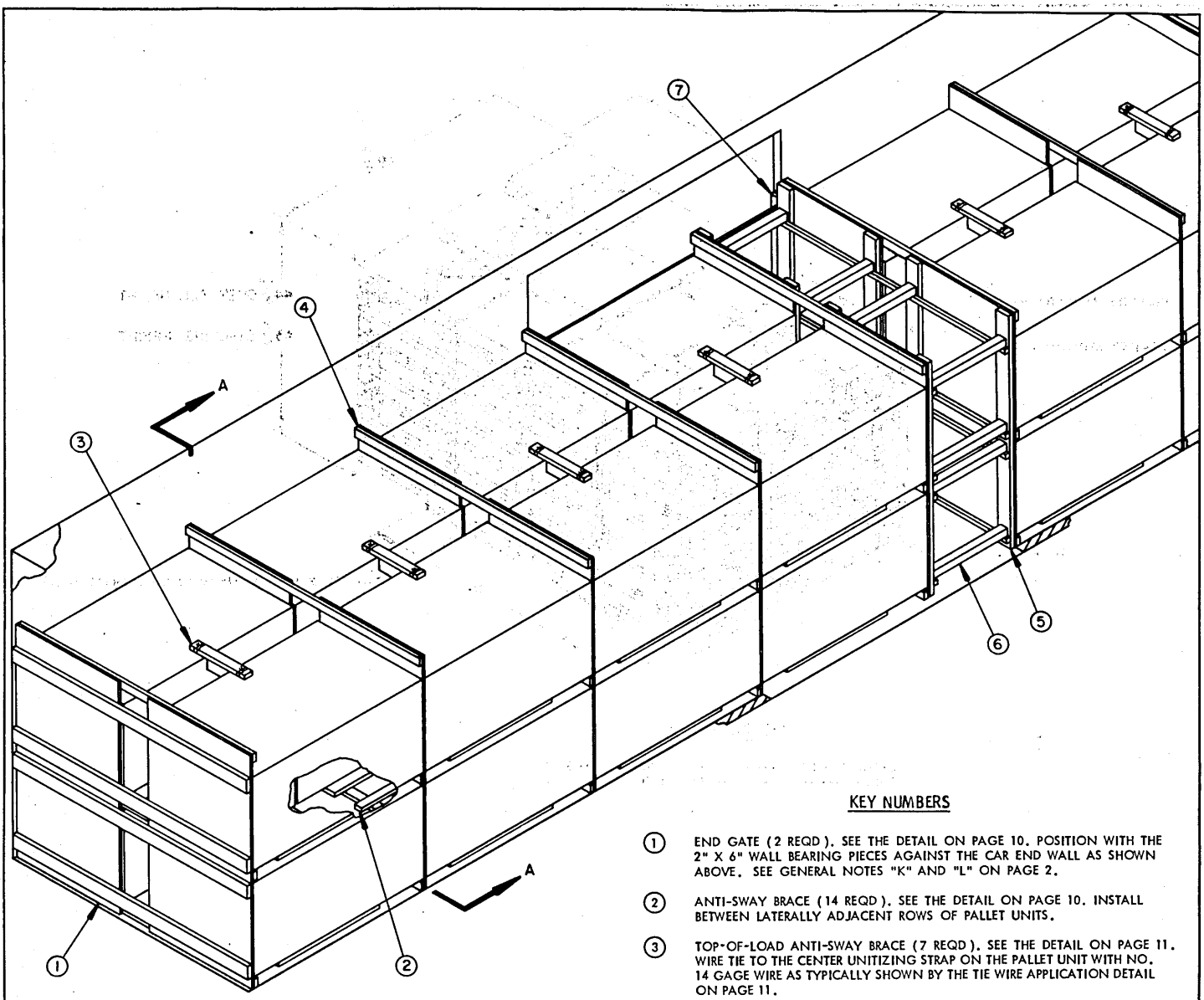
O. PORTIONS OF THE CARS, SUCH AS SIDEWALLS, END WALLS, AND ROOFS, HAVE NOT BEEN SHOWN IN THE LOAD VIEWS FOR CLARITY PURPOSES.

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

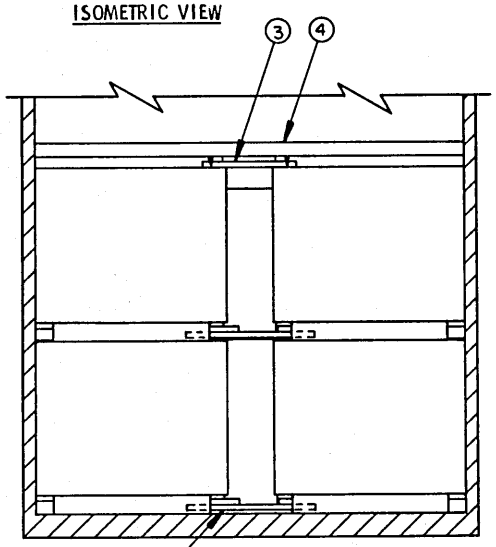


PALLET UNIT

GROSS WEIGHT ---------- 2028 LBS (APPROX)
CUBE ----------101.5 CUBIC FEET (APPROX)



ISOMETRIC VIEW



SECTION A-A

KEY NUMBERS

(1) END GATE (2 REQD). SEE THE DETAIL ON PAGE 10. POSITION WITH THE 2" X 6" WALL BEARING PIECES AGAINST THE CAR END WALL AS SHOWN ABOVE. SEE GENERAL NOTES "K" AND "L" ON PAGE 2.

(2) ANTI-SWAY BRACE (14 REQD). SEE THE DETAIL ON PAGE 10. INSTALL BETWEEN LATERALLY ADJACENT ROWS OF PALLET UNITS.

(3) TOP-OF-LOAD ANTI-SWAY BRACE (7 REQD). SEE THE DETAIL ON PAGE 11. WIRE TIE TO THE CENTER UNITIZING STRAP ON THE PALLET UNIT WITH NO. 14 GAGE WIRE AS TYPICALLY SHOWN BY THE TIE WIRE APPLICATION DETAIL ON PAGE 11.

(4) SEPARATOR GATE (5 REQD). SEE THE DETAIL ON PAGE 11. POSITION WITH THE TIE PIECES AGAINST THE ALREADY-LOADED UNITS.

(5) CENTER GATE (2 REQD). SEE THE "CENTER GATE-A" DETAIL ON PAGE 12. SEE GENERAL NOTE "K" ON PAGE 2.

(6) STRUT, 4" X 4" BY CUT TO FIT (REF: 36-1/4") (16 REQD). TOENAIL TO PIECES MARKED (5) W/2-16d NAILS AT EACH END. SEE "STRUT INSTALLATION" DETAILS ON PAGE 12.

(7) DOORWAY PROTECTION (2 REQD). SEE THE DETAIL ON PAGE 19. NAIL TO THE DOOR POSTS W/12d NAILS. SEE SPECIAL NOTE 3 ON PAGE 5.

28-UNIT LOAD IN A 50'-6" LONG BY 9'-2" WIDE CONVENTIONAL BOX CAR

SPECIAL NOTES:

1. A 28-UNIT 2-LAYER LOAD IS SHOWN IN A 50'-6" LONG BY 9'-2" WIDE CONVENTIONAL BOX CAR HAVING 10'-0" WIDE THROUGH DOOR OPENINGS WITH CONVENTIONAL SLIDING DOORS AND WOOD LINED SIDEWALLS. WIDER AND/OR LONGER CARS AND CARS WITH NARROWER DOORS OR DOUBLE DOORS MAY BE USED. HOWEVER, NARROWER DOORS MAY HINDER LOADING OPERATIONS.

2. IF AN ALL METAL CAR IS FURNISHED FOR USE, THE SIDEWALLS MUST BE LINED WITH 1/4" MINIMUM THICK PLYWOOD OR OTHER SUITABLE MATERIAL AS SPECIFIED IN THE DETAIL ON PAGE 19.

3. IF THE CAR HAS PLUG TYPE DOORS, SEE PAGE 22 FOR DOORWAY PROTECTION REQUIREMENTS AND DETAILS. SEE GENERAL NOTE "C" ON PAGE 2.

4. IF NECESSARY, TO SATISFY THE QUANTITY OF UNITS TO BE SHIPPED, A PARTIAL LAYER MAY BE LOADED IN EITHER OR BOTH ENDS OF THE CAR BY APPLYING THE K-BRACE METHOD OF PARTIAL LAYER BRACING AS DETAILED ON PAGES 14 AND 15. HOWEVER, THE CAR MUST HAVE NAILABLE WALLS.

5. FOR SHIPMENT OF A 24-UNIT LOAD SEE THE PROCEDURES DEPICTED ON PAGE 6 AND SPECIAL NOTE 4 ON PAGE 7.

6. THESE PROCEDURES ARE ALSO APPLICABLE FOR SHIPMENT OF A 2-LAYER 32-UNIT LOAD IN A 60'-8" LONG CONVENTIONAL BOX CAR AS SHOWN IN THE "LOADING PLAN" ON PAGE 21.

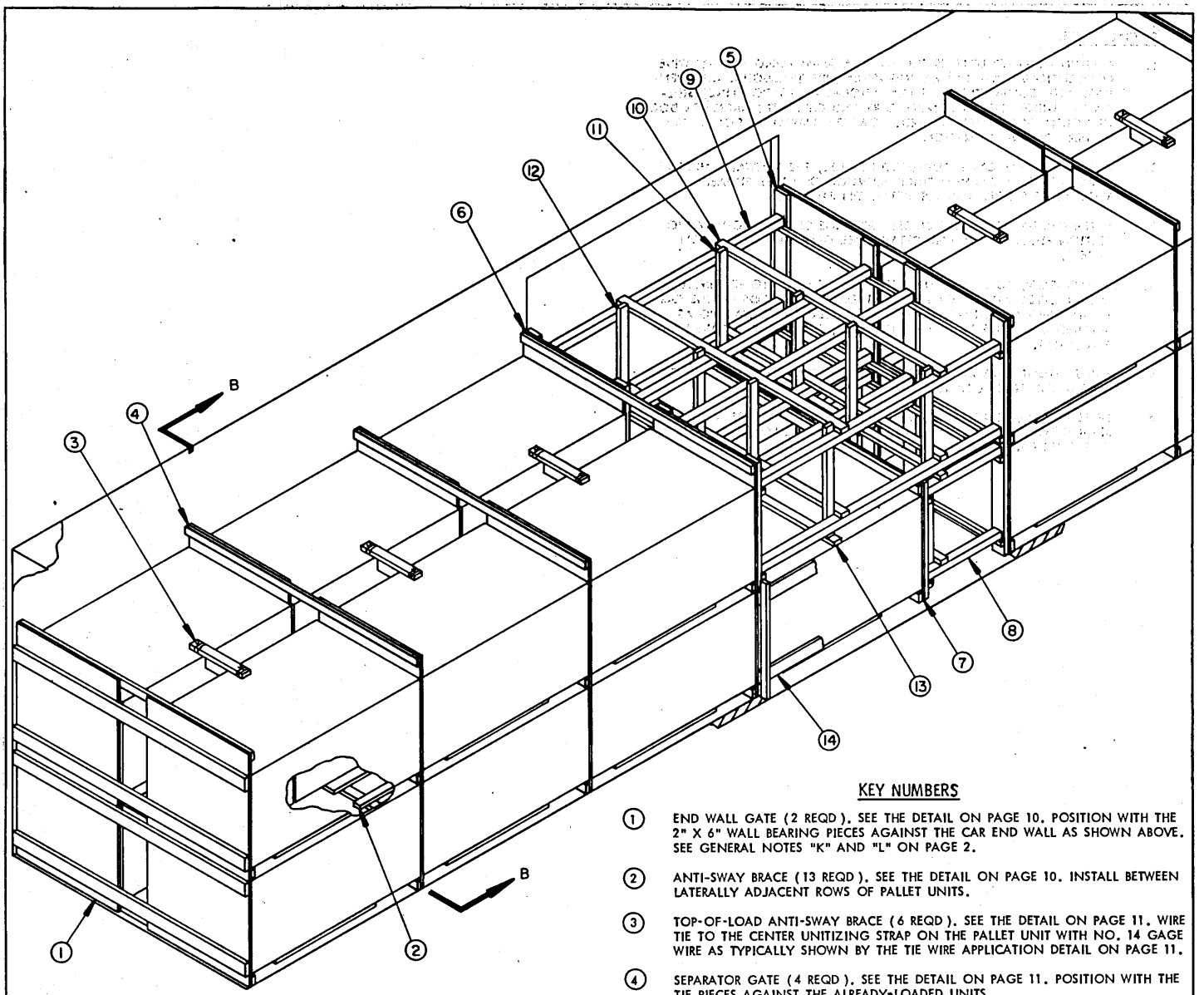
BILL OF MATERIAL

LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	138	46
1" X 6"	80	40
2" X 2"	73	24
2" X 3"	30	15
2" X 4"	257	171
2" X 6"	144	144
2" X 8"	56	75
4" X 4"	49	65
NAILS	**NO. REQD**	**POUNDS**
4d (1-1/2")	180	3/4
6d (2")	384	2-1/2
10d (3")	232	3-3/4
12d (3-1/4")	53	1
16d (3-1/2")	64	1-1/2

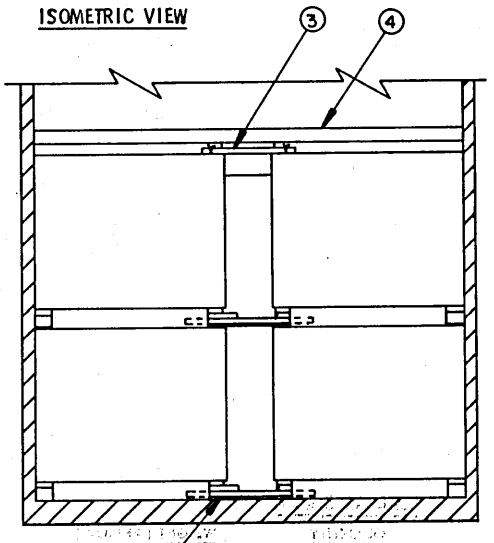
WIRE, NO. 14 GAGE ---------- 14'-0" REQD ---------- NIL
PLYWOOD, 1/2" ---------- 576 SQ FT REQD ----------792 LBS

LOAD AS SHOWN

ITEM	QUANTITY	WEIGHT (APPROX)
PALLET UNIT	28	56,784 LBS
DUNNAGE		1,962 LBS
TOTAL WEIGHT		58,746 LBS



ISOMETRIC VIEW



SECTION B-B

KEY NUMBERS

(1) END WALL GATE (2 REQD). SEE THE DETAIL ON PAGE 10. POSITION WITH THE 2" X 6" WALL BEARING PIECES AGAINST THE CAR END WALL AS SHOWN ABOVE. SEE GENERAL NOTES "K" AND "L" ON PAGE 2.

