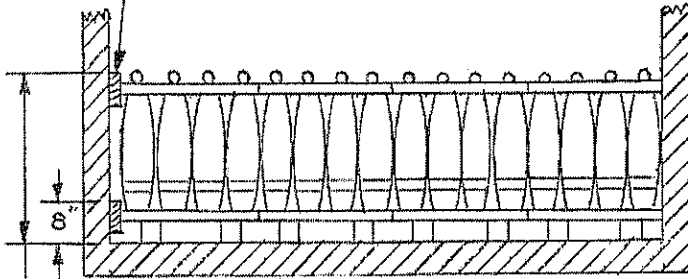


SIDE FILL, 2" x 6" x CAR LENGTH (2 REQD). RANDOM LENGTHS MAY BE USED. NAIL TO CAR SIDEWALL W/1-10d NAIL EVERY 24". PIECES MUST SPAN DOOR OPENING, AND MUST NOT BE NAILED TO A PLUG DOOR. ADJUST THICKNESS OF SIDE FILL AS NECESSARY SO THERE WILL NOT BE MORE THAN  $\frac{3}{8}$ " OF TOTAL ACCUMULATED VOID ACROSS CAR.

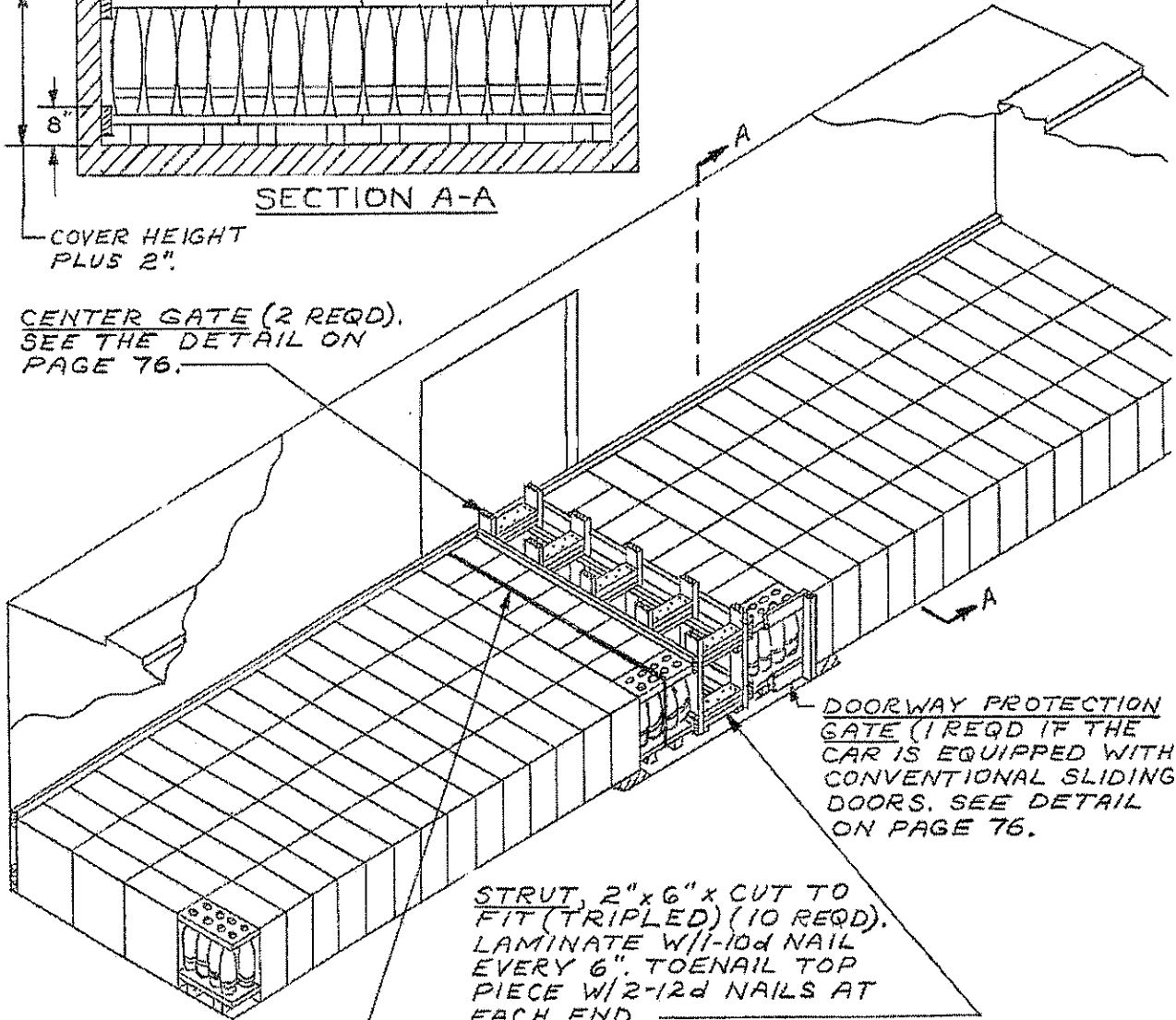


SECTION A-A

COVER HEIGHT PLUS 2".

CENTER GATE (2 REQD). SEE THE DETAIL ON PAGE 76.

NOTE:  
46 PALLETS SHOWN  
GROSS WT.- 45,383 LBS.

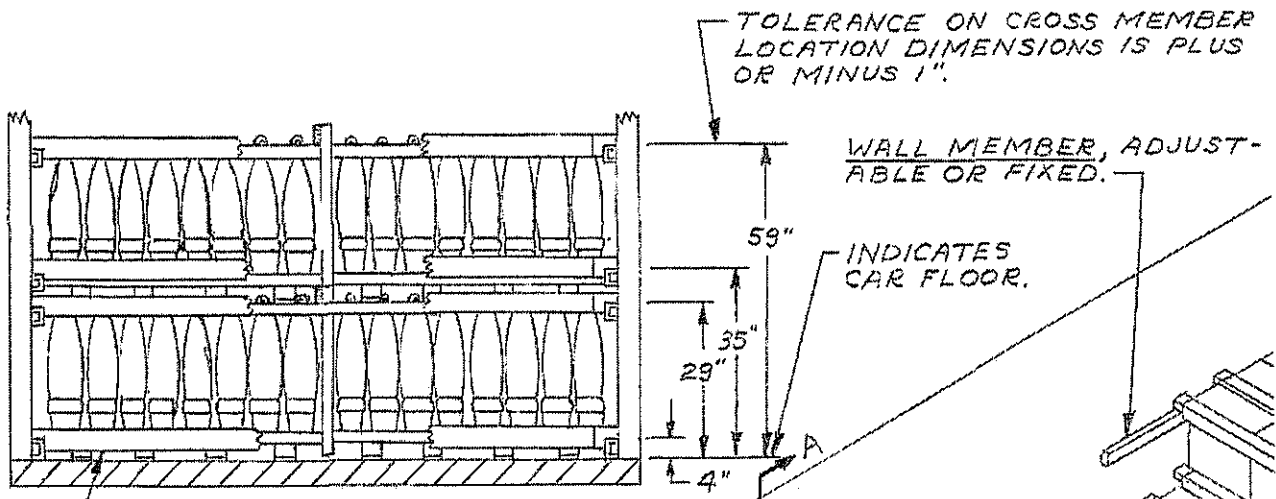


DOORWAY PROTECTION GATE (1 REQD IF THE CAR IS EQUIPPED WITH CONVENTIONAL SLIDING DOORS. SEE DETAIL ON PAGE 76.

STRUT, 2" x 6" x CUT TO FIT (TRIPLED) (10 REQD). LAMINATE W/1-10d NAIL EVERY 6". TOENAIL TOP PIECE W/2-12d NAILS AT EACH END.

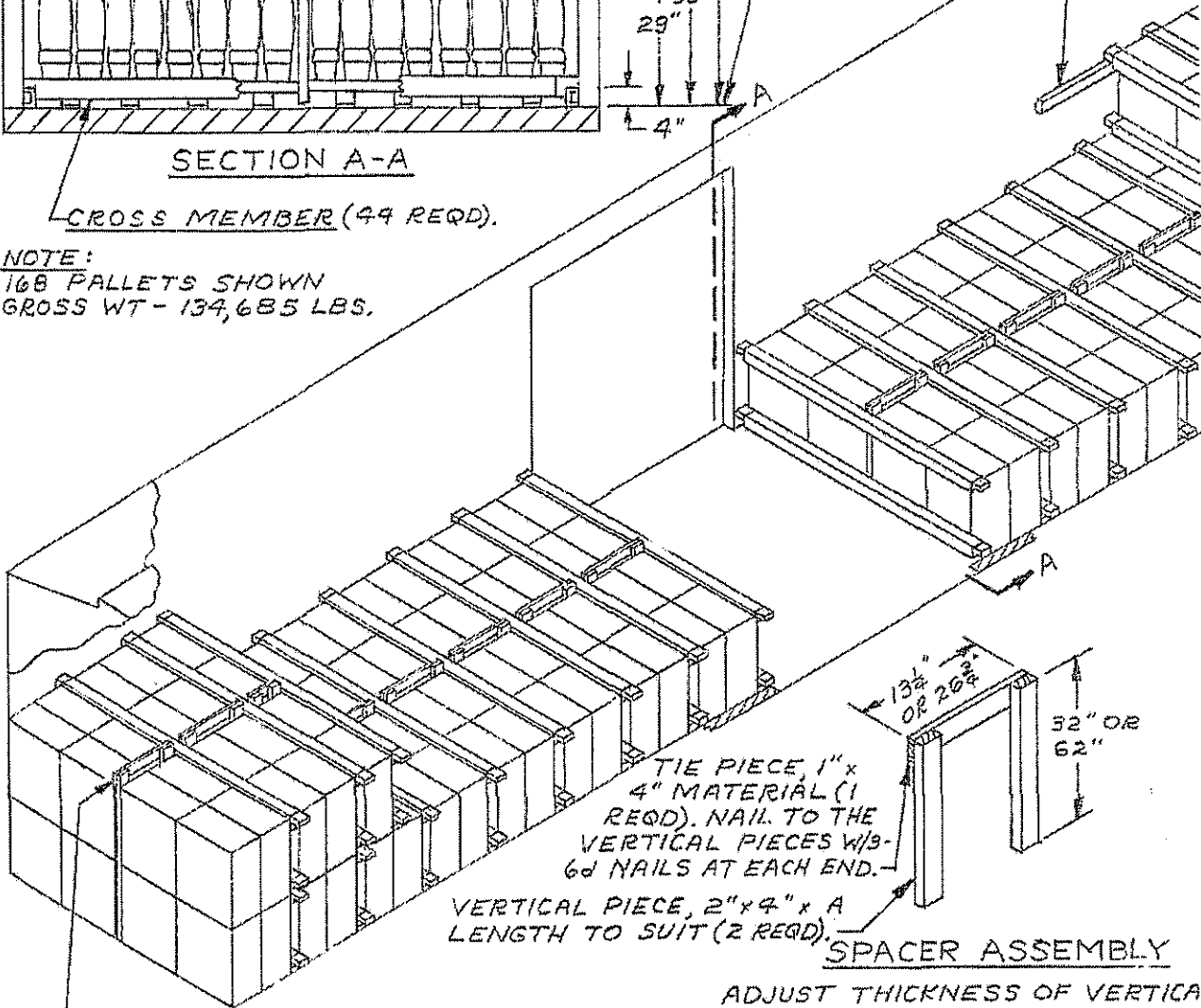
DOORWAY PROTECTION STRAP, 1- $\frac{1}{2}$ " x .035" BY A LENGTH TO SUIT STEEL STRAPPING. REQUIRED ONLY IF CAR IS EQUIPPED WITH PLUG DOORS. INSTALL TO ENCIRCLE EACH LOAD UNIT THAT EXTENDS INTO THE DOORWAY AREA.

