

REV. NO. 1 APPROVED
 BUREAU OF EXPLOSIVES
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 DATE 10/27/64

LOADING & BRACING (CL & LCL) ON FLAT CARS OF ROCKET MOTOR, M66, WITH FOUR FINS, M17, PACKED IN WOODEN CONTAINER, FOR THE 762 MM ROCKET

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DRAFTSMAN R.H.W.	AMSMI-XBH <i>[Signature]</i>	ENGINEER <i>[Signature]</i>	SUBMITTAL <i>[Signature]</i>
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REVISIONS			APPROVED <i>[Signature]</i>
1	FEB 64	<i>[Signature]</i>	ARMY MISSILE COMMAND
			APPROVED BY ORDER OF COMMANDER, ARMY MATERIEL COMMAND <i>[Signature]</i>
			ARMY SUPPLY & MAINTENANCE COMMAND
			MATERIEL COMMAND U.S.A.
			28 FEB 1962
CLASS:	DIVISION	DRAWING	FILE
19	48	5437	GM 5A 124

DO NOT SCALE

GENERAL NOTES

MATERIAL SPECIFICATIONS

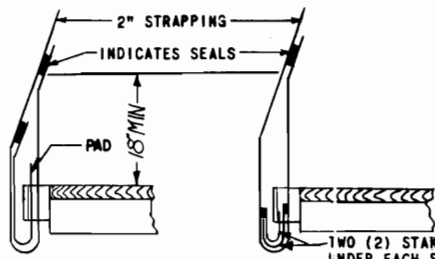
- A. 1. LOAD AS SHOWN ON PAGES 4 & 5 IS BASED ON A FLAT CAR 50'-6" LONG X 8'-6" WIDE (PLATFORM) WITH STAKE POCKETS SPACED 42" ON CENTER. LARGER CARS MAY BE USED; HOWEVER, CARS LONGER THAN 50'-6" SHOULD NOT BE ORDERED FOR THE SHIPMENT OF 5 TO 3 235" LONG CONTAINERS. SEE GENERAL NOTE "M".
2. LOAD AS SHOWN ON PAGES 6 & 7 IS BASED ON A FLAT CAR 42'-6" LONG X 8'-6" WIDE (PLATFORM) WITH STAKE POCKETS SPACED 42" ON CENTER. LARGER CARS MAY BE USED; HOWEVER, CARS LONGER THAN 42'-6" SHOULD NOT BE ORDERED FOR THE SHIPMENT OF 5 TO 8 198" LONG CONTAINERS. SEE GENERAL NOTE "M".
3. LOAD AS SHOWN ON PAGES 8 & 9 IS BASED ON A FLAT CAR 49'-0" LONG BETWEEN INSIDE END STAKE POCKETS X 10'-6" WIDE (PLATFORM) WITH STAKE POCKETS SPACED 42" ON CENTER. LARGER CARS MAY BE USED; HOWEVER, CARS LONGER THAN 49'-0" BETWEEN INSIDE END STAKE POCKETS SHOULD NOT BE ORDERED FOR THE SHIPMENT OF 7 TO 12 235" LONG CONTAINERS. SEE GENERAL NOTE "M".
4. LOAD AS SHOWN ON PAGES 10 & 11 IS BASED ON FLAT CAR 43'-0" LONG BETWEEN INSIDE END STAKE POCKETS X 10'-6" WIDE (PLATFORM) WITH STAKE POCKETS SPACED 42" ON CENTER. LARGER CARS MAY BE USED; HOWEVER, CARS LONGER THAN 43'-0" BETWEEN INSIDE END STAKE POCKETS SHOULD NOT BE ORDERED FOR THE SHIPMENT OF 7 TO 12 198" LONG CONTAINERS. SEE GENERAL NOTE "M".
- B. SELECTION OF RAIL CARS FOR THE TRANSPORT OF THIS ITEM WILL BE IN ACCORDANCE WITH PARAGRAPH 8, 301.4, ORDM 3-4, VOL 3.
- C. NOTICE: A SHIPMENT WILL BE POSITIONED ON THE RAIL CAR IN COMPLIANCE WITH THE WEIGHT DISTRIBUTION REQUIREMENTS OF THE AAR. THE NUMBER OF UNITS MAY BE ADJUSTED TO FIT THE RAIL CAR CONCERNED OR THE QUANTITY TO BE SHIPPED; HOWEVER, THE APPROVED METHODS CONTAINED HEREIN, FOR FULL OR PARTIAL CAR LOAD, MUST BE FOLLOWED FOR BLOCKING, BRACING AND STAYING OF THIS ITEM.
- D. ONLY CARS WITH "SOUND" FLOORS WILL BE USED. CARS WITH STEEL FLOOR ENDS AND/OR EXPOSED STEEL BOLSTERS WHICH INTERFERE WITH PROPER POSITIONING OR NAILING OF THE DUNNAGE WILL NOT BE USED. SEE "END BLOCKING FOR CARS WITH EXPOSED STEEL BOLSTERS" DETAIL, PAGE 3.
- E. 1. FOR DETAIL OF CONTAINER SEE DRAWING NO. 10048161.
CONTAINER DIMENSIONS - 23' LONG X 42-1/8" WIDE X 49" HIGH.
GROSS WEIGHT - 5,883 POUNDS (APPROX)
TARE WEIGHT - 1,725 POUNDS (APPROX)
2. FOR DETAIL OF CONTAINER SEE DRAWING NO. 10048370.
CONTAINER DIMENSIONS - 19'-1/16" LONG X 42-1/8" WIDE X 49" HIGH.
GROSS WEIGHT - 4,950 POUNDS (APPROX)
TARE WEIGHT - 1,725 POUNDS (APPROX)
- F. WHEN ANY STRAP IS SEALED AT AN END-OVER-END LAP JOINT, A MINIMUM OF TWO (2) SEALS WITH TWO (2) CRIMPS PER SEAL MUST BE USED.
- G. CAUTION: STAKE POCKETS WILL BE USED FOR ALL TIE DOWN STRAPPING WHENEVER POSSIBLE. DO NOT USE SWIVEL RING TYPE ANCHOR DEVICES. IF OTHER TYPES ARE USED, THEY MUST BE OF SUFFICIENT WIDTH TO RECEIVE 2" STRAP. NOTE: ONLY ONE (1) STRAP MAY BE ANCHORED INTO ANY ONE (1) CAR STAKE POCKET.
- H. IF EDGE PROTECTORS FOR 2" STRAPPING ARE NOT COMMERCIALY AVAILABLE, THEY MAY BE FORMED FROM 18 (MIN) GAUGE SHEET STEEL 9" LONG X 6" WIDE.
- J. THE WORDS "ANTI-SKID PLATES" WILL BE STENCILED IN ONE INCH (1") LETTERS ON BOTH SIDES OF THE CONTAINERS TO SHOW THE LOCATIONS OF THESE PLATES.
- K. THIS ITEM IS AN ICC CLASS "A" EXPLOSIVE. SPECIFIED OUTLOADING PROCEDURES CAN ALSO BE UTILIZED FOR THE SHIPMENT OF THE DEPICTED CONTAINER WHEN THEY ARE EMPTY OR LOADED WITH AN ITEM WHICH IS IDENTIFIED DIFFERENTLY BY NOMENCLATURE THAN THE ITEM DESIGNATED WITHIN THE DRAWING TITLE. PROCEDURES FOR SHIPMENT OF EMPTY CNTRS ARE DELINEATED ON PAGES WITH THE LOADS.
- L. IF RAIL CAR IS NOT EQUIPPED WITH PLACARD BOARDS ON BOTH ENDS AND BOTH SIDES, 16' X 24' BOARDS MUST BE PROVIDED, AS REQUIRED. CAUTION: BOARDS OR BOARD MOUNTING BRACKETS MUST NOT BE NAILED TO LADING.
- M. IT IS PERMISSIBLE TO MIX DIFFERENT LENGTH CONTAINERS WITHIN A LOAD, PROVIDED A 235" CONTAINER IS NOT STACKED ON TOP OF A 198" CONTAINER. NOTE: FOR SHIPPING ONE LONG CONTAINER WITH SEVEN SHORT ONE'S, DO NOT USE A SPLIT HEADER; USE FILLER BLOCKING AT ONE END OF THE LOAD BETWEEN THE SHORT CONTAINER STACK AND THE HEADER.
- N. FOR THREE WIDE LOADS SHOWN ON PAGES 8 THRU 11 AND PAGE 13, LATERALLY ADJACENT CONTAINERS MUST FACE OPPOSITE DIRECTIONS TO PROVIDE PROPER CLEARANCE FOR CONTAINER HARDWARE. FOR TWO WIDE LOADS SHOWN ON PAGES 3 THRU 7 AND PAGE 12, ANTI-CHAFING ASSEMBLY "B" MAY BE USED IN LIEU OF ANTI-CHAFING ASSEMBLY "A" IF LATERALLY ADJACENT CONTAINERS FACE OPPOSITE DIRECTIONS TO PROVIDE PROPER CLEARANCE FOR CONTAINER HARDWARE.