(2) ANTI-SWAY BRACE (13 REQD). SEE THE DETAIL ON PAGE 10. INSTALL BETWEEN LATERALLY ADJACENT ROWS OF PALLET UNITS.

(3) TOP-OF-LOAD ANTI-SWAY BRACE (6 REQD). SEE THE DETAIL ON PAGE 11. WIRE TIE TO THE CENTER UNITIZING STRAP ON THE PALLET UNIT WITH NO. 14 GAGE WIRE AS TYPICALLY SHOWN BY THE TIE WIRE APPLICATION DETAIL ON PAGE 11.

(4) SEPARATOR GATE (4 REQD). SEE THE DETAIL ON PAGE 11. POSITION WITH THE TIE PIECES AGAINST THE ALREADY-LOADED UNITS.

(5) CENTER GATE (1 REQD). SEE THE "CENTER GATE-A" DETAIL ON PAGE 12. SEE GENERAL NOTE "K" ON PAGE 2.

(6) CENTER GATE (1 REQD). SEE THE "CENTER GATE-B" DETAIL ON PAGE 13.

(7) CENTER GATE (1 REQD). SEE THE "CENTER GATE-C" DETAIL ON PAGE 13.

(8) STRUT, 4" X 4" BY CUT TO FIT (8 REQD). TOENAIL TO PIECES MARKED (5) AND (7) W/2-16d NAILS AT EACH END. SEE "STRUT INSTALLATION" DETAILS ON PAGE 12.

(9) STRUT, 4" X 4" BY CUT TO FIT (8 REQD). TOENAIL TO PIECES MARKED (5) AND (6) W/2-16d NAILS AT EACH END. SEE "STRUT INSTALLATION" DETAILS ON PAGE 12.

(10) HORIZONTAL STRUT BRACING, 2" X 4" BY A LENGTH TO SUIT (REF: 9'-0") (6 REQD). NAIL TO THE STRUTS, PIECES MARKED (8) AND (9) W/3-10d NAILS AT EACH JOINT.

(11) VERTICAL STRUT BRACING, 2" X 4" BY A LENGTH TO SUIT (REF: 7'-6") (4 REQD). NAIL TO THE STRUTS, PIECES MARKED (8) AND (9) W/3-10d NAILS AT EACH JOINT.

(12) VERTICAL STRUT BRACING, 2" X 4" BY A LENGTH TO SUIT (REF: 44") (4 REQD). NAIL TO THE STRUTS, PIECES MARKED (9) W/3-10d NAILS AT EACH JOINT. TOENAIL TO THE STRUT BRACING PAD, PIECE MARKED (13), W/1-10d NAIL AT EACH JOINT.

(13) STRUT BRACING PAD, 2" X 4" BY LENGTH TO SUIT (REF: 9'-2") (1 REQD). POSITION UNDER THE VERTICAL STRUT BRACING, PIECES MARKED (12) AS SHOWN.

(14) DOORWAY PROTECTION, 1-LAYER HIGH (2 REQD). SEE THE DETAIL ON PAGE 19. NAIL TO THE DOOR POSTS W/12d NAILS. SEE SPECIAL NOTE 3 ON PAGE 7.

SPECIAL NOTES:

1. A 26-UNIT LOAD IS SHOWN IN A 50'-6" LONG BY 9'-2" WIDE CONVENTIONAL BOX CAR HAVING A 10'-0" WIDE THROUGH DOOR OPENINGS WITH CONVENTIONAL SLIDING DOORS AND WOOD LINED SIDE WALLS. WIDER AND/OR LONGER CARS AND CARS WITH NARROWER DOORS OR DOUBLE DOORS MAY BE USED. HOWEVER, NARROWER DOORS MAY HINDER LOADING OPERATIONS.

2. IF AN ALL METAL CAR IS FURNISHED FOR USE THE SIDEWALLS MUST BE LINED WITH 1/4" MINIMUM THICK PLYWOOD OR OTHER SUITABLE MATERIAL AS SPECIFIED IN THE DETAIL ON PAGE 19.

3. IF THE CAR HAS PLUG-TYPE DOORS, SEE PAGE 22 FOR DOORWAY PROTECTION REQUIREMENTS AND DETAILS. SEE GENERAL NOTE "C" ON PAGE 2.

4. THESE PROCEDURES ARE ALSO APPLICABLE FOR A SHIPMENT OF A 24-UNIT LOAD BY OMITTING THE TWO UNITS IN THE DOORWAY AREA. OMIT 1 ANTI-SWAY BRACE MARKED (2) ; OMIT CENTER GATES MARKED (6) AND (7) ; OMIT STRUTS MARKED (8) ; OMIT VERTICAL STRUT BRACING MARKED (12) ; AND OMIT PAD MARKED (13) . ADD 1 CENTER GATE MARKED (5) ; ADD 8 STRUTS MARKED (9) ; ADD 2 HORIZONTAL STRUT BRACING MARKED (10) ; ADD 4 VERTICAL STRUT BRACING MARKED (11) . IF THE CAR BEING LOADED HAS THROUGH DOOR OPENINGS LESS THAN 10'-0" WIDE, DOORWAY PROTECTION MARKED (14) MAY ALSO BE OMITTED.

5. TO SATISFY THE QUANTITY OF UNITS TO BE SHIPPED, A PARTIAL LAYER MAY BE LOADED IN EITHER OR BOTH ENDS OF THE CAR BY APPLYING THE K-BRACE METHOD OF PARTIAL LAYER BRACING AS DETAILED ON PAGES 14 AND 15. HOWEVER, THE CAR MUST HAVE NAILABLE WALLS.

BILL OF MATERIAL

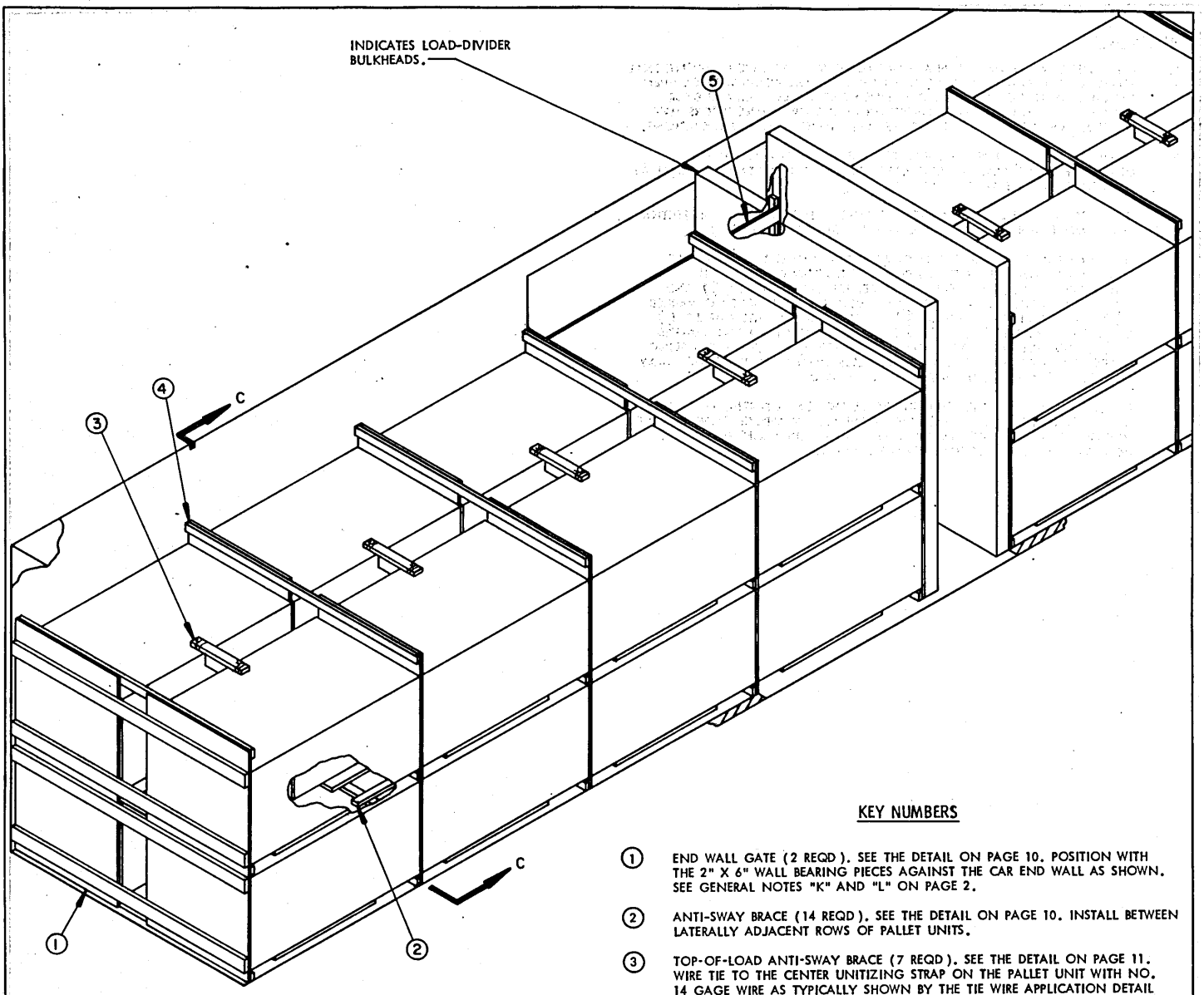
LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	137	46
1" X 6"	40	20
2" X 2"	73	25
2" X 3"	16	8
2" X 4"	343	229
2" X 6"	145	145
2" X 8"	52	70
4" X 4"	103	137
NAILS	**NO. REQD**	**POUNDS**
4d (1-1/2")	180	3/4
6d (2")	348	2-1/4
10d (3")	368	5-3/4
12d (3-1/4")	34	3/4
16d (3-1/2")	64	1-1/2

WIRE, NO. 14 GAGE ---------- 12'-0" REQD ---------- NIL
PLYWOOD, 1/2" ----------544 SQ FT REQD ----------748 LBS

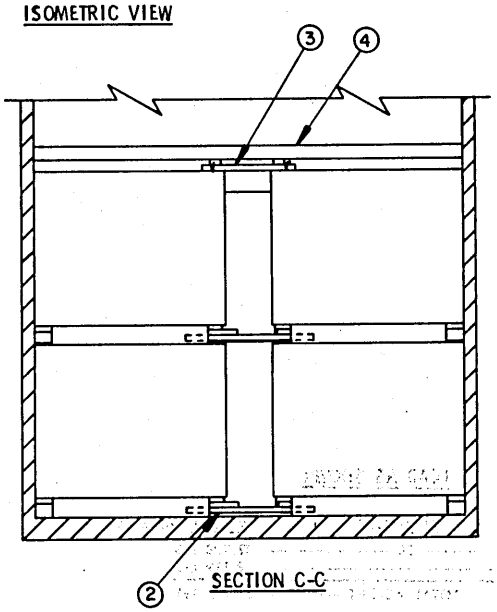
LOAD AS SHOWN

ITEM	QUANTITY	WEIGHT (APPROX)
PALLET UNIT	26	52,728 LBS
DUNNAGE		2,119 LBS
TOTAL WEIGHT		54,847 LBS

26-UNIT LOAD IN A 50'-6" LONG BY 9'-2" WIDE CONVENTIONAL BOX CAR



ISOMETRIC VIEW



SECTION C-C

KEY NUMBERS

(1) END WALL GATE (2 REQD). SEE THE DETAIL ON PAGE 10. POSITION WITH THE 2" X 6" WALL BEARING PIECES AGAINST THE CAR END WALL AS SHOWN. SEE GENERAL NOTES "K" AND "L" ON PAGE 2.

(2) ANTI-SWAY BRACE (14 REQD). SEE THE DETAIL ON PAGE 10. INSTALL BETWEEN LATERALLY ADJACENT ROWS OF PALLET UNITS.

(3) TOP-OF-LOAD ANTI-SWAY BRACE (7 REQD). SEE THE DETAIL ON PAGE 11. WIRE TIE TO THE CENTER UNITIZING STRAP ON THE PALLET UNIT WITH NO. 14 GAGE WIRE AS TYPICALLY SHOWN BY THE TIE WIRE APPLICATION DETAIL ON PAGE 11.

(4) SEPARATOR GATE (7 REQD). SEE THE DETAIL ON PAGE 11. POSITION WITH THE TIE PIECES AGAINST THE ALREADY-LOADED UNITS.