TYPICAL LOAD OF 155MM SEPARATE LOADING PROJECTILES, PALLETIZED 8 PER PALLET, IN A 40'-6" LONG BY 9'-2" WIDE CONVENTIONAL BOX CAR



CROSS MEMBER (44 REQD).

NOTE:  
168 PALLETS SHOWN  
GROSS WT - 134,685 LBS.



SPACER ASSEMBLY (18 REQD). SEE THE DETAIL AT RIGHT.

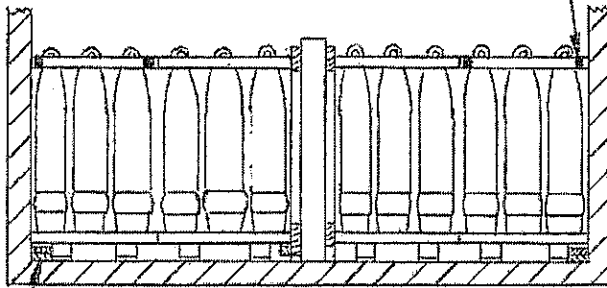
ADJUST THICKNESS OF VERTICAL PIECES AS NECESSARY SO THERE WILL NOT BE MORE THAN 3/8" OF TOTAL ACCUMULATED VOID ACROSS THE CAR.

TYPICAL LOAD OF 155MM SEPARATE LOADING PROJECTILES, PALLETIZED 8 PER PALLET, IN A 50'-6" LONG BY 9'-2" WIDE BOX CAR EQUIPPED WITH MECHANICAL BRACING DEVICES (CROSS MEMBERS)

STEEL STRAPPING,  $1\frac{1}{2}$ " x .035" x 8'-0"  
(4 REQD). INSTALL AROUND COVERS  
OF PALLET UNIT IN DOORWAY AND  
THE ADJACENT PALLET UNIT AS  
SHOWN IN LOAD VIEW BELOW.

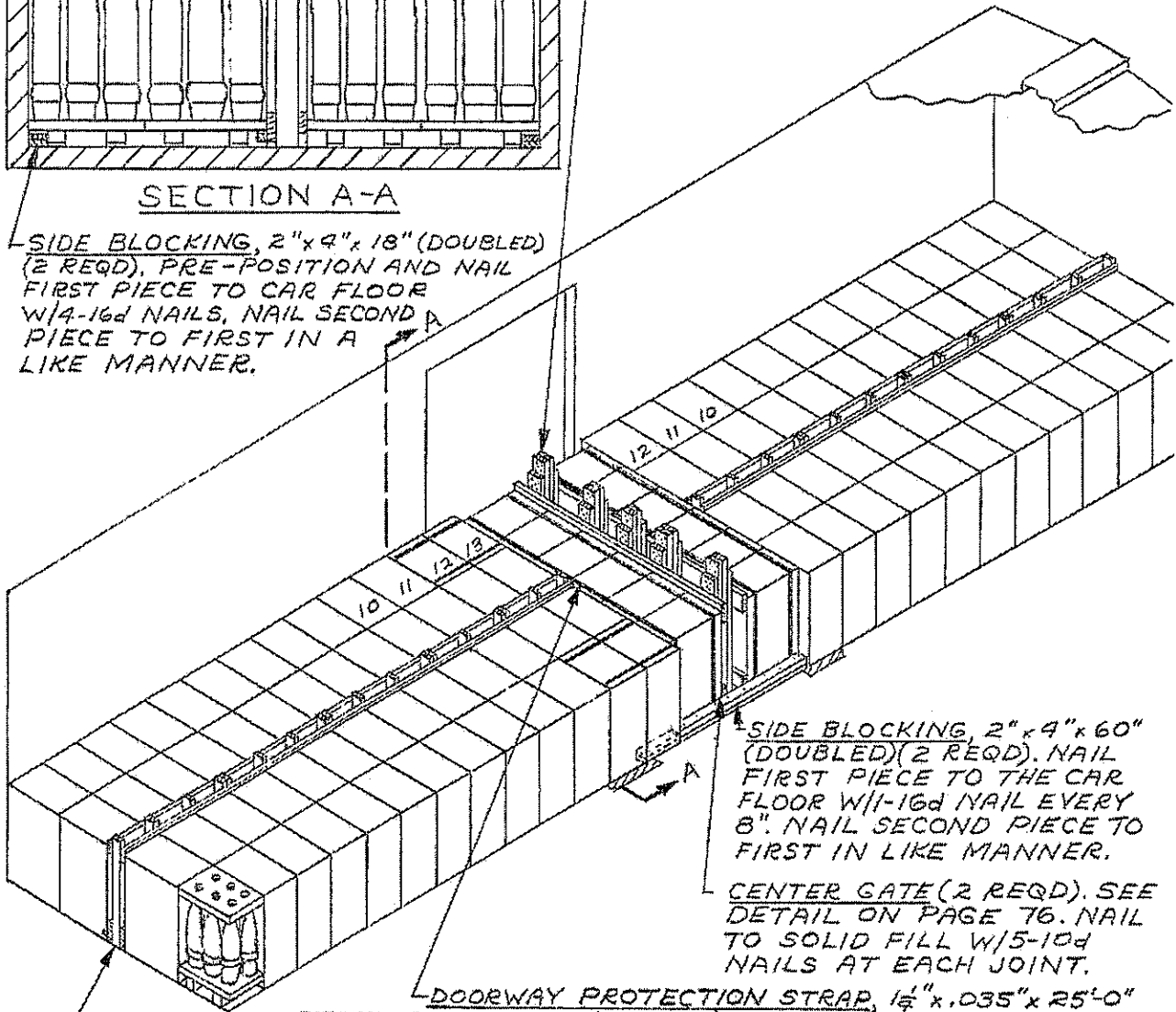
SOLID FILL, 6" WIDE BY 54" LONG BY  
THE THICKNESS REQUIRED (REQD  
AT 5 PLACES). LAMINATE W/5-10d  
NAILS EACH PIECE.

NOTE:  
112 PALLETS SHOWN  
GROSS WT - 105,390 LBS.



SECTION A-A

SIDE BLOCKING, 2" x 4" x 18" (DOUBLED)  
(2 REQD). PRE-POSITION AND NAIL  
FIRST PIECE TO CAR FLOOR  
W/4-16d NAILS, NAIL SECOND  
PIECE TO FIRST IN A  
LIKE MANNER.



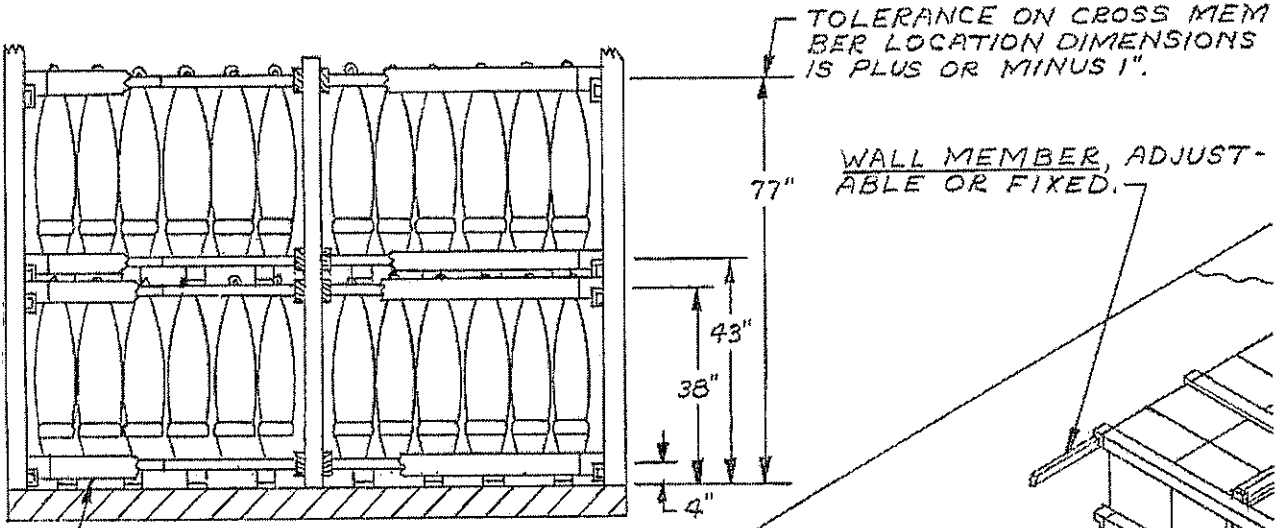
SIDE BLOCKING, 2" x 4" x 60"  
(DOUBLED) (2 REQD). NAIL  
FIRST PIECE TO THE CAR  
FLOOR W/1-16d NAIL EVERY  
8". NAIL SECOND PIECE TO  
FIRST IN LIKE MANNER.

CENTER GATE (2 REQD). SEE  
DETAIL ON PAGE 76. NAIL  
TO SOLID FILL W/5-10d  
NAILS AT EACH JOINT.

DOORWAY PROTECTION STRAP,  $1\frac{1}{2}$ " x .035" x 25'-0"  
STEEL STRAPPING (4 REQD). INSTALL AROUND CROSS-  
WISE PALLET UNITS IN DOORWAY AREA.

CRIB FILL (7 REQD FOR 3-LONG, 2 REQD  
FOR 2-LONG). SEE THE DETAIL ON  
PAGE 75. ADD LAMINATIONS AS  
NECESSARY TO PROVIDE FOR NOT  
MORE THAN  $\frac{3}{4}$ " VOID.

TYPICAL LOAD OF 175 MM SEPARATE LOADING  
PROJECTILES, PALLETIZED 6 PER PALLET, IN A  
40'-6" LONG BY 9'-2" WIDE CONVENTIONAL BOX CAR