(5) DOORWAY PROTECTION (2 REQD). SEE THE DETAIL ON PAGE 19. NAIL TO THE DOOR POSTS W/12d NAILS. SEE SPECIAL NOTE 7 ON PAGE 9.

28-UNIT LOAD IN A 50'-6" LONG BY 9'-2" WIDE BOX CAR EQUIPPED WITH LOAD-DIVIDER BULKHEADS

SPECIAL NOTES:

1. A 28-UNIT, 2-LAYER LOAD IS SHOWN IN A 50'-6" LONG BY 9'-2" WIDE CUSHIONED BOX CAR EQUIPPED WITH LOAD DIVIDER BULKHEADS, WOOD LINED SIDEWALLS AND 10'-0" WIDE THROUGH DOOR OPENINGS. WIDER AND/OR LONGER CARS AND CARS WITH NARROWER DOORS OR DOUBLE-DOORS MAY BE USED. HOWEVER, NARROWER DOORS MAY HINDER LOADING OPERATIONS.

2. IF AN ALL METAL CAR IS FURNISHED FOR USE THE SIDEWALLS MUST BE LINED WITH 1/4" MINIMUM THICK PLYWOOD OR OTHER SUITABLE MATERIAL AS SPECIFIED IN THE DETAIL ON PAGE 19.

3. CAUTION: FOR CUSHIONED BOX CARS EQUIPPED WITH LOAD-DIVIDER BULKHEADS, ONLY CARS EQUIPPED WITH LOAD DIVIDERS MANUFACTURED BY EVANS, EQUIPCO, OR PRECO MAY BE USED. LOAD DIVIDERS MANUFACTURED BY TRANSCO ARE NOT ACCEPTABLE, WHETHER OF ALUMINUM OR STEEL CONSTRUCTION. THE DEPICTED PROCEDURES ARE APPLICABLE FOR CARS OF VARIOUS LENGTHS AND WIDTHS. THE AAR MECHANICAL DESIGNATION CLASS FOR THESE CARS, AS IDENTIFIED IN "THE OFFICIAL RAILWAY EQUIPMENT REGISTER" WILL BE RBL, XL, OR XLI.

4. THE USE OF LOAD DIVIDER EQUIPPED CARS WILL ELIMINATE THE NEED FOR CENTER GATES AND STRUTS, WHICH ARE REQUIRED IN CONVENTIONAL BOX CAR LOADS. THIS WILL ACCOUNT FOR A CONSIDERABLE SAVING IN MATERIAL AND LABOR COSTS. THEREFORE, EVERY EFFORT SHOULD BE MADE TO ACQUIRE CUSHIONED CARS EQUIPPED WITH LOAD DIVIDERS FOR SHIPMENT OF THE DESIGNATED UNITS. NOTICE: ONLY CUSHIONED CARS THAT HAVE SLIDING CENTER SILL TYPE CUSHIONING DEVICES OR END-OF-CAR TYPE DEVICES WHICH HAVE AT LEAST FIFTEEN INCHES (15") OF TRAVEL ARE ACCEPTABLE.

5. BOX CARS EQUIPPED WITH ADJUSTABLE SIDE FILLERS THAT HAVE 3/8" OR THICKER PANELS MAY BE USED. HOWEVER, THESE SIDE FILLERS MUST NOT BE USED FOR LATERAL BLOCKING: THEY MUST BE RETRACTED AND LOCKED AGAINST THE CAR SIDEWALL AND PROVIDE A MINIMUM INSIDE WIDTH DIMENSION OF 9'-2". A "FILL PIECE" MUST BE INSTALLED IN THE VOID BETWEEN THE CAR SIDEWALL AND THE SIDE FILLER PANEL. SEE THE "TYPICAL TYPE A" VIEW ON PAGE 20 FOR GUIDANCE. IF THE BACK OF THE SIDE FILLER PANELS ARE REINFORCED WITH VERTICAL AND HORIZONTAL STEEL MEMBERS AS SHOWN IN THE "TYPICAL TYPE B" VIEW ON PAGE 20, THE "FILL PIECE" MATERIAL IS NOT REQUIRED.

6. NOTICE: AFTER THE LOAD-DIVIDER BULKHEADS ARE POSITIONED AGAINST THE LADING, AND THE LOCKING PINS ARE ENGAGED IN THE HOLES OF THE RAILS, THE LOWER LOCKING PINS MUST BE INSPECTED TO ENSURE THAT THE PINS ARE FULLY ENGAGED IN THE LOCKING HOLES. IF THE PINS ARE NOT FULLY SEATED IN THE LOCKING HOLES, THE LINKAGE MECHANISM WILL BE ADJUSTED AS REQUIRED SO THAT THE PINS WILL BE FULLY SEATED INTO THE LOCKING HOLES OF THE LOWER RAILS. IF PRESENT, DEBRIS MUST BE REMOVED FROM BENEATH THE LOCKING HOLES WHICH HAVE BEEN SELECTED FOR SECURING A LOAD-DIVIDER BULKHEAD.

7. IF THE CAR HAS PLUG-TYPE DOORS, SEE PAGE 22 FOR DOORWAY PROTECTION REQUIREMENTS AND DETAILS. SEE GENERAL NOTE "C" ON PAGE 2.

8. IF NECESSARY, TO SATISFY THE QUANTITY OF UNITS TO BE SHIPPED, A PARTIAL LAYER MAY BE LOADED IN EITHER OR BOTH ENDS OF THE CAR BY APPLYING THE K-BRACE METHOD OF PARTIAL LAYER BRACING AS DETAILED ON PAGES 14 AND 15. HOWEVER, THE CAR MUST HAVE NAILABLE WALLS.

9. THESE PROCEDURES ARE ALSO APPLICABLE FOR SHIPMENT OF A 2-LAYER 32-UNIT LOAD IN A 60'-8" LONG CUSHIONED BOX CAR EQUIPPED WITH LOAD-DIVIDER BULKHEADS AS SHOWN IN THE "LOADING PLAN" ON PAGE 21.

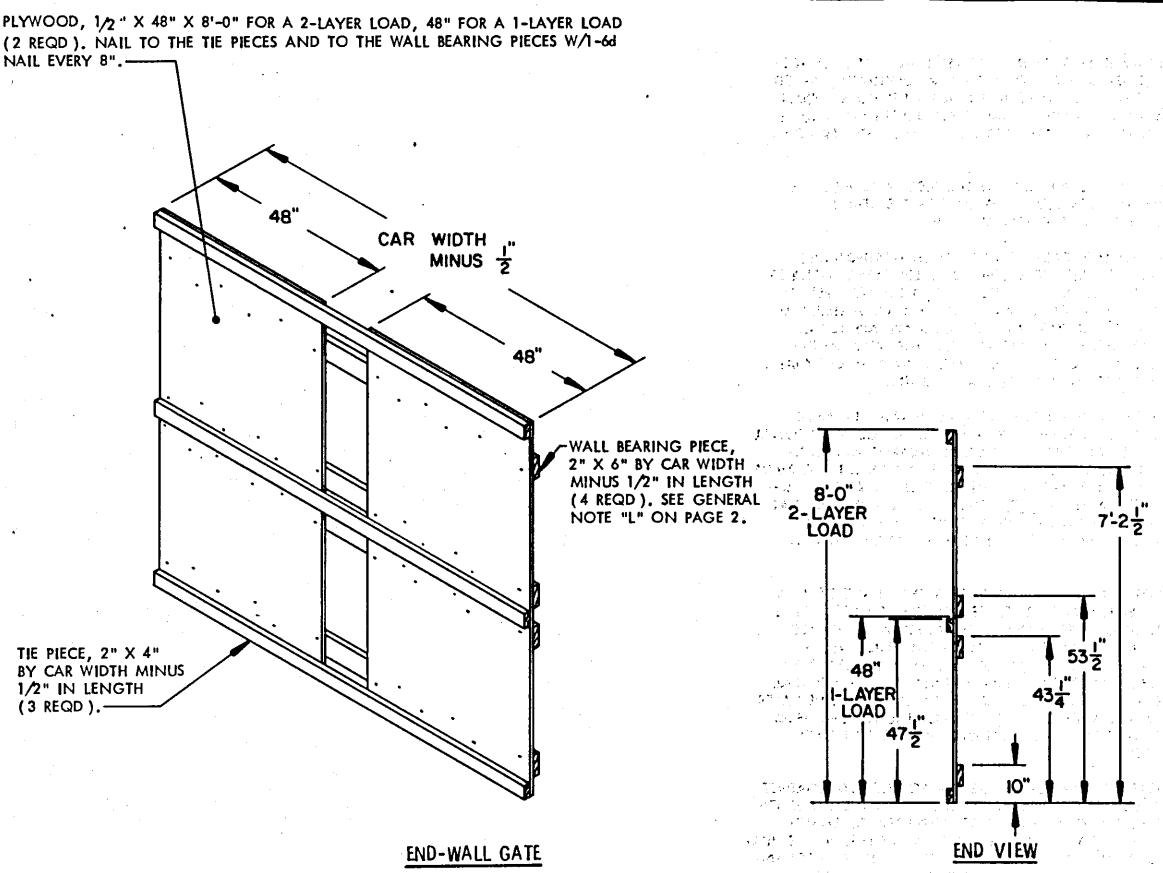
BILL OF MATERIAL

LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	192	64
1" X 6"	80	40
2" X 3"	30	15
2" X 4"	202	135
2" X 6"	80	80
2" X 8"	56	75
NAILS	**NO. REQD**	**POUNDS**
4d (1-1/2")	252	1
6d (2")	216	1-1/2
10d (3")	168	2-3/4
12d (3-1/4")	53	1
WIRE, NO. 14 GAGE	14'-0" REQD	NIL
PLYWOOD, 1/2"	576 SQ FT REQD	792 LBS

LOAD AS SHOWN

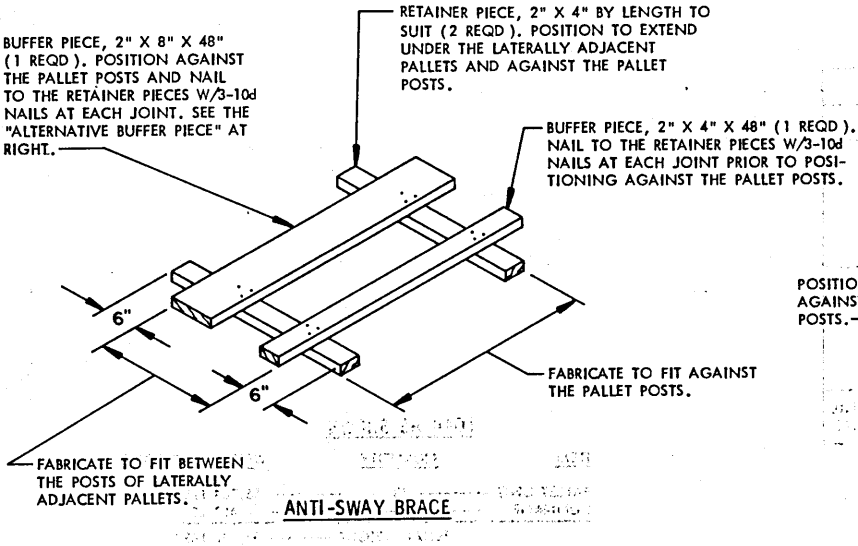
ITEM	QUANTITY	WEIGHT (APPROX)
PALLET UNIT	28	56,784 LBS
DUNNAGE		1,617 LBS
	TOTAL WEIGHT	58,401 LBS