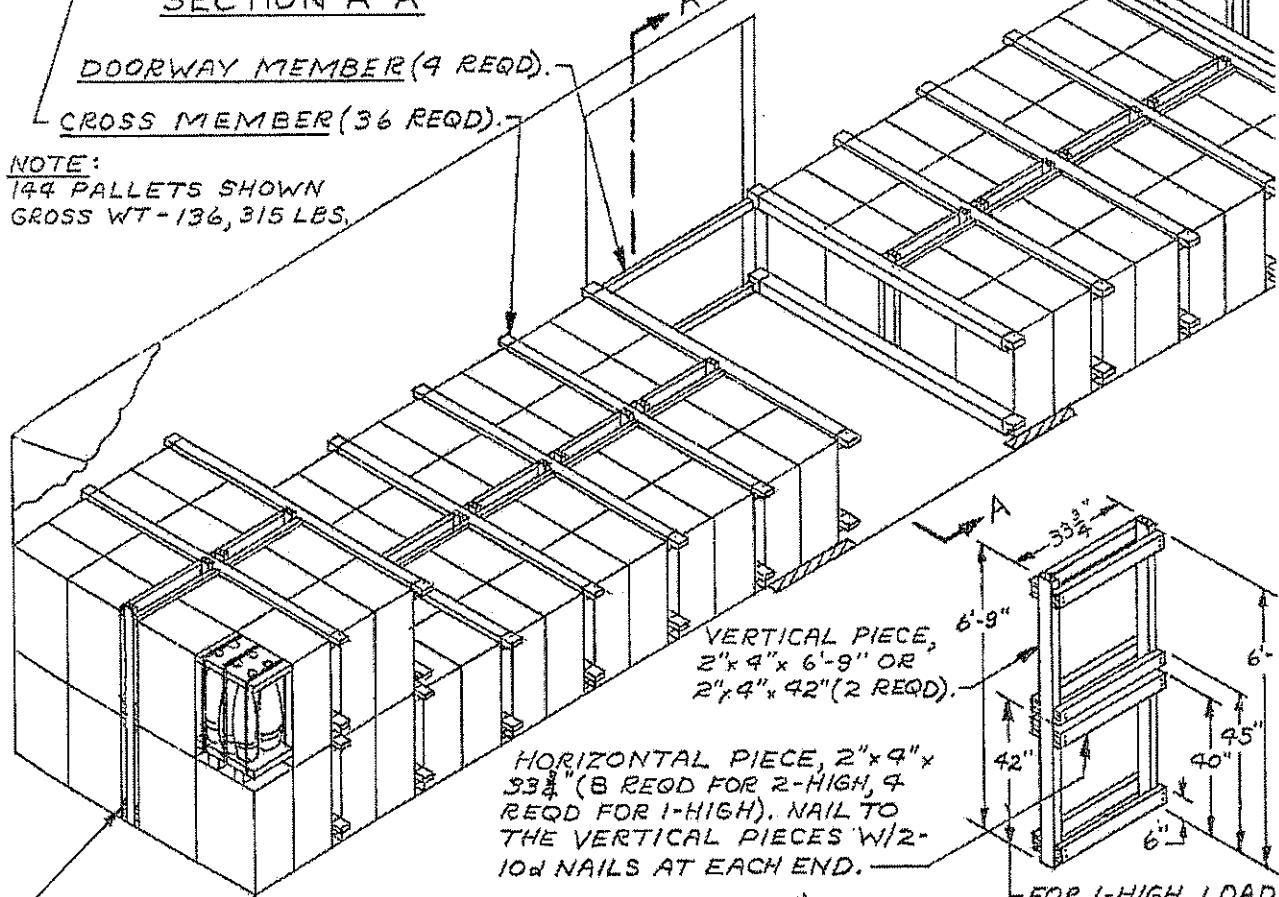


SECTION A-A

DOORWAY MEMBER (4 REQD.)

CROSS MEMBER (36 REQD.)

NOTE:  
144 PALLETS SHOWN  
GROSS WT - 136,315 LBS.

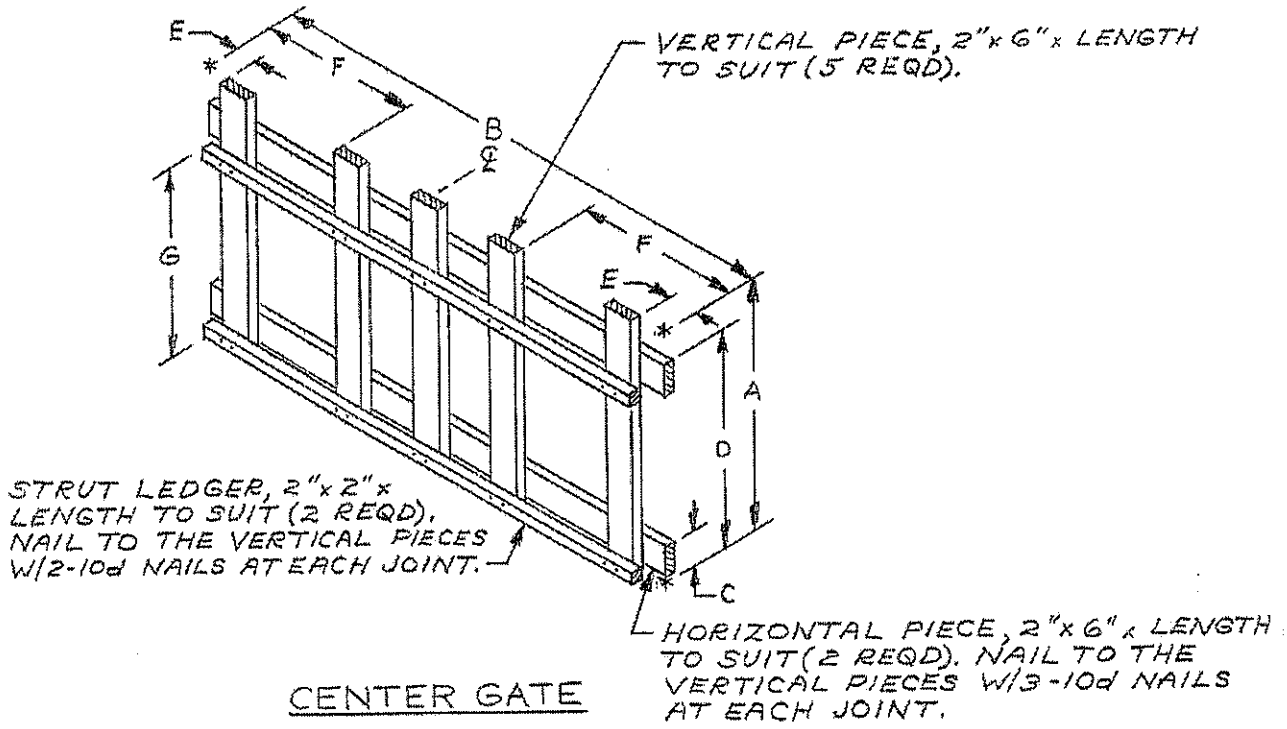


HORIZONTAL PIECE, 2" x 4" x 33 3/4" (8 REQD FOR 2-HIGH, 4 REQD FOR 1-HIGH). NAIL TO THE VERTICAL PIECES W/ 2-10d NAILS AT EACH END.

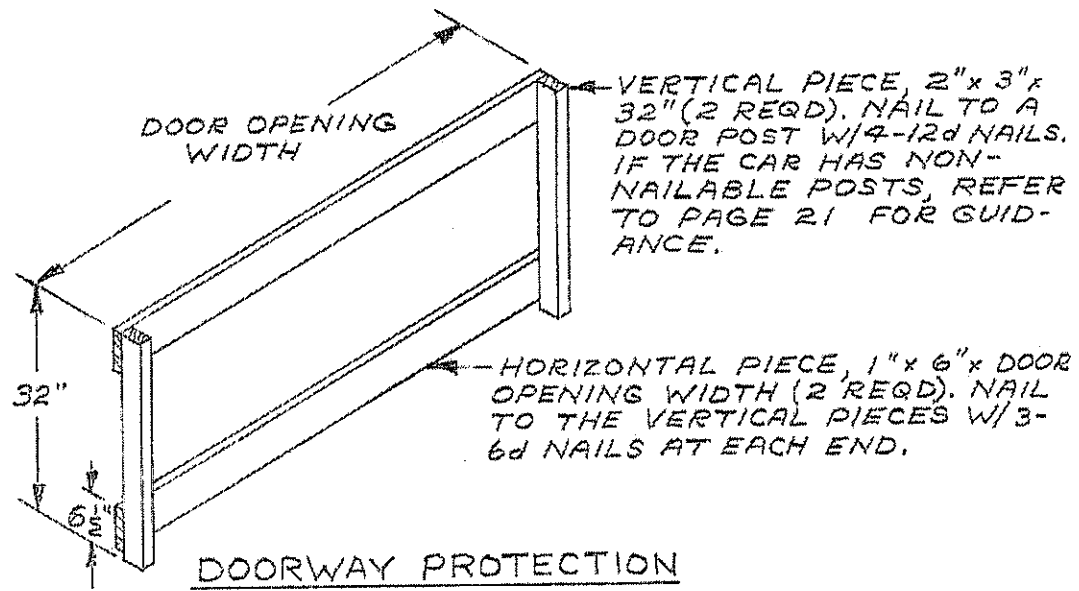
FOR 1-HIGH LOAD CRIB FILL

CRIB FILL (4 REQD FOR 2-HIGH, 10 REQD FOR 1-HIGH). SEE DETAIL AT RIGHT. ADJUST WIDTH OF VERTICAL PIECES OR THICKNESS OF HORIZONTAL PIECES SO THERE WILL NOT BE MORE THAN 3/4" OF TOTAL ACCUMULATED VOID ACROSS CAR.

TYPICAL LOAD OF 175MM SEPARATE LOADING PROJECTILES, PALLETIZED 6 PER PALLET, IN A 50'-6" LONG BY 9'-2" WIDE BOX CAR EQUIPPED WITH MECHANICAL BRACING DEVICES (CROSS MEMBERS)

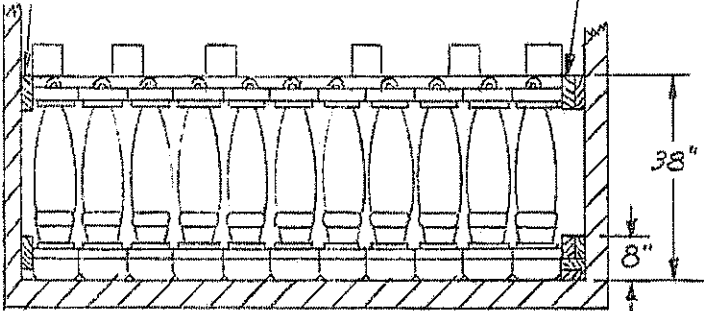


CENTER GATE CHART								
ITEM	PAGE REF	DIMENSION						
		A	B	C	D	E	F	G
155 MM	72	40"	8'-0"	6 1/2"	32"	0"	24 1/4"	27"
175 MM 6/PALLET	74	48"	8'-6"	6 1/2"	41"	5"	31 1/4"	36"



SIDE FILL, 2"x6" x CUT TO FIT (4 REQD). NAIL TO THE CAR SIDEWALL W/1-10d NAIL EVERY 24". RANDOM LENGTH MATERIAL MAY BE USED.

ADJUST THICKNESS OF SIDE FILL AS NECESSARY SO THERE WILL BE NOT MORE THAN  $\frac{3}{4}$ " OF TOTAL ACCUMULATED VOID ACROSS THE CAR.