28-UNIT LOAD IN A 50'-6" LONG BY 9'-2" WIDE BOX CAR EQUIPPED WITH LOAD-DIVIDER BULKHEADS

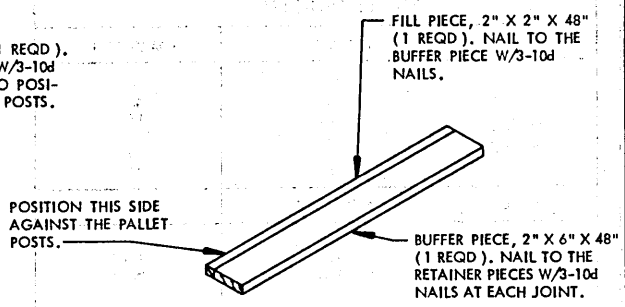


END-WALL GATE

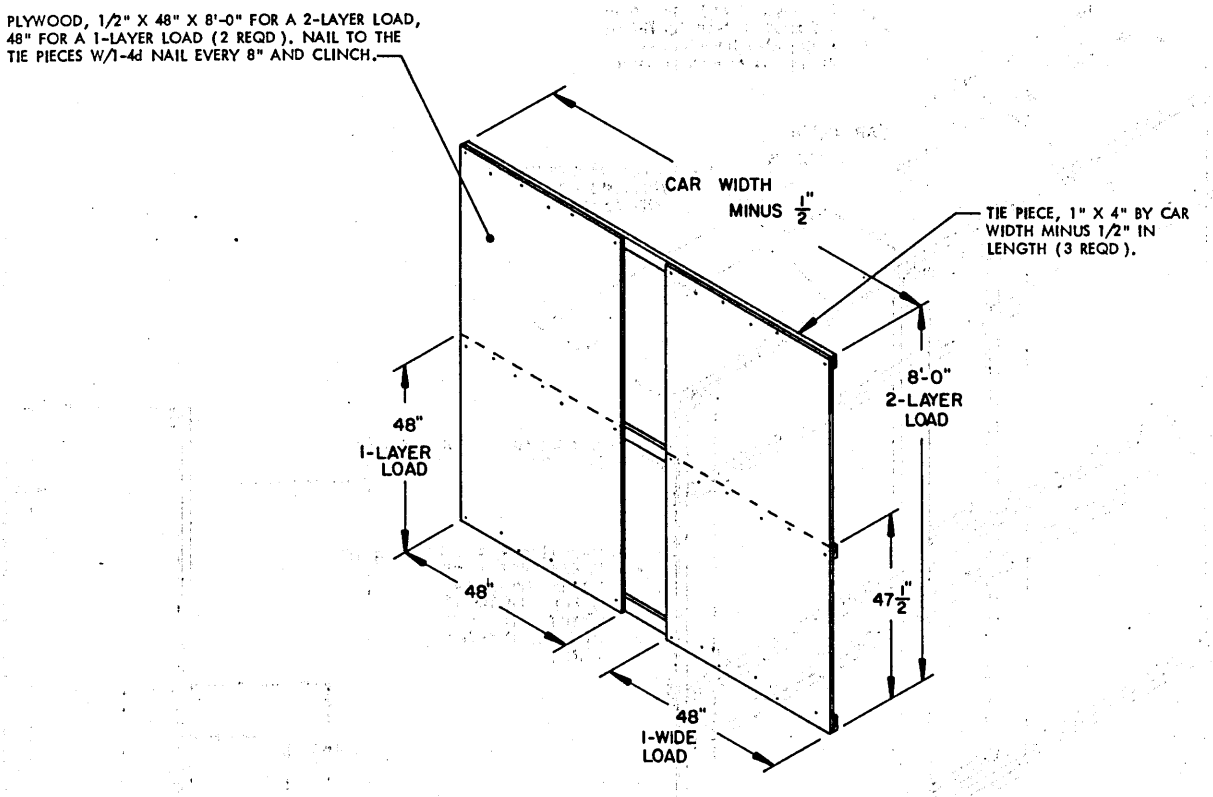
END VIEW



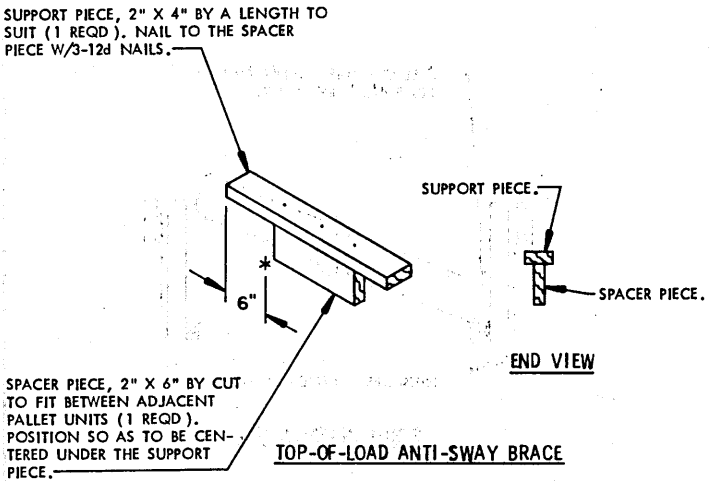
ANTI-SWAY BRACE



ALTERNATIVE BUFFER PIECE

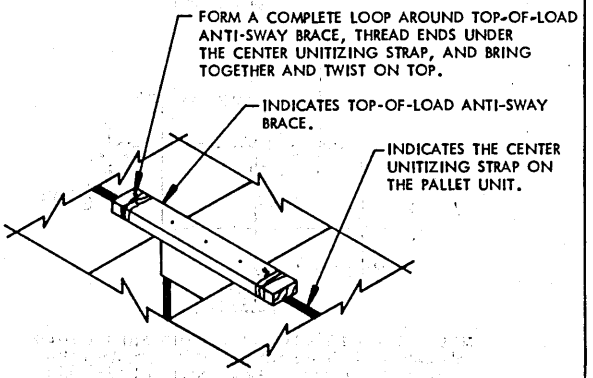


SEPARATOR GATE



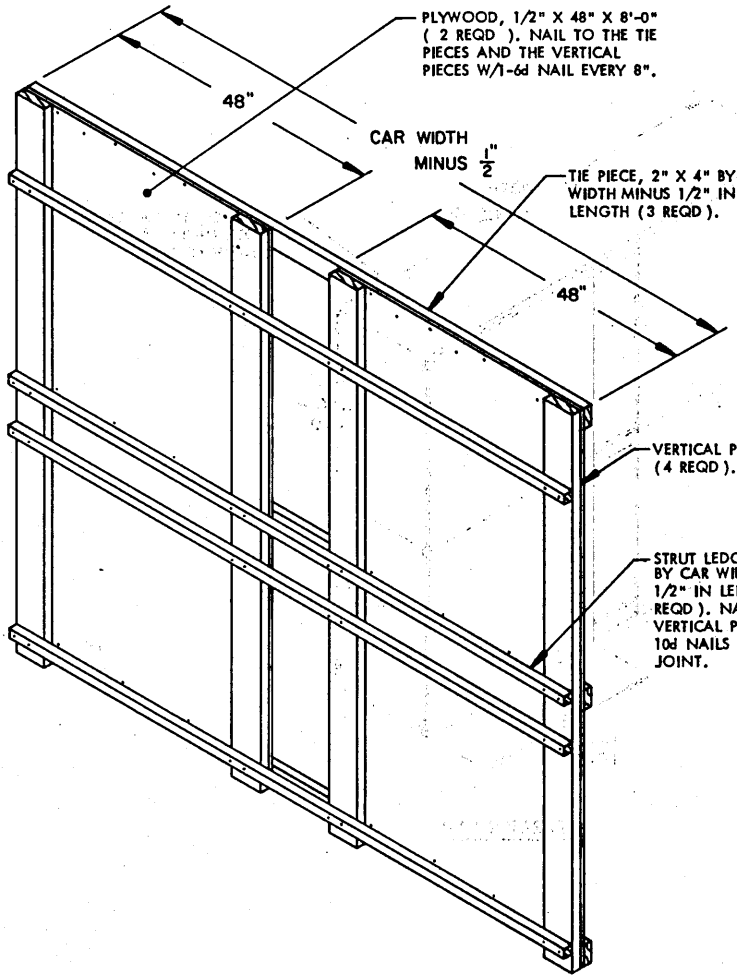
END VIEW

TOP-OF-LOAD ANTI-SWAY BRACE

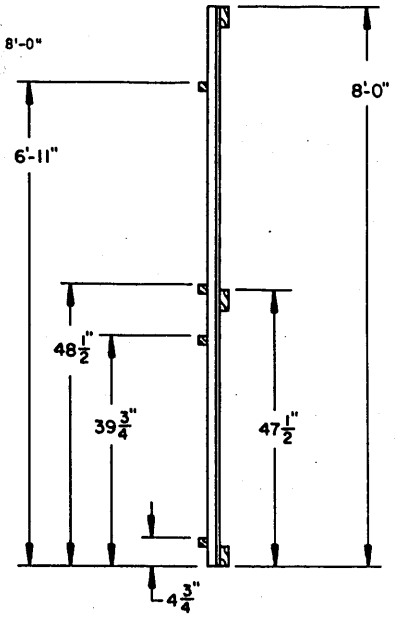


TIE WIRE APPLICATION

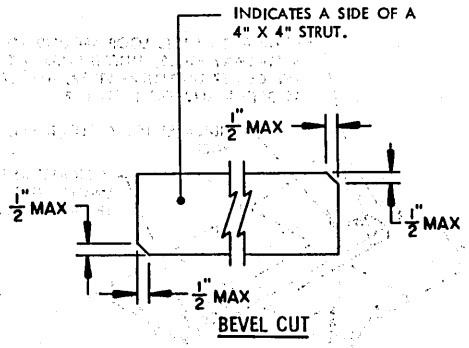
THIS VIEW DEPICTS THE SECUREMENT OF A TOP-OF-LOAD ANTI-SWAY BRACE TO THE TOP OF TWO LATERALLY ADJACENT PALLET UNITS BY WIRE TYING TO THE UNITIZING STRAPS WITH NO. 14 GAGE WIRE.



CENTER GATE-A

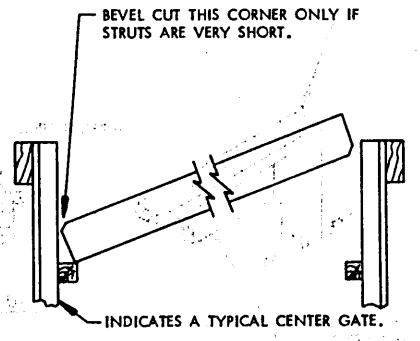


END VIEW

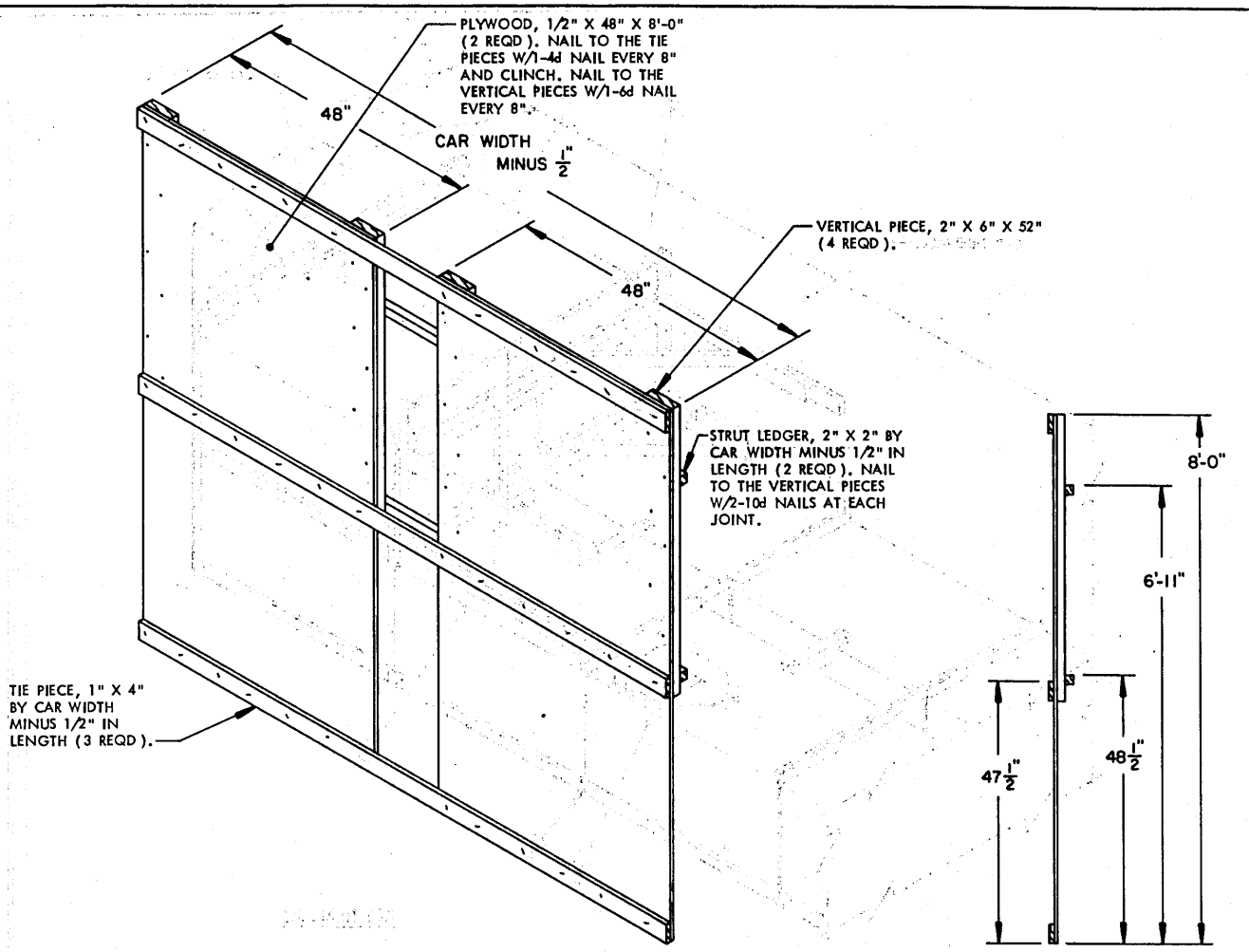


BEVEL CUT

BEVEL CUTTING THE STRUTS AS SPECIFIED WILL FACILITATE INSTALLING THE STRUTS WITH A "DRIVE FIT". CAUTION: DO NOT BEVEL A CORNER MORE THAN ONE-HALF INCH (1/2").

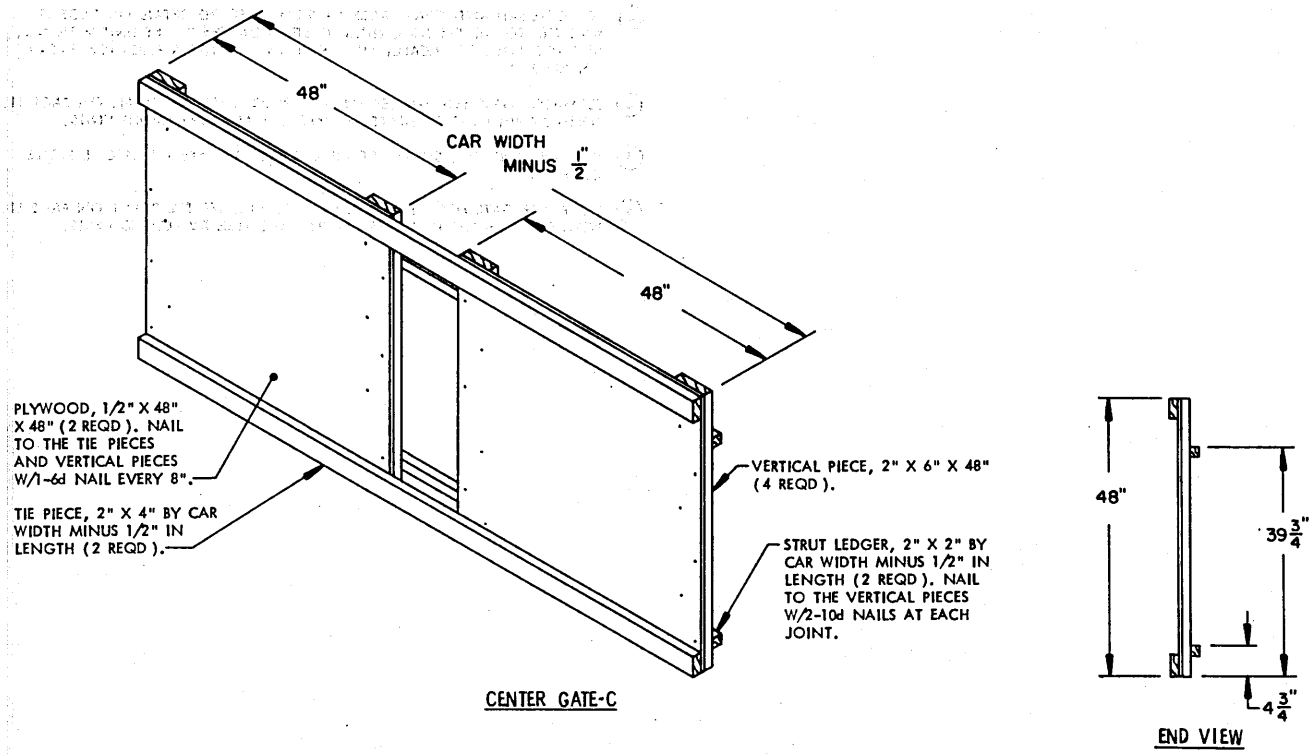


STRUT INSTALLATION



CENTER GATE-B

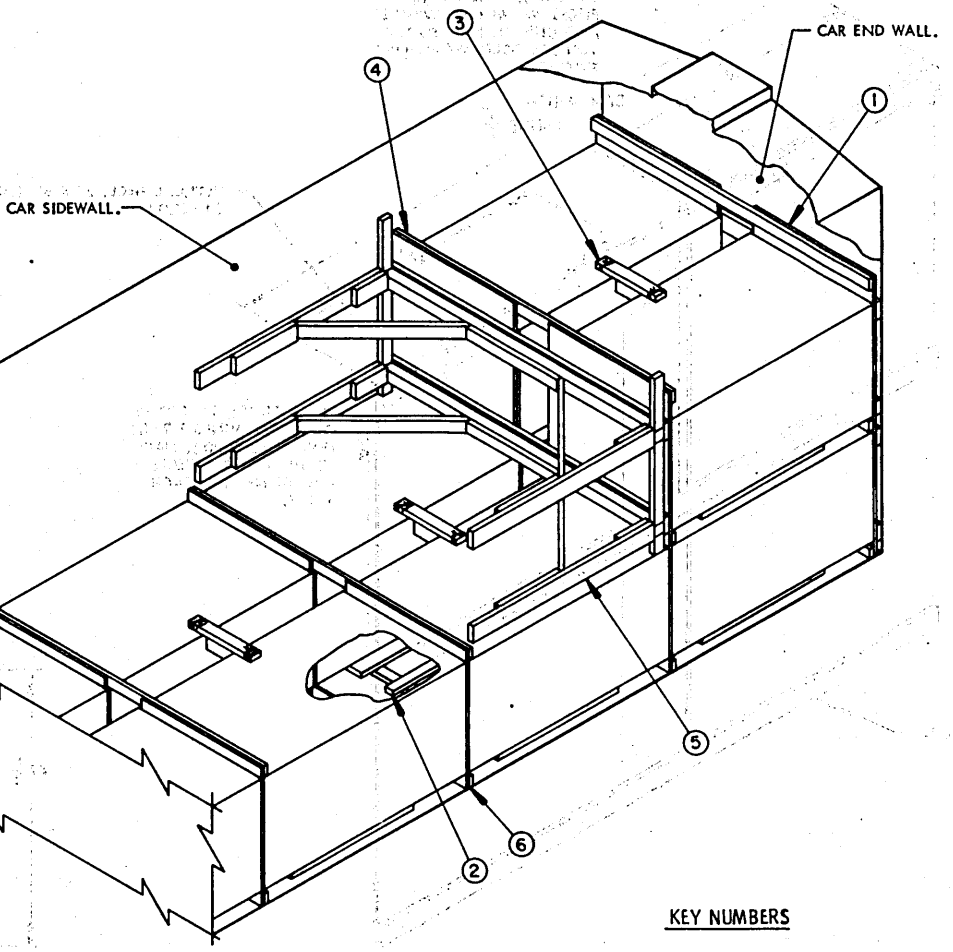
END VIEW



CENTER GATE-C

END VIEW

DETAILS



ISOMETRIC VIEW

KEY NUMBERS

(1) END WALL GATE (1 REQD). SEE THE DETAIL ON PAGE 10. POSITION WITH THE 2" X 6" WALL BEARING PIECES AGAINST THE CAR END WALL AS SHOWN. SEE GENERAL NOTES "K" AND "L" ON PAGE 2.

(2) ANTI-SWAY BRACE (4 REQD). SEE THE DETAIL ON PAGE 10. INSTALL BETWEEN LATERALLY ADJACENT ROWS OF PALLET UNITS.

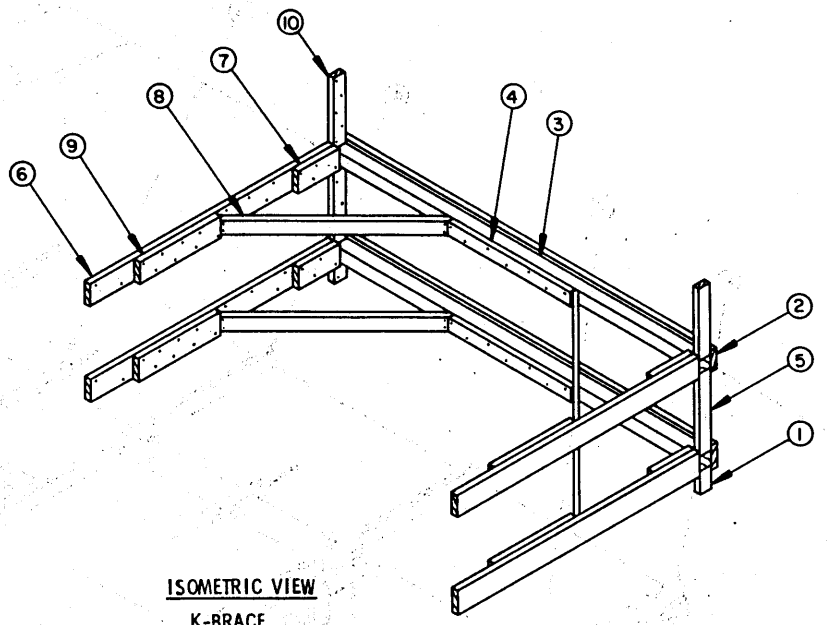
(3) TOP-OF-LOAD ANTI-SWAY BRACE (3 REQD). SEE THE DETAIL ON PAGE 11. WIRE TIE TO THE CENTER UNITIZING STRAP ON THE PALLET UNIT WITH NO. 14 GAGE WIRE AS TYPICALLY SHOWN BY THE TIE WIRE APPLICATION DETAIL ON PAGE 11.

(4) SEPARATOR GATE FOR 2-LAYER LOAD (1 REQD). SEE THE DETAIL ON PAGE 11. POSITION WITH THE TIE PIECES AGAINST THE ALREADY-LOADED UNITS.

(5) K-BRACE (1 REQD). SEE THE DETAIL ON PAGE 15. SEE THE SPECIAL NOTES ON PAGE 15.

(6) SEPARATOR GATE FOR 1-LAYER LOAD (1 REQD). SEE THE DETAIL ON PAGE 11. POSITION WITH THE TIE PIECES AGAINST THE ALREADY-LOADED UNITS.

TYPICAL LCL LOAD USING K-BRACE METHOD OF PARTIAL-LAYER BRACING



ISOMETRIC VIEW

K-BRACE

SPECIAL NOTES:

1. A 9'-2" WIDE CONVENTIONAL BOX CAR WITH WOODEN NAILABLE SIDEWALLS IS SHOWN. WOODLINED CARS OF OTHER WIDTHS CAN BE USED.

2. THE K-BRACE AS DETAILED IS ADEQUATE FOR RETAINING A PARTIAL LAYER OF NOT MORE THAN 8,000 POUNDS.

3. 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 ① , ② , ③ , ⑤ , ⑦ , AND ⑩ MUST BE SUPPORTED AT THE SIDES OF A CAR BY A CAR SIDEWALL. IT IS ALRIGHT FOR THE ENDS OF THE DIAGONAL BRACES MARKED ⑧ TO BEAR IN FRONT OF A DOOR OPENING, HOWEVER, THE ADJACENT PIECE MARKED ⑥ MUST BE DOUBLED AND EXTENDED ACROSS AND FAR ENOUGH PAST THE DOOR OPENING (REF: 60"), TO PROVIDE FOR THE SPECIFIED NAILING OF EACH PIECE. LAMINATE THE SECOND PIECE OF THE DOUBLED PIECE MARKED ⑥ TO THE FIRST W/16-16d NAILS. CLINCH THOSE NAILS WHICH PROTRUDE THRU THE HORIZONTAL WALL CLEAT WITHIN THE DOOR OPENING. NOTE THAT THE DIAGONAL BRACE WILL BE 48-1/8" LONG IN LIEU OF 50-1/4" WHEN PIECE MARKED ⑥ IS DOUBLED.

4. THE CENTER CLEAT, SHOWN AS PIECE MARKED ④ , WILL BE 36" LONG FOR A 9'-2", AND 38" LONG FOR A 9'-4" WIDE CAR. ADJUST THE LENGTH PROPORTIONATELY FOR CARS OF OTHER WIDTHS.

KEY NUMBERS

① SUPPORT CLEAT, 2" X 4" X 6" (2 REQD). NAIL TO THE CAR SIDEWALL W/2-12d NAILS. SEE SPECIAL NOTE 3 AT LEFT.

② HORIZONTAL PIECE, 2" X 6" BY CAR WIDTH IN LENGTH (CUT TO FIT) (2 REQD). NAIL TO THE CROSS CAR BRACE, PIECE MARKED ③ , W/1-12d NAIL EVERY 6".

③ CROSS CAR BRACE, 4" X 4" BY CAR WIDTH IN LENGTH (CUT TO FIT) (2 REQD).

④ CENTER CLEAT, 2" X 4" X 36" (2 REQD). NAIL TO THE CROSS CAR BRACE, PIECE MARKED ③ , W/7-16d NAILS. SEE SPECIAL NOTE 4 AT LEFT.

⑤ SPACER CLEAT, 2" X 4" X 29-1/4" (2 REQD). NAIL TO THE CAR SIDEWALL W/5-12d NAILS.

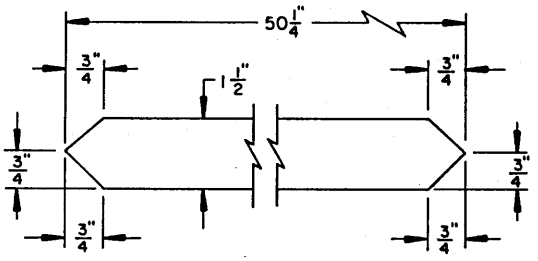
⑥ HORIZONTAL WALL CLEAT, 2" X 6" X 72" (4 REQD). NAIL TO THE CAR SIDEWALL W/16-12d NAILS.

⑦ POCKET CLEAT, 2" X 6" X 12" (4 REQD). NAIL TO THE HORIZONTAL WALL CLEAT, PIECE MARKED ⑥ W/4-16d NAILS.

⑧ DIAGONAL BRACE; 2" X 4" X 50-1/4" (4 REQD). SEE THE DETAIL AT LEFT FOR BEVEL CUTS REQUIRED. TOENAIL TO THE CROSS CAR BRACE, PIECE MARKED ③ , AND TO THE HORIZONTAL WALL CLEAT, PIECE MARKED ⑥ , W/2-16d NAILS AT EACH END.