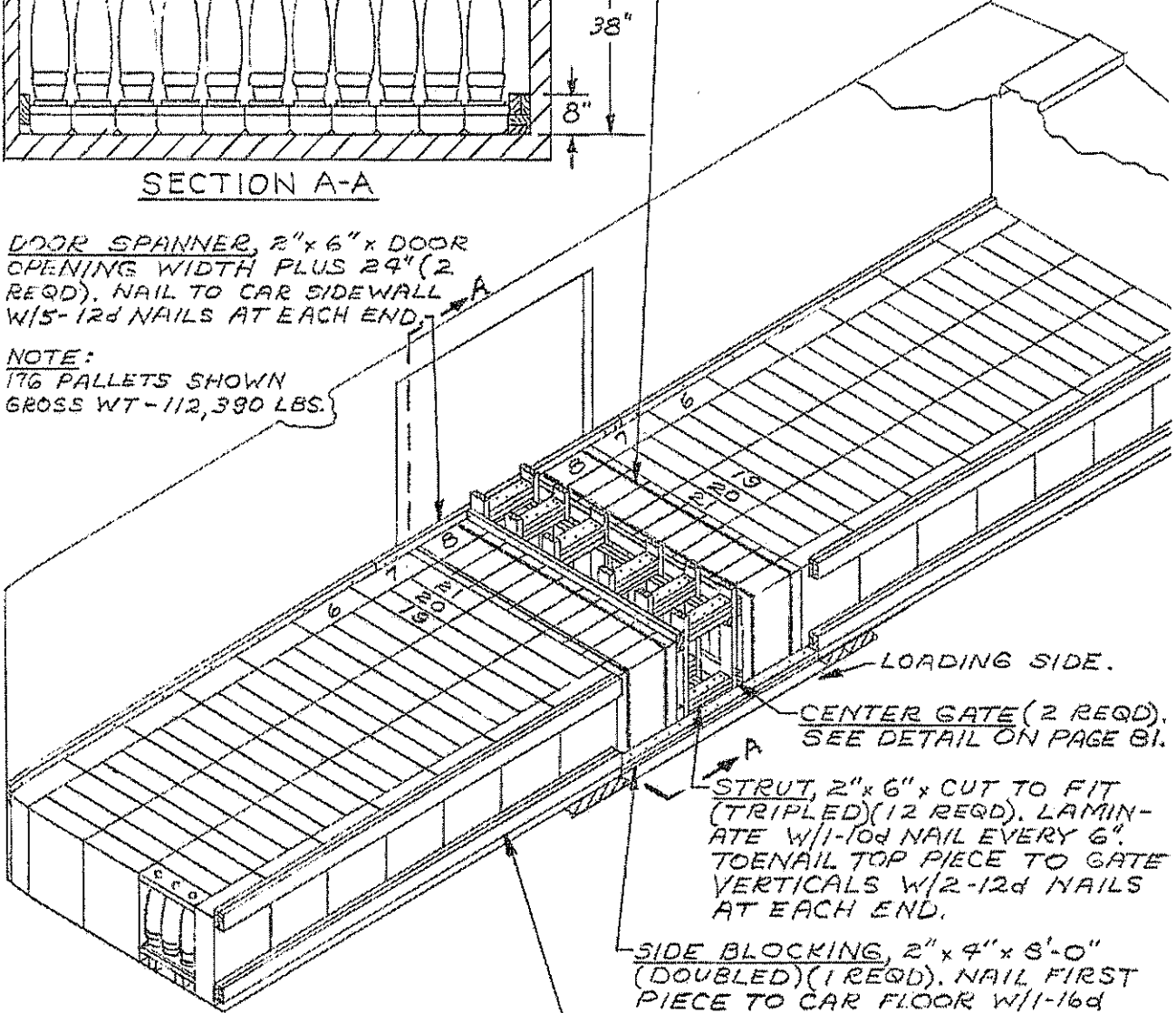


SECTION A-A

DOORWAY PROTECTION, STEEL STRAPPING,  $\frac{1}{2}$ " x .035" x 25'-0" (9 REQD). INSTALL AROUND CROSSWISE PALLET UNITS IN DOORWAY AREA.

DOOR SPANNER, 2"x6" x DOOR OPENING WIDTH PLUS 24" (2 REQD). NAIL TO CAR SIDEWALL W/5-12d NAILS AT EACH END.

NOTE:  
176 PALLETS SHOWN  
GROSS WT - 112,390 LBS.



LOADING SIDE.

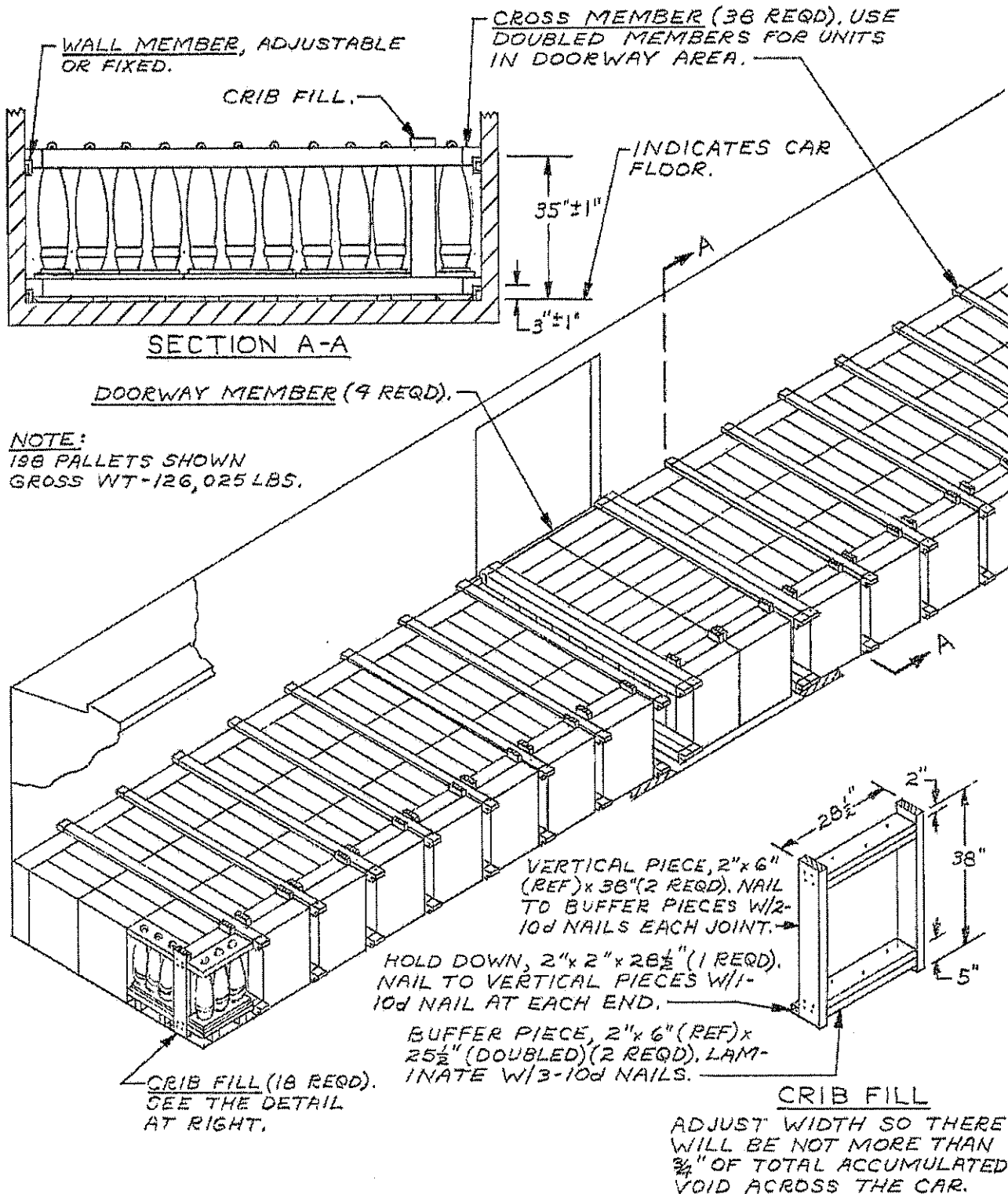
CENTER GATE (2 REQD). SEE DETAIL ON PAGE 81.

STRUT, 2"x6" x CUT TO FIT (TRIPLED) (12 REQD). LAMINATE W/1-10d NAIL EVERY 6". TOENAIL TOP PIECE TO GATE VERTICALS W/2-12d NAILS AT EACH END.

SIDE BLOCKING, 2"x4" x 8'-0" (DOUBLED) (1 REQD). NAIL FIRST PIECE TO CAR FLOOR W/1-16d NAIL EVERY 6". NAIL SECOND PIECE TO FIRST IN A LIKE MANNER.

SIDE FILL, 2"x6" x LENGTH TO SUIT (DOUBLED) (4 REQD). NAIL FIRST PIECE TO CAR SIDEWALL W/1-10d NAIL EVERY 24". NAIL SECOND PIECE TO FIRST IN A LIKE MANNER. RANDOM LENGTH MATERIAL MAY BE USED.

TYPICAL LOAD OF 8" SEPARATE LOADING PROJECTILES, PALLETIZED 3 PER PALLET, IN A 40'-6" LONG BY 9'-2" WIDE CONVENTIONAL BOX CAR

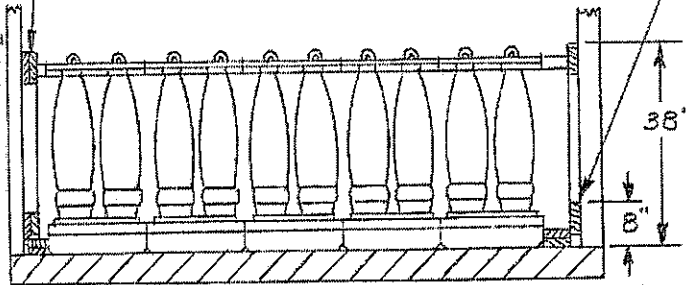


TYPICAL LOAD OF 8" SEPARATE LOADING PROJECTILES, PALLETIZED 3 PER PALLET, IN A 50'-6" LONG BY 9'-2" WIDE BOX CAR EQUIPPED WITH MECHANICAL BRACING DEVICES (CROSS MEMBERS)

SIDE FILL, 2"x6"x16'-0" (DOUBLED) (4 REQD).  
 NAIL FIRST PIECE TO CAR SIDEWALL W/1-10d  
 NAIL EVERY 24". NAIL SECOND PIECE  
 TO FIRST IN A LIKE MANNER. RANDOM  
 LENGTH MATERIAL MAY BE USED.

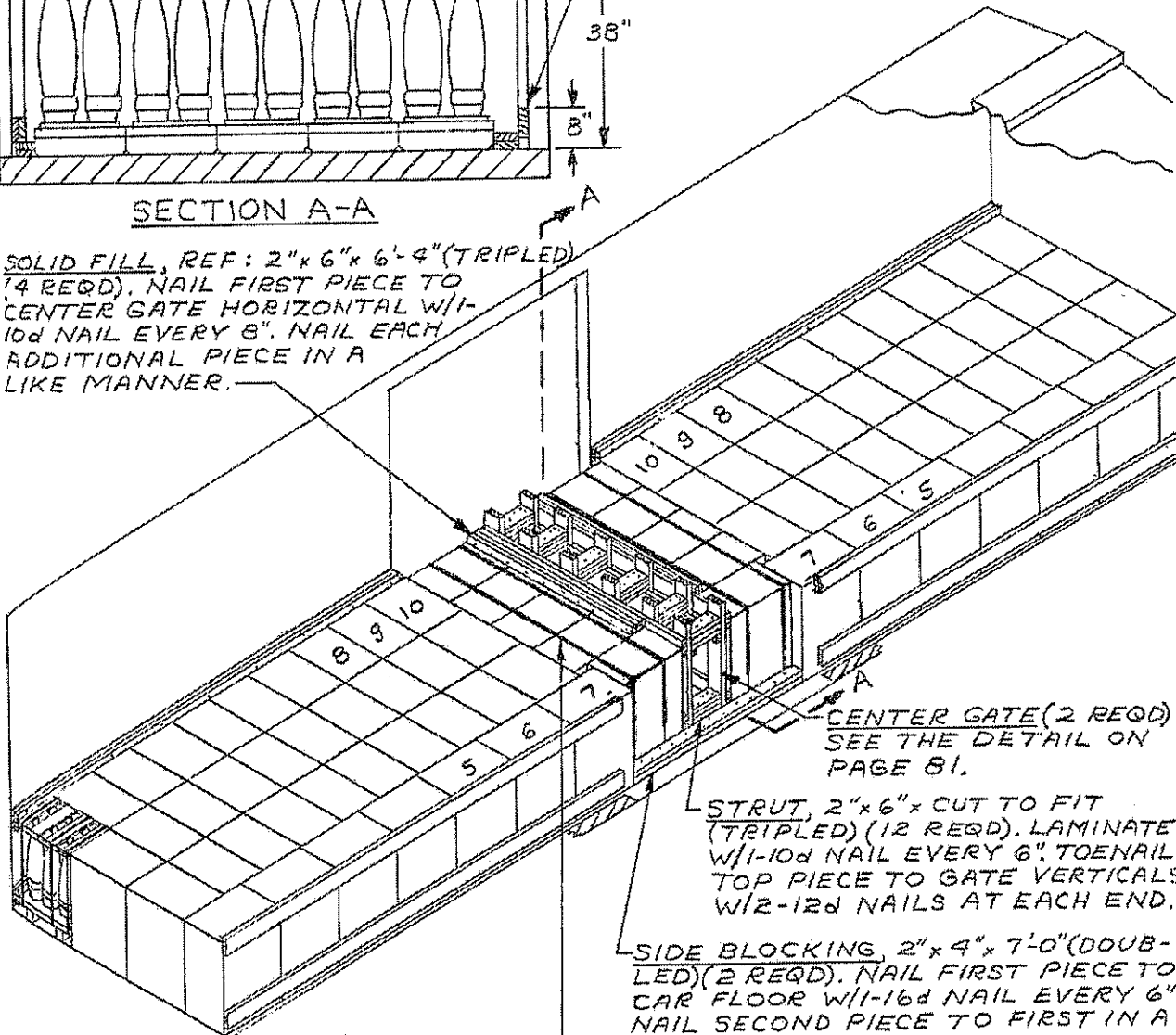
SIDE FILL, 2"x6"x16'-0" (4 REQD).  
 NAIL TO CAR SIDEWALL W/1-10d  
 NAIL EVERY 24". RANDOM  
 LENGTH MATERIAL MAY BE USED.