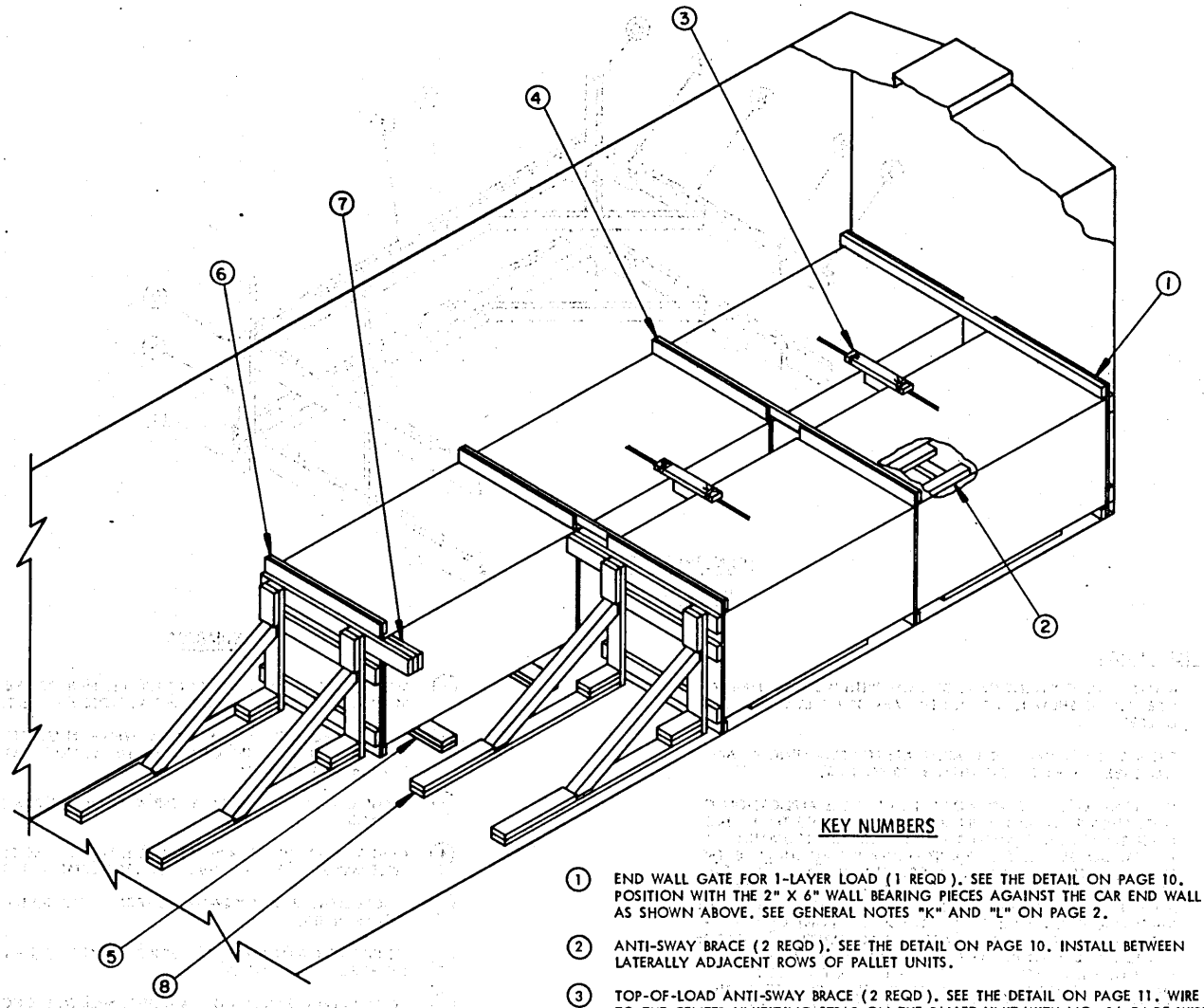
⑨ BACK UP CLEAT, 2" X 6" X 24" (4 REQD). NAIL TO THE HORIZONTAL WALL CLEAT, PIECE MARKED ⑥ , W/8-16d NAILS.

⑩ HOLD DOWN CLEAT, 2" X 4" X 18" (2 REQD). NAIL TO THE CAR SIDEWALL W/5-12d NAILS.



DIAGONAL BRACE

TYPICAL LCL LOAD USING K-BRACE METHOD OF PARTIAL-LAYER BRACING



ISOMETRIC VIEW

KEY NUMBERS

(1) END WALL GATE FOR 1-LAYER LOAD (1 REQD). SEE THE DETAIL ON PAGE 10. POSITION WITH THE 2" X 6" WALL BEARING PIECES AGAINST THE CAR END WALL AS SHOWN ABOVE. SEE GENERAL NOTES "K" AND "L" ON PAGE 2.

(2) ANTI-SWAY BRACE (2 REQD). SEE THE DETAIL ON PAGE 10. INSTALL BETWEEN LATERALLY ADJACENT ROWS OF PALLET UNITS.

(3) TOP-OF-LOAD ANTI-SWAY BRACE (2 REQD). SEE THE DETAIL ON PAGE 11. WIRE TIE TO THE CENTER UNITIZING STRAP ON THE PALLET UNIT WITH NO. 14 GAGE WIRE AS TYPICALLY SHOWN BY THE TIE WIRE APPLICATION DETAIL ON PAGE 11.

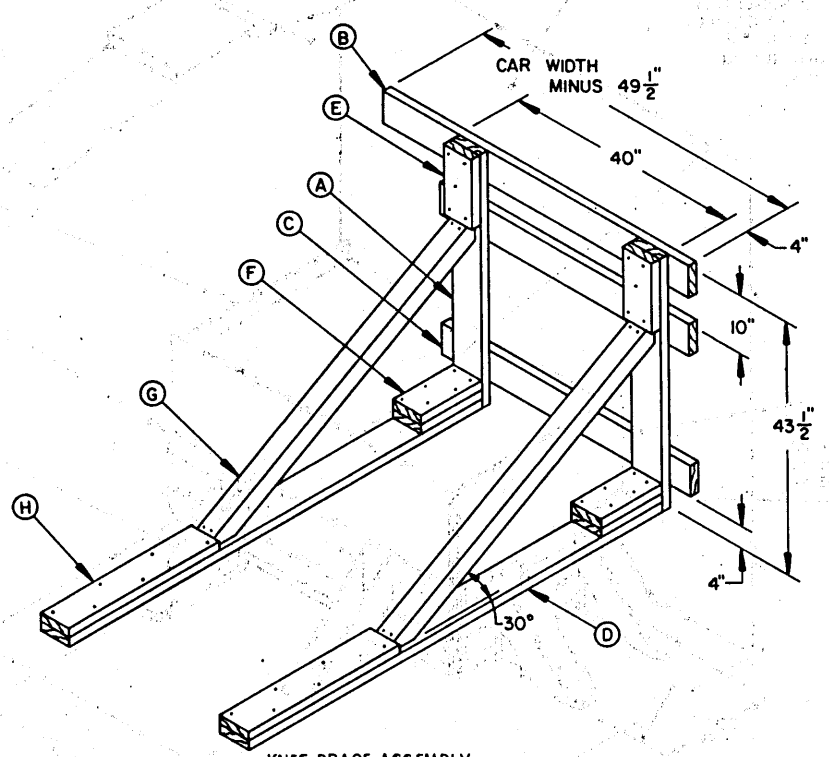
(4) SEPARATOR GATE FOR 1-LAYER HIGH (2 REQD). SEE THE DETAIL ON PAGE 11. POSITION WITH THE TIE PIECES AGAINST THE ALREADY-LOADED UNITS.

(5) SIDE BLOCKING, 2" X 6" X 15" (DOUBLED) (2 REQD). POSITION AGAINST PALLET POSTS. NAIL THE FIRST PIECE TO THE CAR FLOOR W/3-16d NAILS. NAIL THE SECOND PIECE TO THE FIRST IN A LIKE MANNER.

(6) SEPARATOR FOR 1-LAYER HIGH AND 1-UNIT WIDE (1 REQD). SEE THE DETAIL ON PAGE 11. POSITION WITH THE TIE PIECES AGAINST THE ALREADY-LOADED UNITS.

(7) ANTI-SWAY BLOCKS, 2" X 6" BY LENGTH TO SUIT (3 REQD). POSITION TO CONTACT PALLET UNIT. NAIL TO THE TOP HORIZONTAL PIECES OF THE KNEE BRACE ASSEMBLY W/3-10d NAILS EACH. TWO REQUIRED ON FORWARD KNEE BRACE ASSEMBLY AS SHOWN.

(8) KNEE BRACE ASSEMBLY (2 REQD; 1 LEFT HAND AND 1 RIGHT HAND). SEE THE DETAIL ON PAGE 17 FOR CONSTRUCTION SPECIFICATIONS AND NAILING REQUIREMENTS.



KNEE BRACE ASSEMBLY

SPECIAL NOTES:

1. A 9'-2" WIDE CONVENTIONAL TYPE BOX CAR HAVING WOODLINED SIDEWALLS AND A WOOD OR NAILABLE METAL FLOOR IS SHOWN. CARS OF OTHER WIDTHS CAN BE USED.

2. THE LOAD SHOWN DEPICTING THE KNEE BRACE METHOD OF PARTIAL-LAYER BRACING (BOTTOM LAYER ONLY) IS TYPICAL. THE PROCEDURES ARE ALSO APPLICABLE FOR OTHER QUANTITIES.

3. A KNEE BRACE ASSEMBLY WILL BE USED FOR EACH ROW OF PALLET UNITS. ONE (1) KNEE BRACE ASSEMBLY IS ADEQUATE FOR RETAINING A MAXIMUM LCL LOAD OF 7,500 POUNDS. ADDITIONAL "KNEES", PIECES MARKED (A) AND PIECES MARKED (D) THRU (H) MAY BE INSTALLED IN A KNEE BRACE ASSEMBLY, ONE (1) FOR EACH 3,750 POUNDS THAT A ROW EXCEEDS THE 7,500 POUNDS TOTAL WEIGHT.

KEY LETTERS

(A) VERTICAL PIECE, 2" X 6" X 43-1/2" (2 REQD).

(B) HORIZONTAL PIECE, 2" X 6" BY CAR WIDTH MINUS 49-1/2" (1 REQD). NAIL TO THE VERTICAL PIECES W/3-10d NAILS AT EACH JOINT.

(C) HORIZONTAL PIECE, 2" X 6" X 48" (2 REQD). NAIL TO THE VERTICAL PIECES W/3-10d NAILS AT EACH JOINT.

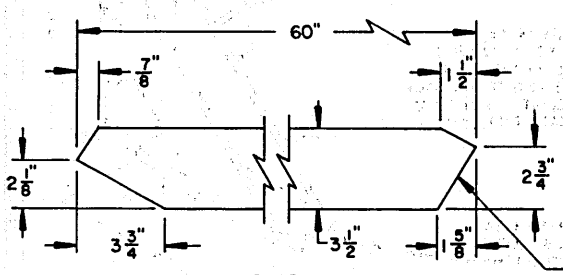
(D) FLOOR CLEAT, 2" X 6" X 6'-10" (2 REQD). ALIGN WITH A VERTICAL PIECE AND NAIL TO THE CAR FLOOR W/1-16d NAIL EVERY 8". SEE GENERAL NOTES "K" AND "N" ON PAGE 2.

(E) HOLD-DOWN CLEAT, 2" X 6" X 12" (2 REQD). NAIL TO A VERTICAL W/5-10d NAILS.

(F) POCKET CLEAT, 2" X 6" X 12" (DOUBLED) (2 REQD). NAIL THE FIRST PIECE TO THE FLOOR CLEAT, PIECE MARKED (D), W/4-16d NAILS. NAIL THE SECOND PIECE TO THE FIRST IN A LIKE MANNER AND TOE-NAIL IT TO THE VERTICAL PIECE, PIECE MARKED (A) W/2-16d NAILS.

(G) BRACE, 4" X 4" X 60" (2 REQD). SEE THE DETAIL AT LEFT FOR BEVEL CUTS REQUIRED. TOENAIL TO THE VERTICAL PIECE AND TO THE FLOOR CLEAT, PIECES MARKED (A) AND (D), W/2-16d NAILS AT EACH END.

(H) BACK-UP CLEAT, 2" X 6" X 30" (2 REQD). NAIL TO THE FLOOR CLEAT, PIECE MARKED (D), W/6-40d NAILS.

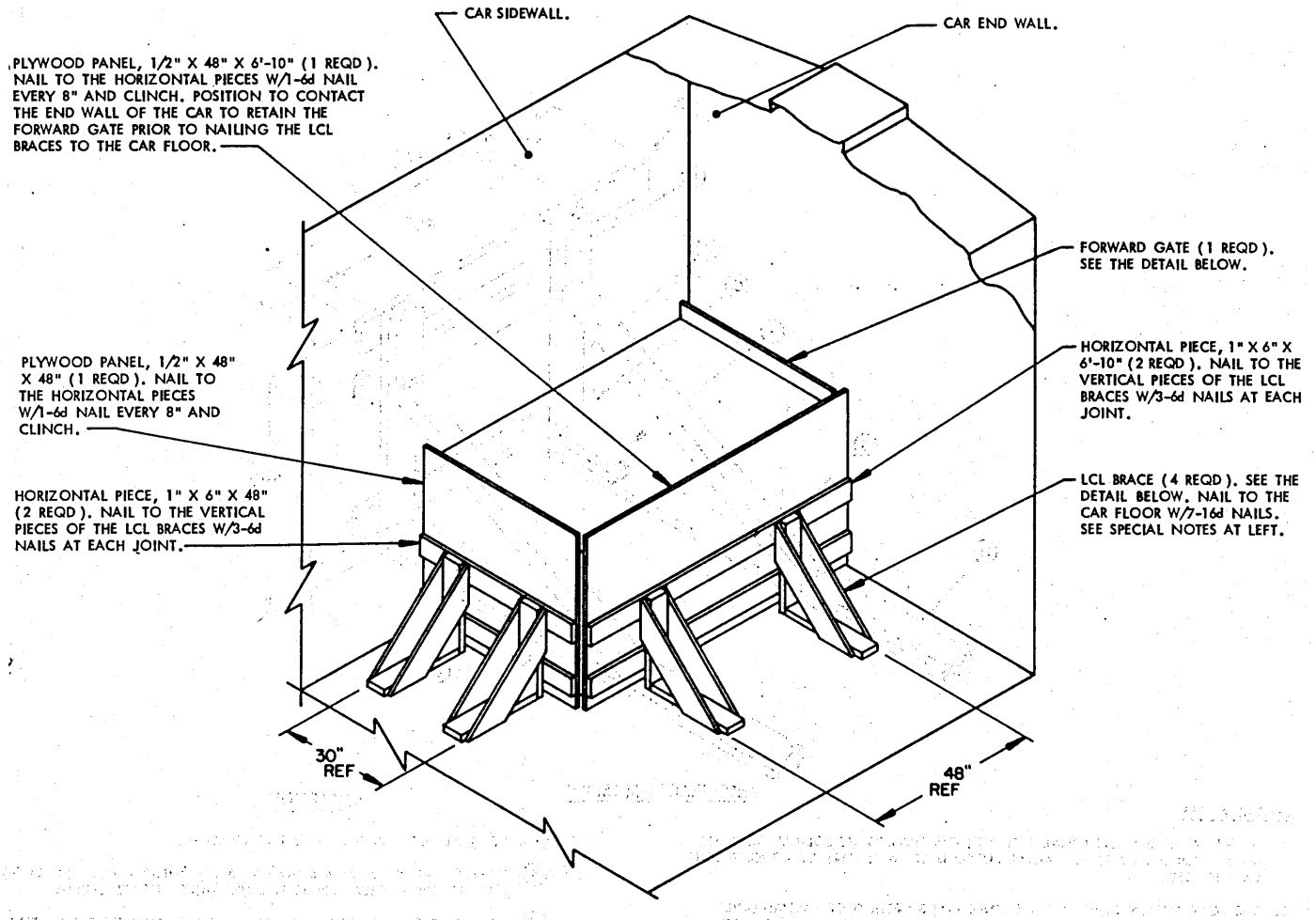


BRACE

4" X 4" MATERIAL

THE BRACE MUST BE INSTALLED SO THAT THIS BEARING SURFACE WILL BE IN CONTACT WITH THE VERTICAL PIECE MARKED (A).