NOTE:  
 84 PALLETS SHOWN  
 GROSS WT - 106,610 LBS.



SECTION A-A

SOLID FILL, REF: 2"x6"x6'-4" (TRIPLED)  
 (4 REQD). NAIL FIRST PIECE TO  
 CENTER GATE HORIZONTAL W/1-10d  
 NAIL EVERY 8". NAIL EACH  
 ADDITIONAL PIECE IN A  
 LIKE MANNER.



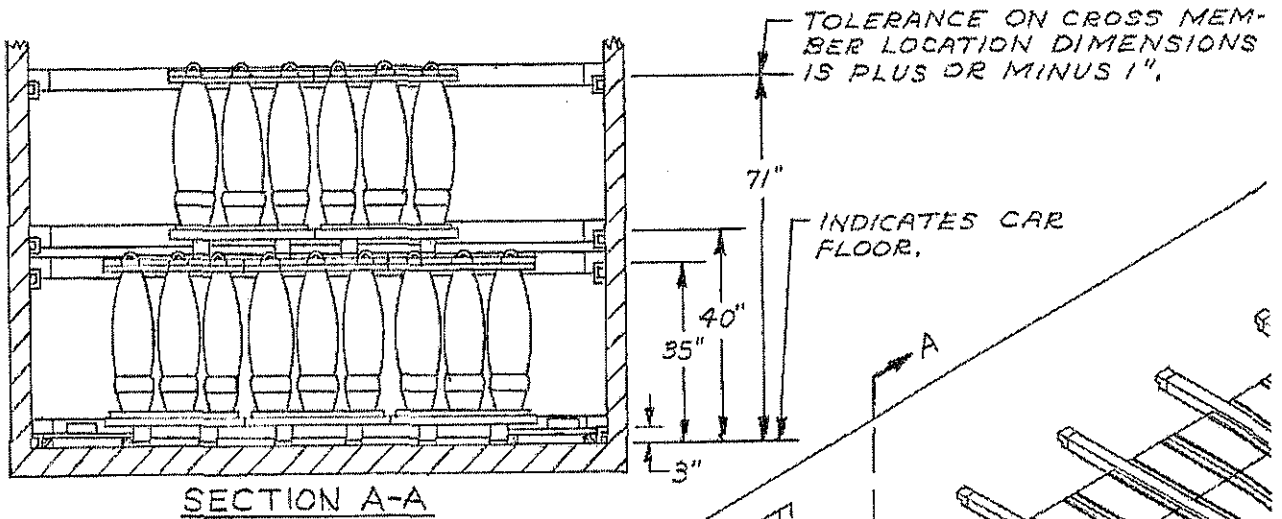
CENTER GATE (2 REQD)  
 SEE THE DETAIL ON  
 PAGE 81.

STRUT, 2"x6"x CUT TO FIT  
 (TRIPLED) (12 REQD). LAMINATE  
 W/1-10d NAIL EVERY 6". TOENAIL  
 TOP PIECE TO GATE VERTICALS  
 W/2-12d NAILS AT EACH END.

SIDE BLOCKING, 2"x4"x7'-0" (DOUB-  
 LED) (2 REQD). NAIL FIRST PIECE TO  
 CAR FLOOR W/1-16d NAIL EVERY 6".  
 NAIL SECOND PIECE TO FIRST IN A  
 LIKE MANNER.

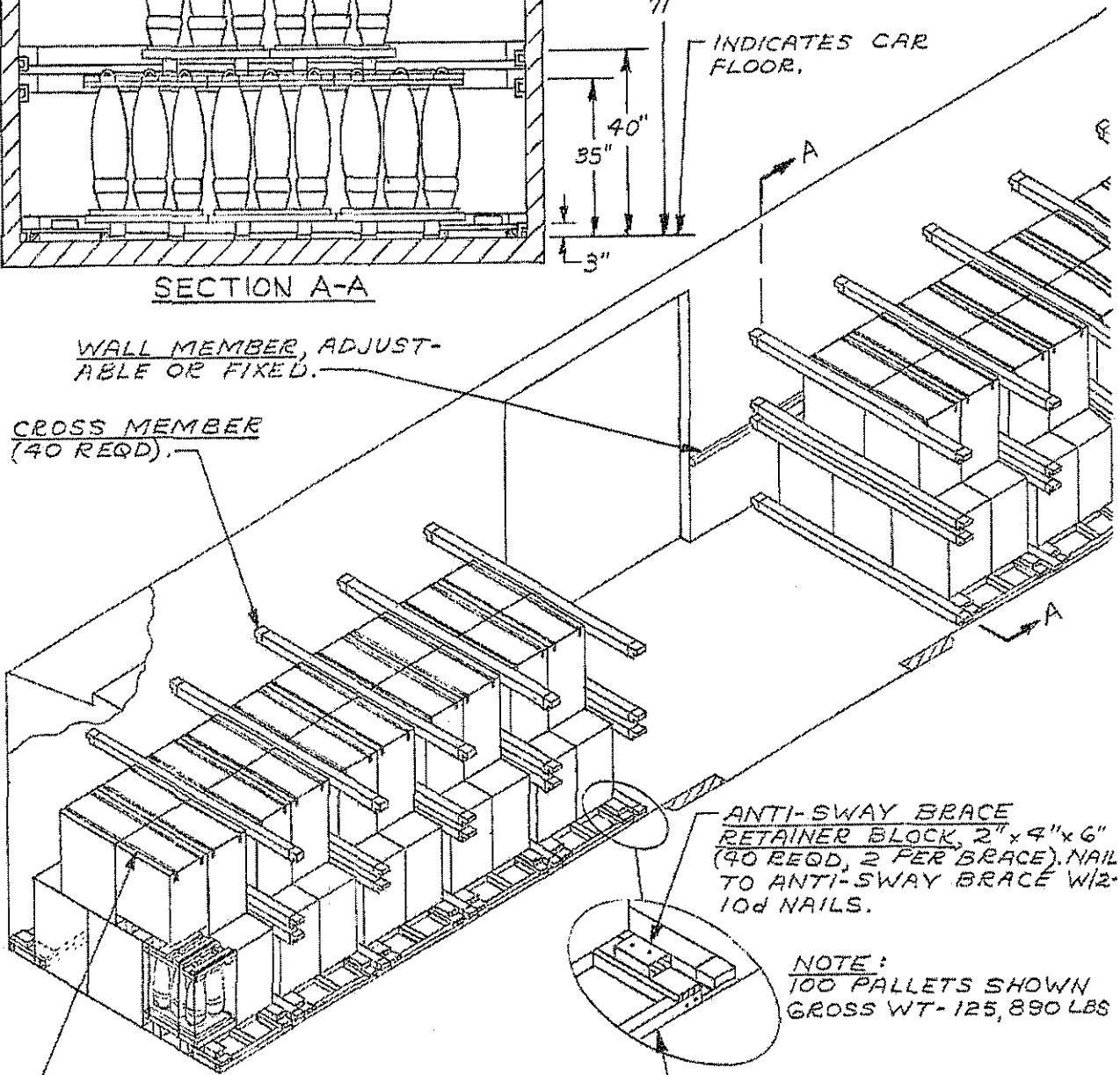
DOORWAY PROTECTION,  
 STEEL STRAPPING, 1/4" x .035" x 23'-6"  
 (4 REQD). INSTALL AROUND CROSS-  
 WISE PALLETS IN DOORWAY AREA.

TYPICAL LOAD OF 8" SEPARATE LOADING  
 PROJECTILES, PALLETIZED 6 PER PALLET, IN A  
 40'-6" LONG BY 9'-2" WIDE CONVENTIONAL BOX CAR



WALL MEMBER, ADJUSTABLE OR FIXED.

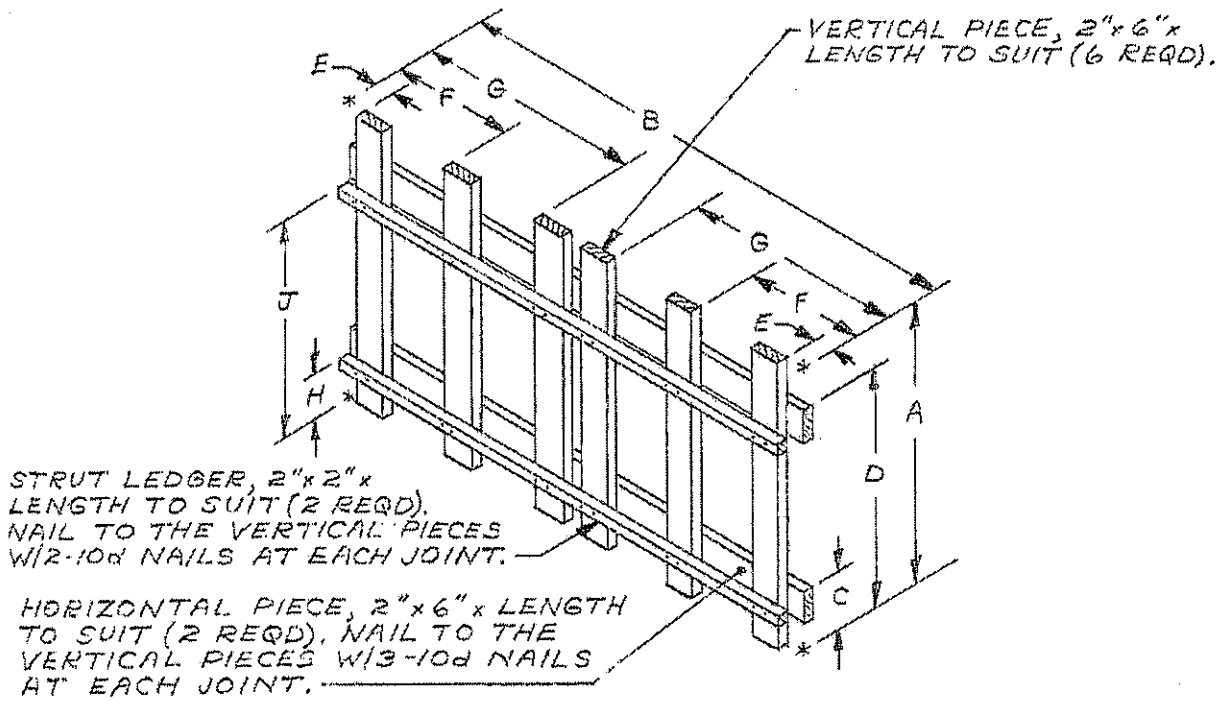
CROSS MEMBER (40 REQD).