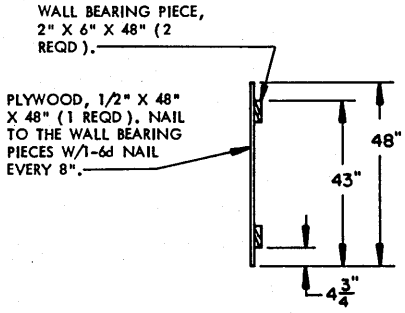
TYPICAL LCL LOAD USING KNEE BRACE METHOD OF PARTIAL-LAYER BRACING



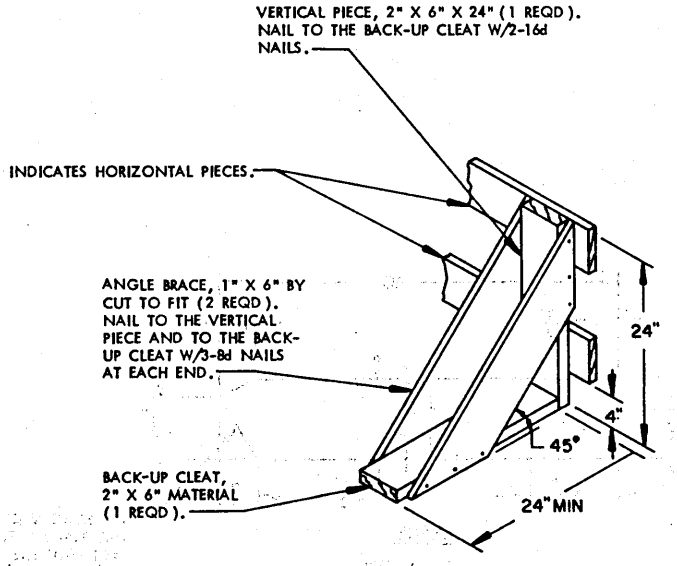
ISOMETRIC VIEW

SPECIAL NOTES:

1. A 9'-2" WIDE CONVENTIONAL TYPE BOX CAR HAVING WOOD LINED SIDEWALLS AND A WOOD OR NAILABLE METAL FLOOR IS SHOWN. CARS OF OTHER WIDTHS CAN BE USED. SEE GENERAL NOTES "K" AND "N" ON PAGE 2.
2. THE LOAD SHOWN DEPICTING THE LCL BRACE METHOD OF PARTIAL-LAYER BRACING (BOTTOM LAYER ONLY) IS TYPICAL. SEE SPECIAL NOTE 3.
3. EACH LCL BRACE AS APPLIED FOR LONGITUDINAL BRACING WILL RETAIN 2,000 POUNDS OF LADING. A MINIMUM OF TWO (2) BRACES MUST BE USED FOR LONGITUDINAL BRACING. EACH LCL BRACE AS APPLIED FOR LATERAL BRACING WILL SUPPORT 8,000 POUNDS OF LADING. ADDITIONAL LCL BRACES MAY BE INSTALLED AS REQUIRED FOR THE LONGITUDINAL RETENTION OF A LOAD OF MORE THAN 4,000 POUNDS.

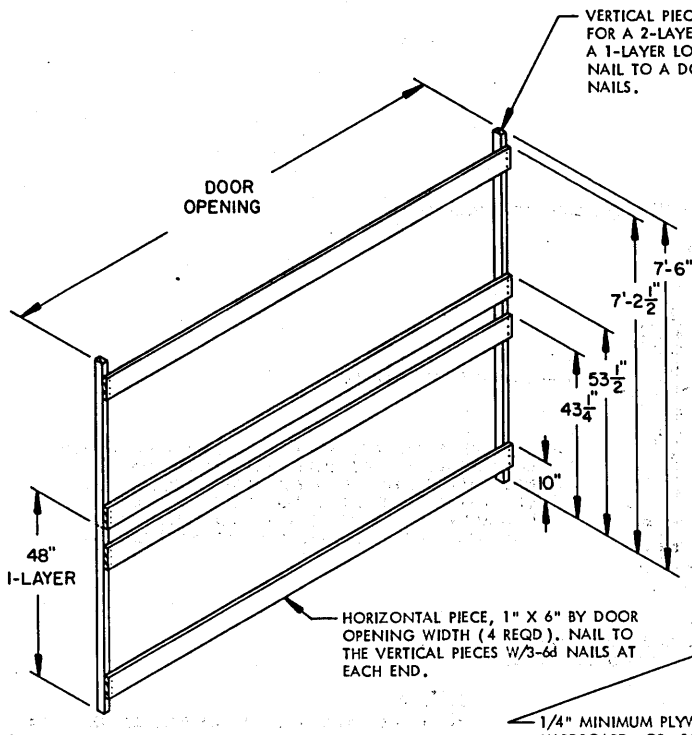


FORWARD GATE

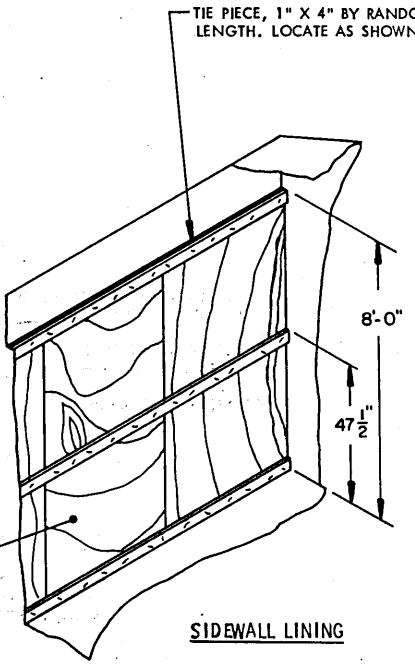


LCL BRACE

TYPICAL LCL LOAD USING LCL BRACING METHOD



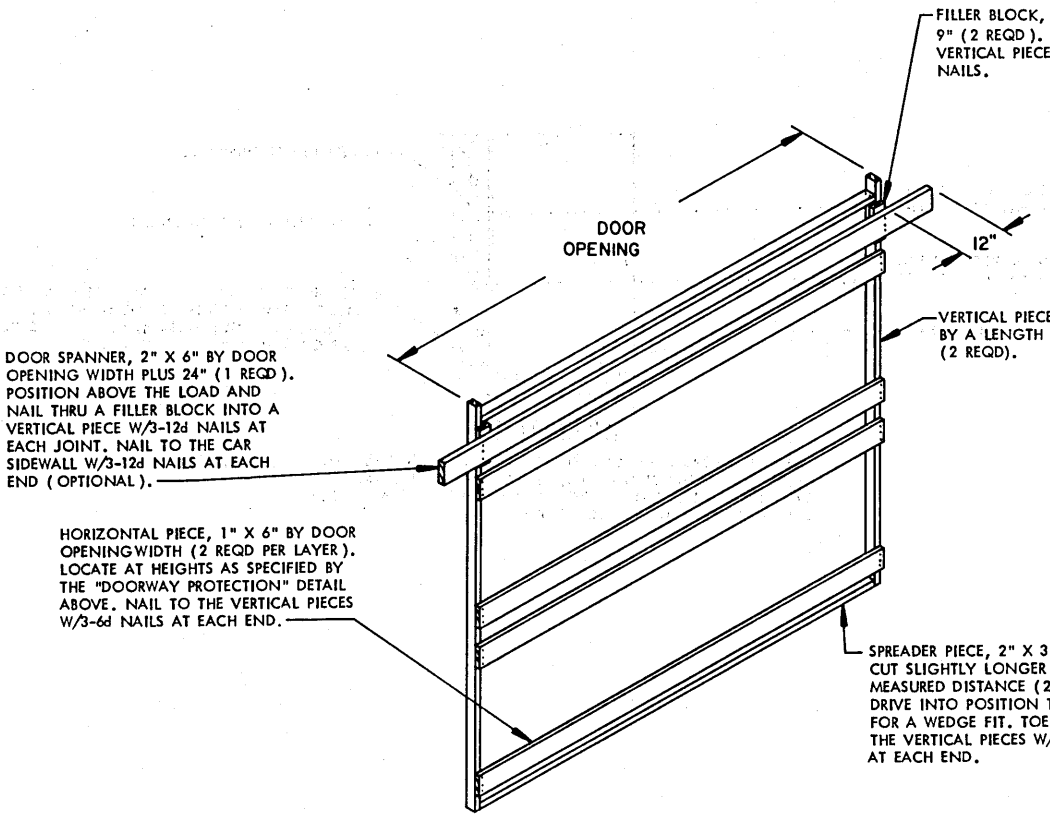
DOORWAY PROTECTION



SIDEWALL LINING

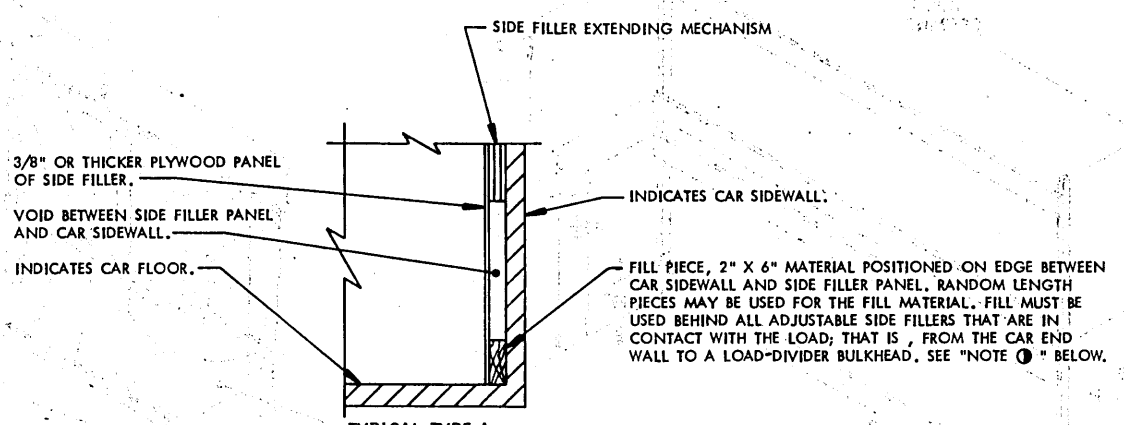
THIS VIEW DEPICTS LINING REQUIRED IN A CAR EQUIPPED WITH STEEL SIDEWALLS.

1/4" MINIMUM PLYWOOD, 1/8" MINIMUM HARDBOARD, OR .060" MINIMUM THICK SOLID WALL FIBERBOARD. NAIL PLYWOOD OR HARDBOARD TO 1" X 4" W/1 APPLICABLY SIZED NAIL EVERY 8". STAPLE FIBERBOARD TO 1" X 4" W/1-STAPLE EVERY 6".



ALTERNATIVE DOORWAY PROTECTION

THIS METHOD OF DOORWAY PROTECTION IS FOR USE IN CARS EQUIPPED WITH CONVENTIONAL SLIDING DOORS WHEN THE DOOR POSTS ARE NOT NAILABLE.

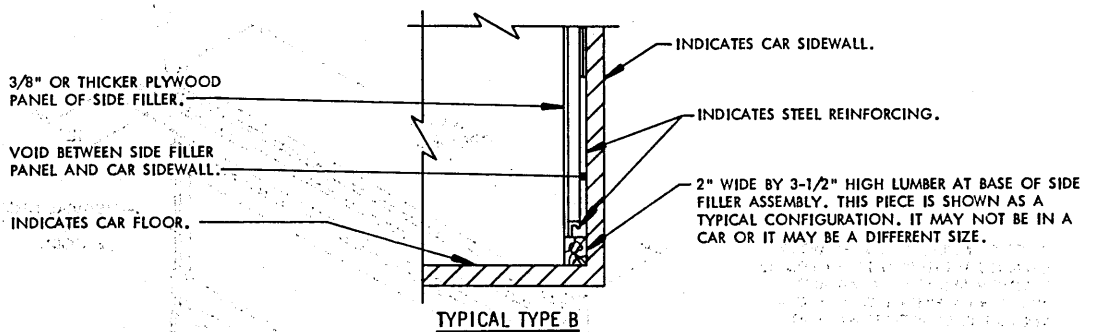


TYPICAL TYPE A

THIS VIEW SHOWS THE INSTALLATION OF A "FILL PIECE" IN A CAR EQUIPPED WITH A STANDARD ADJUSTABLE SIDE FILLER.