STEEL STRAPPING,  $1\frac{1}{2}$ " x .035" x 11'-6" (40 REQD), INSTALL TO ENCIRCLE COVERS OF Laterally ADJACENT PALLETS.

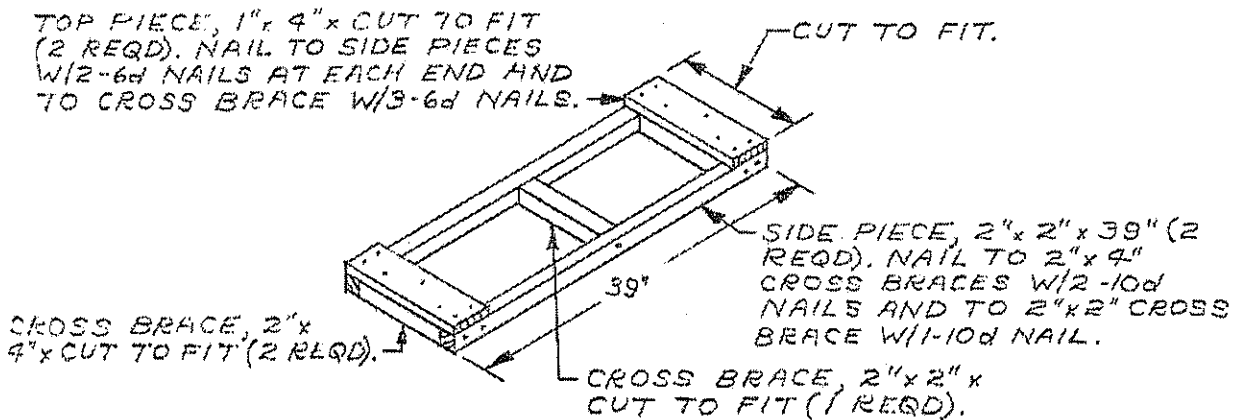
ANTI-SWAY BRACE (20 REQD), SEE THE DETAIL ON PAGE 81.

TYPICAL LOAD OF 8" SEPARATE LOADING PROJECTILES, PALLETIZED 6 PER PALLET, IN A 50'-6" LONG BY 9'-2" WIDE BOX CAR EQUIPPED WITH MECHANICAL BRACING DEVICES (CROSS MEMBERS)

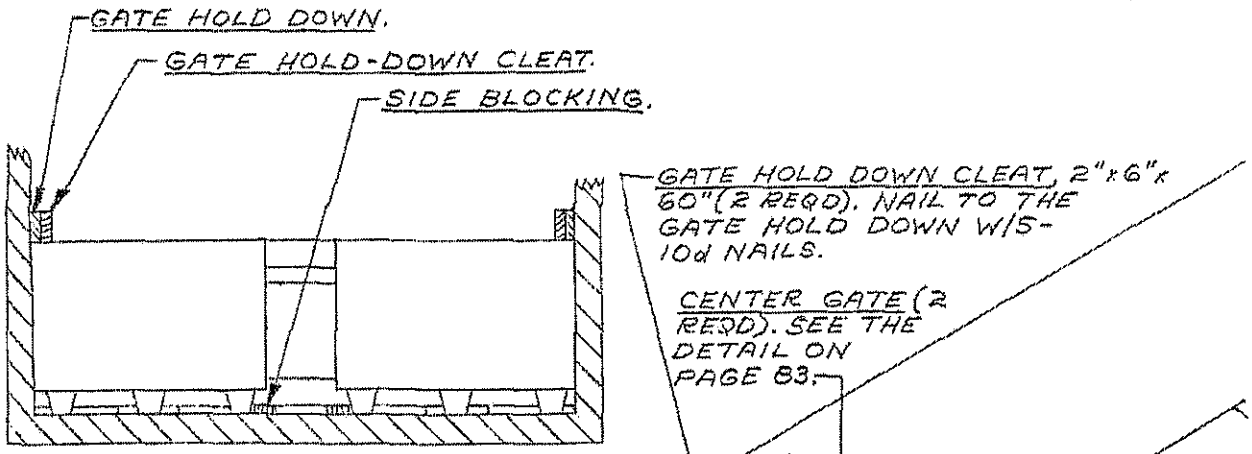


CENTER GATE

CENTER GATE CHART										
ITEM	PAGE REF	DIMENSION								
		A	B	C	D	E	F	G	H	J
8" 3/PALLET	77	45"	8'-8 1/2"	6 1/2"	38"	0"	16 1/2"	35 1/2"	1 1/2"	33"
8" 6/PALLET	79	45"	8'-12 1/2"	6 1/2"	38"	0"	16 3/4"	36 1/2"	1 1/2"	33"



ANTI-SWAY BRACE

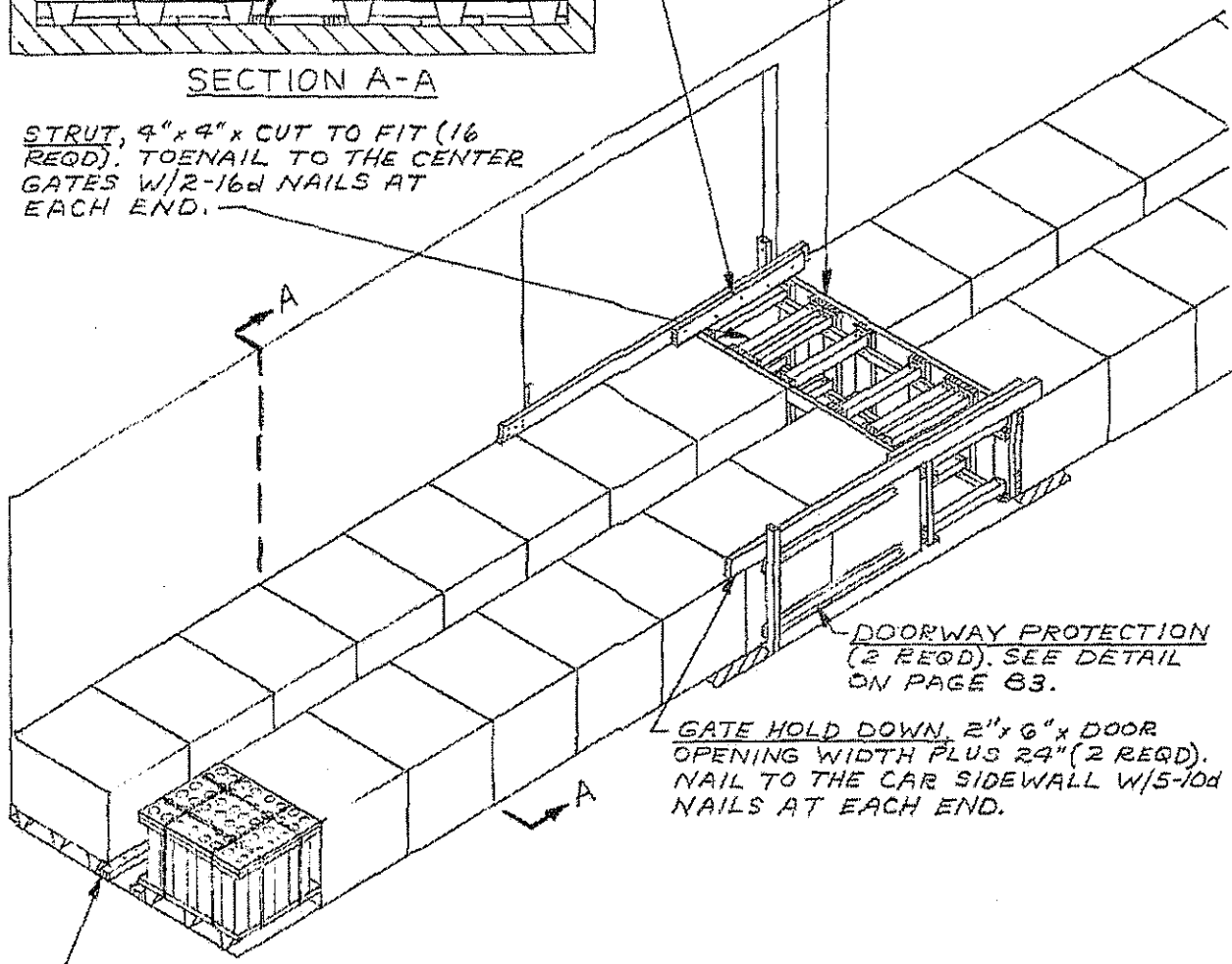


SECTION A-A

STRUT, 4" x 4" x CUT TO FIT (16 REQD). TOENAIL TO THE CENTER GATES W/2-16d NAILS AT EACH END.

GATE HOLD DOWN CLEAT, 2" x 6" x 60" (2 REQD). NAIL TO THE GATE HOLD DOWN W/5-10d NAILS.

CENTER GATE (2 REQD). SEE THE DETAIL ON PAGE 83.



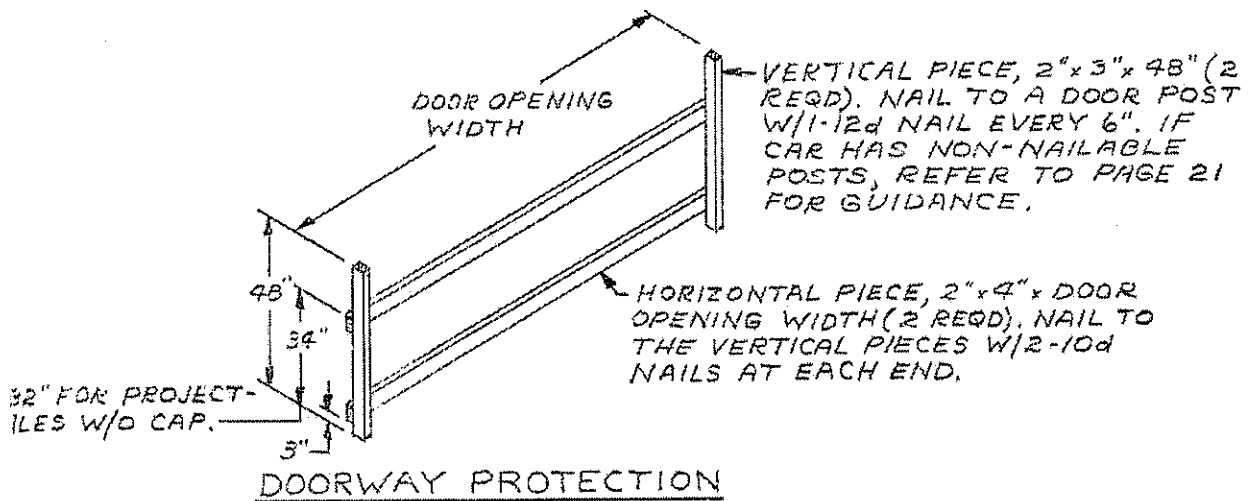
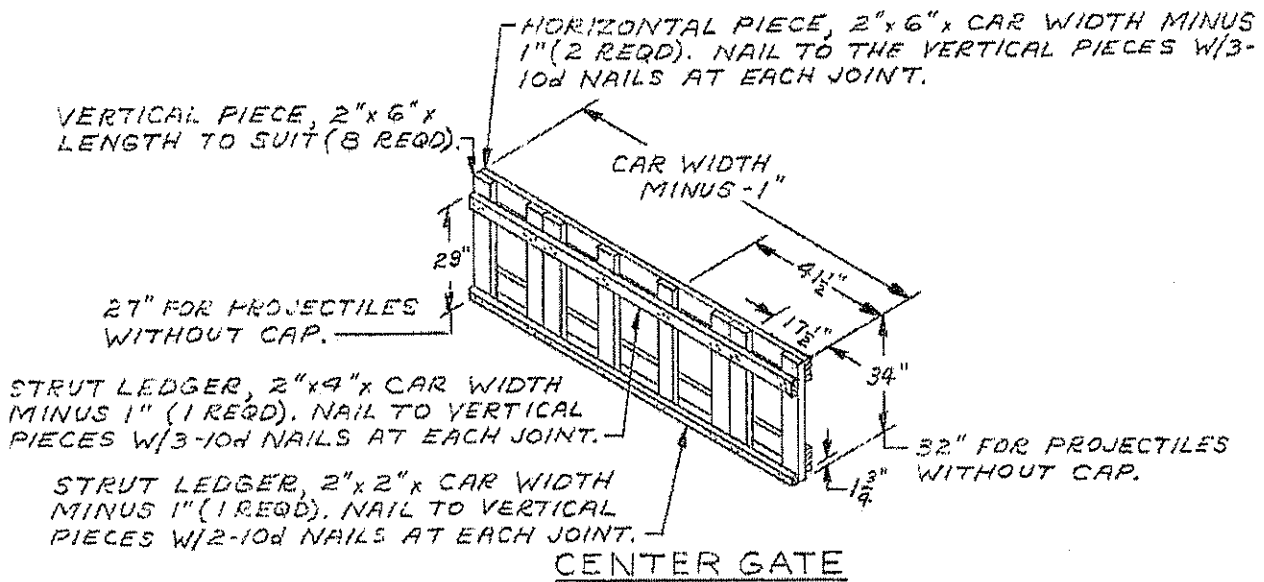
DOORWAY PROTECTION (2 REQD). SEE DETAIL ON PAGE 83.

GATE HOLD DOWN, 2" x 6" x DOOR OPENING WIDTH PLUS 24" (2 REQD). NAIL TO THE CAR SIDEWALL W/5-10d NAILS AT EACH END.

SIDE BLOCKING, 2" x 4" x 40" (28 REQD). NAIL TO THE CAR FLOOR W/1-16d NAIL EVERY 6".

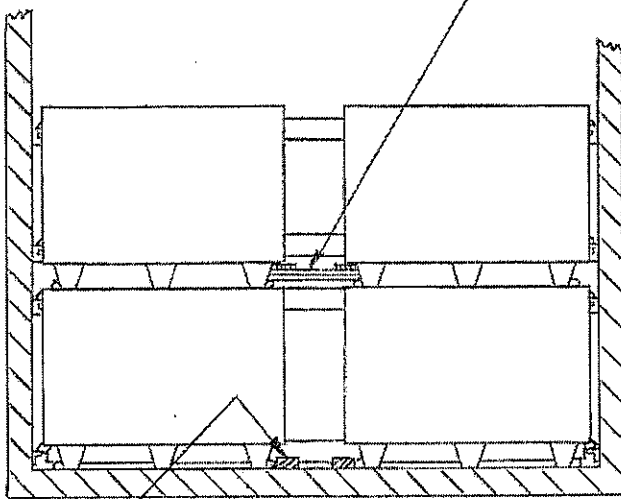
NOTE:  
28 PALLETS SHOWN  
GROSS WT-105,980 LBS W/CAP  
103,290 LBS W/O CAP

TYPICAL LOAD OF 5"/54 PROJECTILE M41, 48 £  
MODS IN ADAPTER MKII £ MODS IN A  
50'-6" LONG CONVENTIONAL BOX CAR



ANTI-SWAY BRACE (3 REQD).  
SEE THE DETAIL BELOW.

EACH HEIGHT ABOVE CAR FLOOR TO  
A WALL MEMBER OR DOORWAY  
MEMBER IS SPECIFIED TO LOCATE  
THE CENTER LINE OF A CROSS  
MEMBER.



SECTION A-A

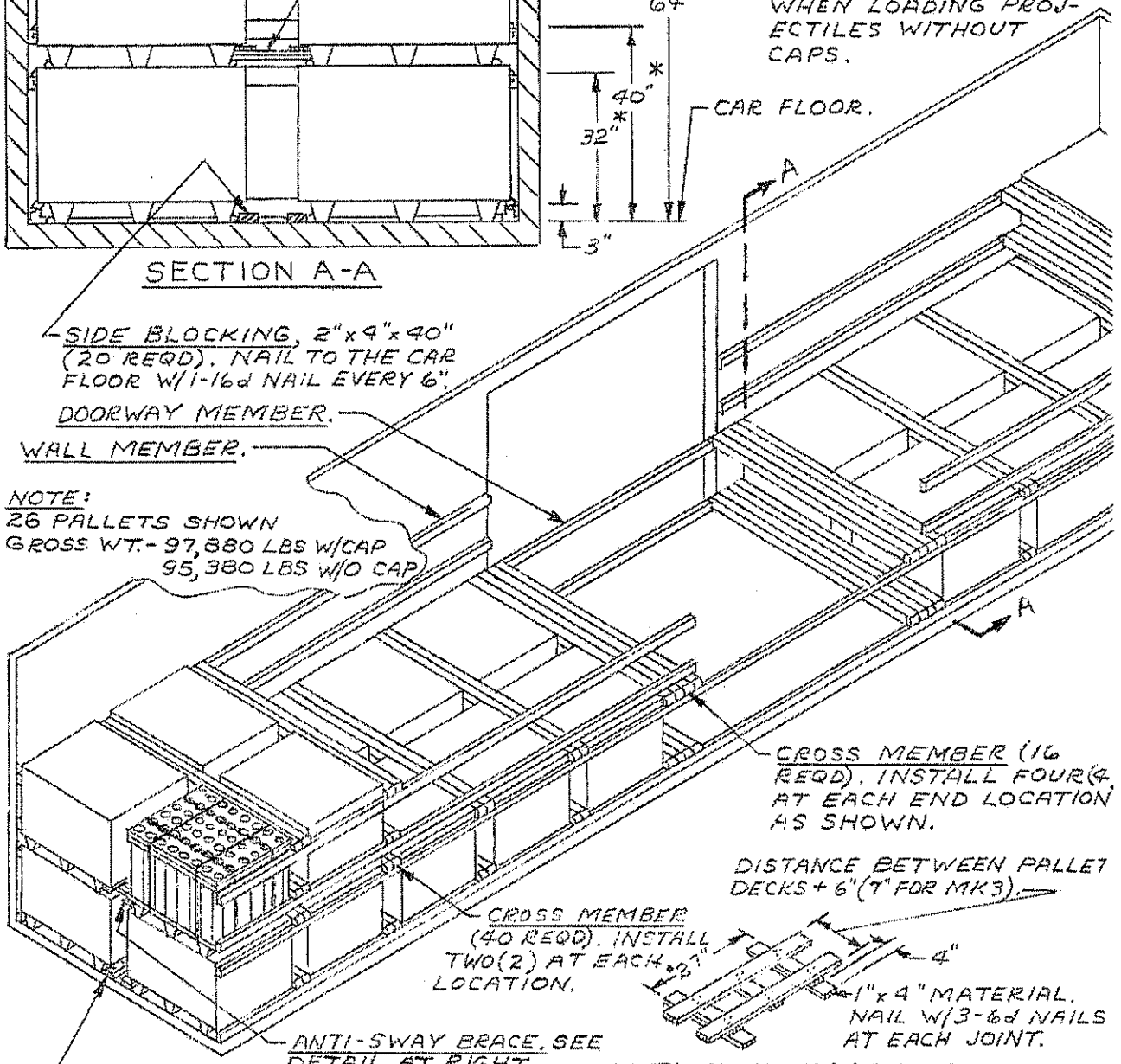
\* THESE DIMENSIONS  
WILL BE 28", 38", AND 60"  
WHEN LOADING PROJ-  
ECTILES WITHOUT  
CAPS.

SIDE BLOCKING, 2"x4"x40"  
(20 REQD), NAIL TO THE CAR  
FLOOR W/1-16d NAIL EVERY 6".

DOORWAY MEMBER.

WALL MEMBER.

NOTE:  
26 PALLETS SHOWN  
GROSS WT. - 97,880 LBS W/CAP  
95,380 LBS W/O CAP



CROSS MEMBER (16  
REQD). INSTALL FOUR (4)  
AT EACH END LOCATION  
AS SHOWN.

DISTANCE BETWEEN PALLET  
DECKS + 6" (7" FOR MK 3).

CROSS MEMBER  
(40 REQD). INSTALL  
TWO (2) AT EACH  
LOCATION.

1"x4" MATERIAL,  
NAIL W/3-6d NAILS  
AT EACH JOINT.

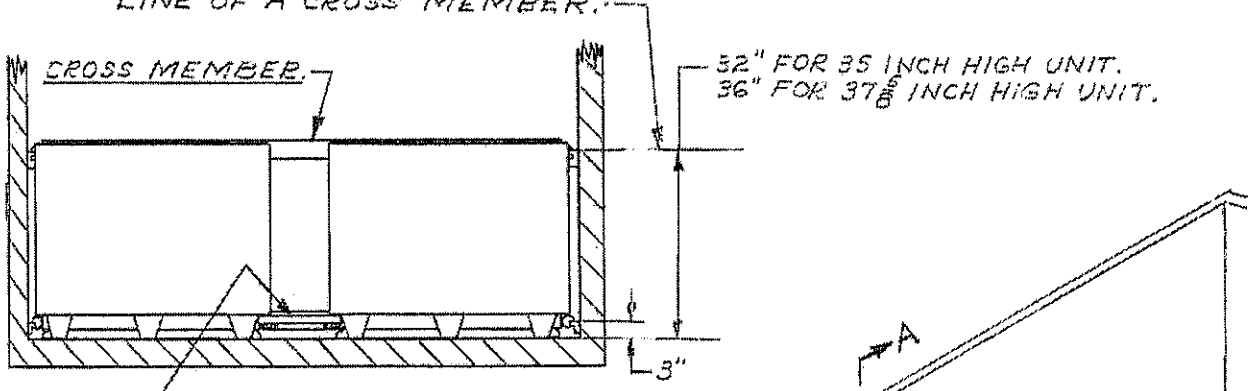
ANTI-SWAY BRACE, SEE  
DETAIL AT RIGHT.

ANTI-SWAY BRACE \*29" FOR  
MK 3.

SIDE BLOCKING.