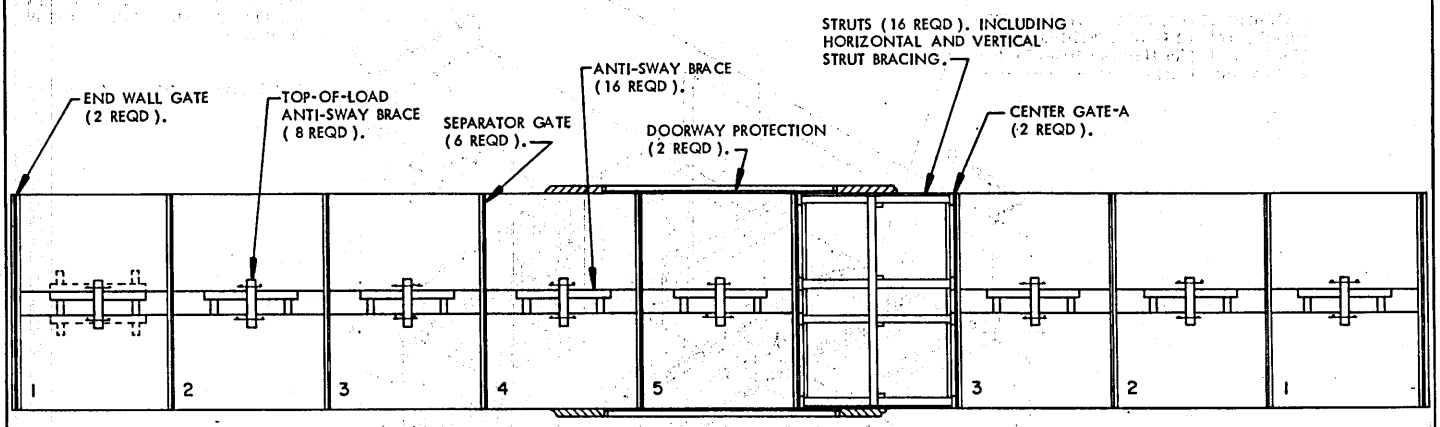
NOTE ◑:

NAILING OF "FILL PIECES" IS NOT REQUIRED EXCEPT THAT EACH "FILL PIECE" LOCATED NEAREST THE DOOR OPENINGS OF THE CAR WILL BE SECURED AGAINST LONGITUDINAL MOVEMENT W/1-6d NAIL DRIVEN THROUGH THE SIDE FILLER PANEL AND INTO THE "FILL PIECE".



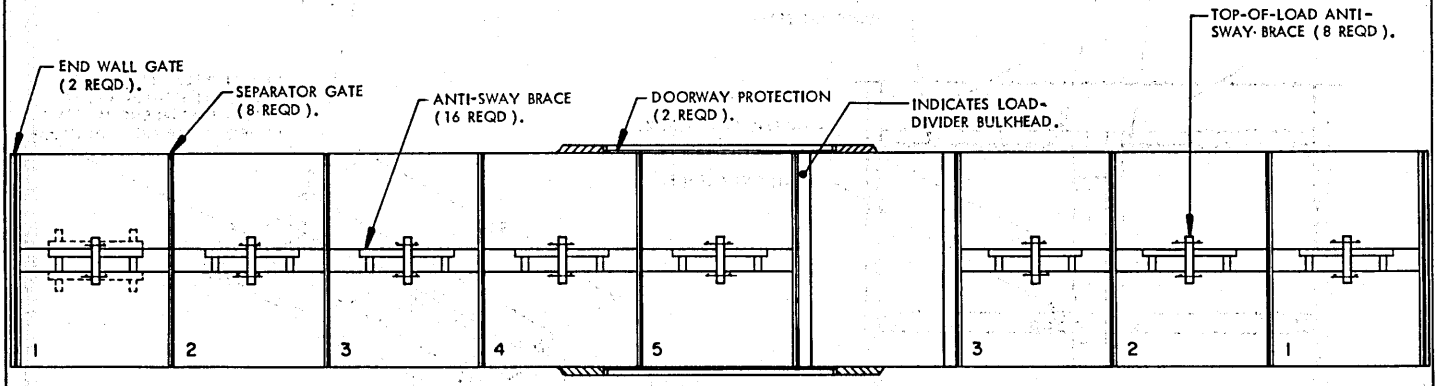
TYPICAL TYPE B

THIS VIEW SHOWS A TYPICAL SECTION OF A CAR EQUIPPED WITH HEAVY DUTY, STEEL REINFORCED, ADJUSTABLE SIDE FILLERS. A "FILL PIECE", AS SHOWN IN THE "TYPICAL TYPE A" DETAIL ABOVE, IS NOT REQUIRED IN CARS SO EQUIPPED.



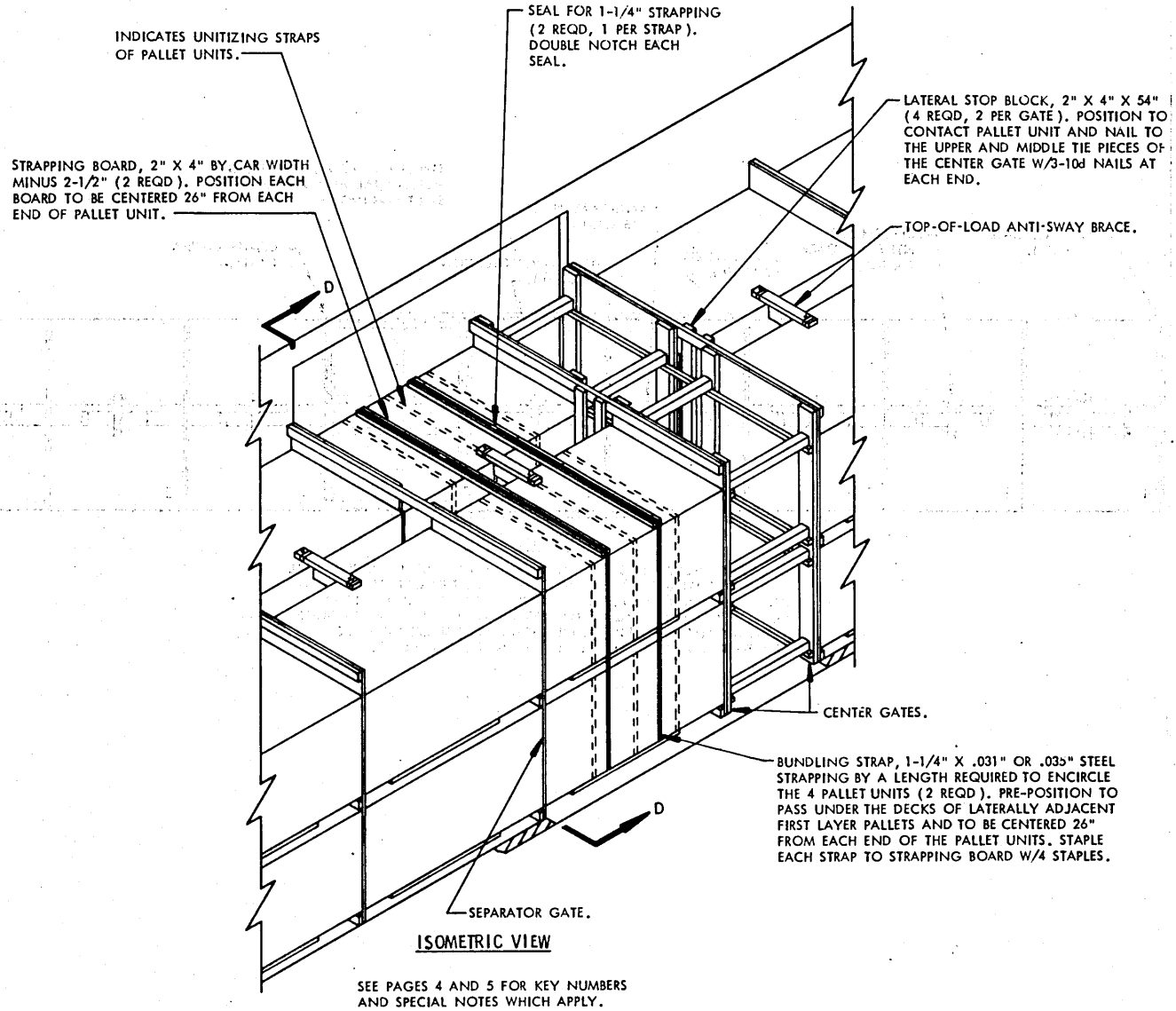
LOADING PLAN

A 32-UNIT (2-LAYER) LOAD IS SHOWN IN A 60'-8" LONG BY 9'-2" WIDE CONVENTIONAL BOX CAR HAVING 10'-0" WIDE THROUGH DOOR OPENINGS AND WOOD LINED WALLS. THE "KEY NUMBERS" AND "SPECIAL NOTES" ON PAGES 4 AND 5 APPLY TO THE LOAD. CARS HAVING DOOR OPENINGS LESS THAN 10'-0" WIDE SHCULD NOT BE USED FOR THE DEPICTED LOAD. ALSO SEE THE GENERAL NOTES ON PAGE 2.



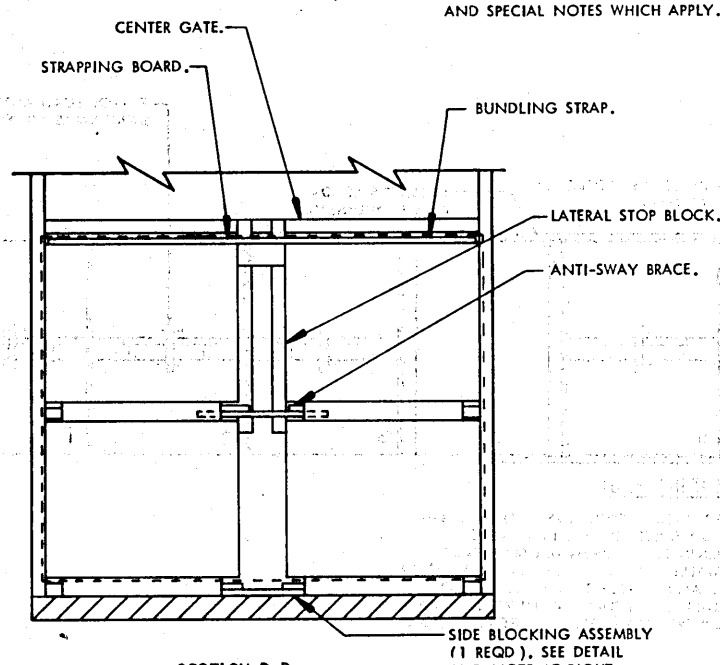
LOADING PLAN

A 32-UNIT (2-LAYER) LOAD IS SHOWN IN A 60'-8" LONG BY 9'-2" WIDE BOX CAR EQUIPPED WITH 10'-0" WIDE THROUGH DOOR OPENINGS, LOAD-DIVIDER BULKHEADS AND WOOD LINED WALLS. THE "KEY NUMBERS" AND "SPECIAL NOTES" ON PAGES 8 AND 9 APPLY TO THIS LOAD. CARS HAVING DOOR OPENINGS LESS THAN 10'- 0" WIDE CANNOT BE USED FOR THE DEPICTED LOAD. ALSO SEE GENERAL NOTES ON PAGE 2.

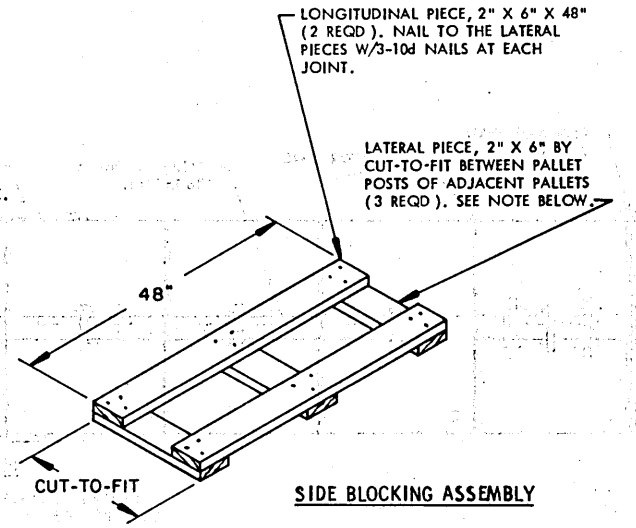


ISOMETRIC VIEW

SEE PAGES 4 AND 5 FOR KEY NUMBERS AND SPECIAL NOTES WHICH APPLY.



SECTION D-D



SIDE BLOCKING ASSEMBLY

NOTE: AFTER LOADING THE TWO PALLET UNITS OPPOSITE OF THE LOADING SIDE OF THE CAR WITH PRE-POSITIONED BUNDLING STRAPS, POSITION THE SIDE BLOCKING ASSEMBLY UNDER THE BUNDLING STRAPS AND AGAINST THE FIRST LAYER PALLET. NAIL EACH BOTTOM LATERAL PIECE TO THE CAR FLOOR W/5-16d NAILS. LOAD THE REMAINING PALLET UNITS AGAINST THE INSTALLED SIDE BLOCKING ASSEMBLY.

DOORWAY PROTECTION FOR CARS EQUIPPED WITH PLUG-TYPE DOORS