TYPICAL LOAD OF 5"/54 PROJECTILE M41, 48 &  
MODS IN ADAPTER MK II & MODS IN A 50'-6" LONG  
BOX CAR EQUIPPED WITH MECHANICAL BRACING  
DEVICES (CROSS MEMBERS)

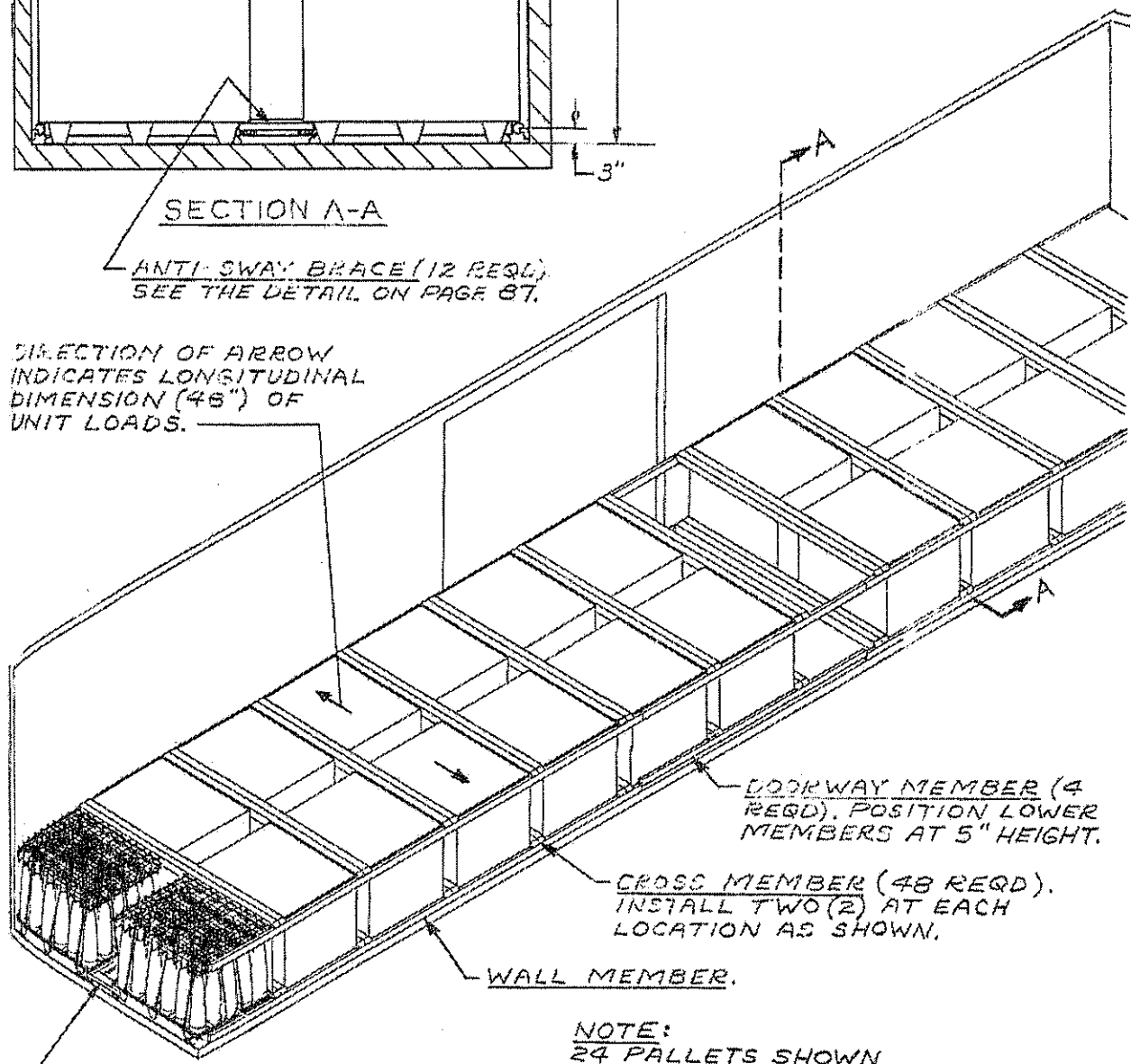
EACH HEIGHT ABOVE CAR FLOOR TO A WALL MEMBER OR DOORWAY MEMBER IS SPECIFIED TO LOCATE THE CENTER LINE OF A CROSS MEMBER.



SECTION A-A

ANTI-SWAY BRACE (12 REQD.)  
SEE THE DETAIL ON PAGE 87.

DIRECTION OF ARROW  
INDICATES LONGITUDINAL  
DIMENSION (48") OF  
UNIT LOADS.



DOORWAY MEMBER (4  
REQD). POSITION LOWER  
MEMBERS AT 5" HEIGHT.

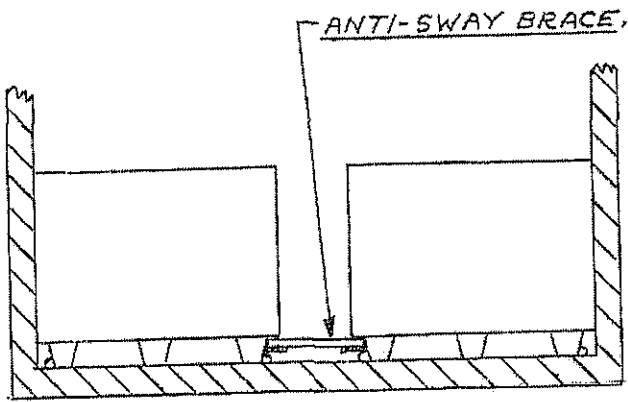
CROSS MEMBER (48 REQD).  
INSTALL TWO (2) AT EACH  
LOCATION AS SHOWN.

WALL MEMBER.

ANTI-SWAY BRACE (12 REQD.)  
SEE THE DETAIL ON PAGE 87.

NOTE:  
24 PALLETS SHOWN  
GROSS WT. - 82,719 LBS.

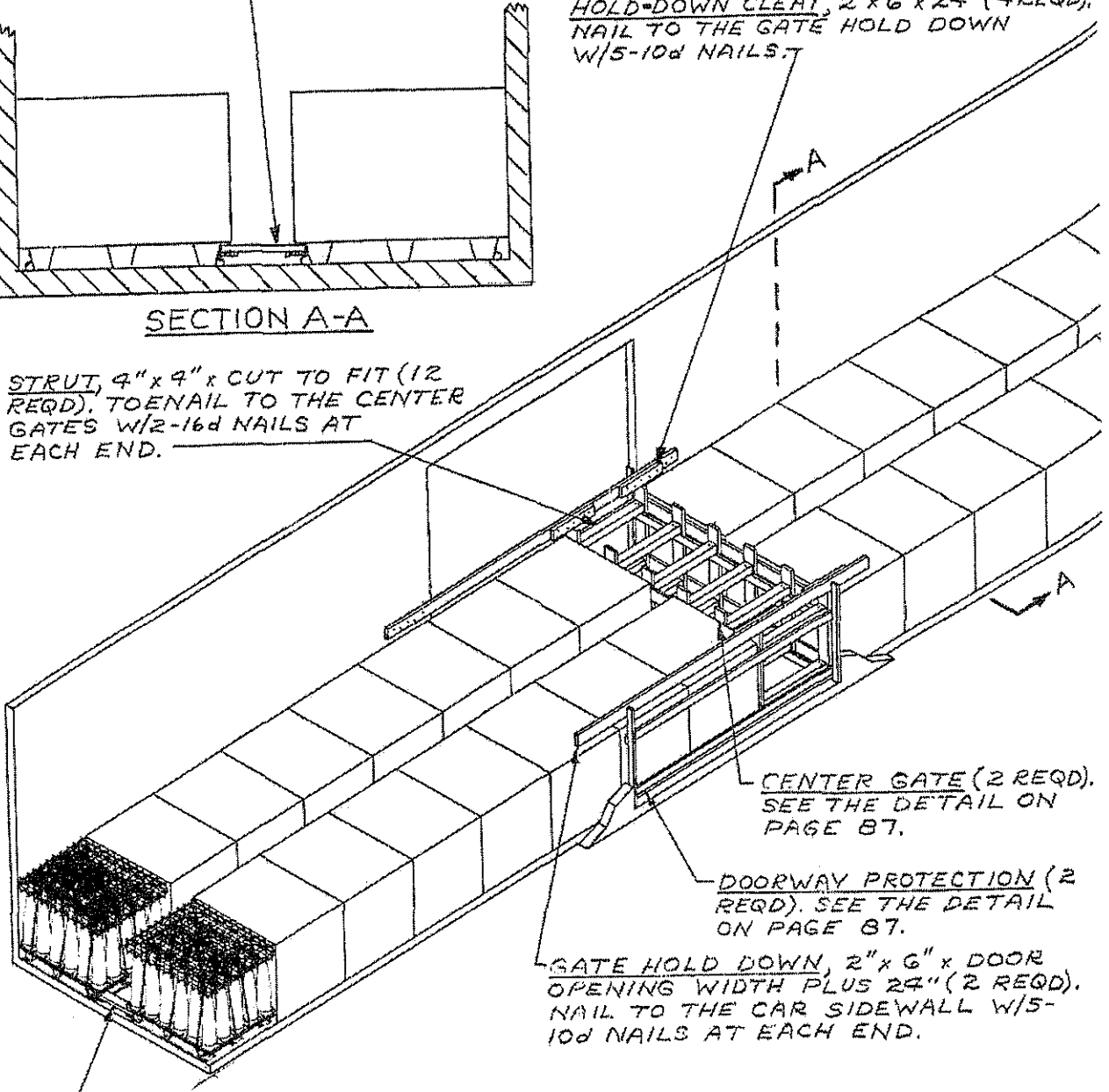
TYPICAL LOAD OF PROJECTILE, 6" AAC OR HC, IN PALLET  
ADAPTER MK20 MOD 0 (FLEET ISSUE UNIT LOAD)  
IN 50'-6" LONG BOX CAR EQUIPPED WITH MECHANICAL  
BRACING DEVICES (CROSS MEMBERS)



SECTION A-A

HOLD-DOWN CLEAT, 2" x 6" x 24" (4 REQD),  
NAIL TO THE GATE HOLD DOWN  
W/5-10d NAILS.

STRUT, 4" x 4" x CUT TO FIT (12  
REQD), TOENAIL TO THE CENTER  
GATES W/2-16d NAILS AT  
EACH END.



CENTER GATE (2 REQD).  
SEE THE DETAIL ON  
PAGE 87.

DOORWAY PROTECTION (2  
REQD). SEE THE DETAIL  
ON PAGE 87.

GATE HOLD DOWN, 2" x 6" x DOOR  
OPENING WIDTH PLUS 24" (2 REQD).  
NAIL TO THE CAR SIDEWALL W/5-  
10d NAILS AT EACH END.

ANTI-SWAY BRACE (14 REQD). SEE  
THE DETAIL ON PAGE 87.

NOTE:  
28 PALLETS SHOWN  
GROSS WT. - 97,053 LBS.

TYPICAL LOAD OF PROJECTILE, 6" AAC OR HC, IN PALLET  
ADAPTER MK20 MOD 0 (FLEET ISSUE UNIT LOAD)  
IN A 50'-6" LONG CONVENTIONAL BOX CAR

LONGITUDINAL PIECE, 1" x 4" x 40"  
(2 REQD). NAIL TO THE CROSS  
BRACES W/3-10d NAILS AT EACH  
JOINT AND CLINCH.

CROSS BRACE, 2" x 4" x CUT TO FIT  
BETWEEN LEGS OF LATERALLY  
ADJACENT PALLETS.

DISTANCE BETWEEN  
LEGS OF PALLETS  
ACROSS THE CAR.

ANTI-SWAY BRACE

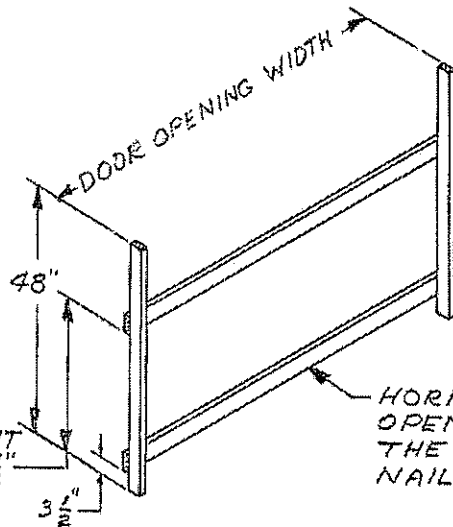
VERTICAL PIECE, 2"  
x 6" x 42" (6 REQD).

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

UNIT HEIGHT MINUS 4 1/2"

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

CENTER GATE



VERTICAL PIECE, 2" x 3" x 48"  
(2 REQD). NAIL TO A DOOR  
POST W/1-12d NAIL EVERY 6".  
IF CAR HAS NON-NAILABLE  
POSTS, REFER TO PAGE  
21 FOR GUIDANCE.

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

UNIT HEIGHT  
MINUS 4 1/2"

DOORWAY PROTECTION