LUMBER: SEE PARA 8, 400, ORDM 3-4, VOL 3.

NAILS: COMMON, CEMENT COATED, FED SPEC FF-N-105.
ALT: ANNULAR-RING TYPE NAIL OF SAME SIZE.

STRAPPING, STEEL: TYPE 1, CLASS "A" OR "C", FED SPEC QQ-5-781.
(FOR FSN SEE 58-38-100).

ANTI-SKID PLATES: SIGNODE NO. 1 OR EQUAL.



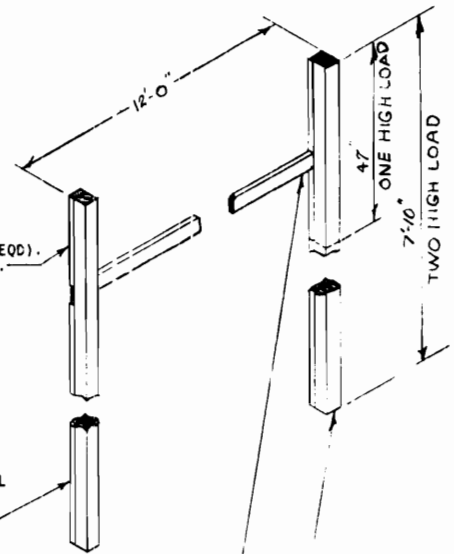
DETAIL "A"

METHOD OF INSTALLING 2" STRAPPING AND PAD AT STAKE POCKET.

DETAIL "B"

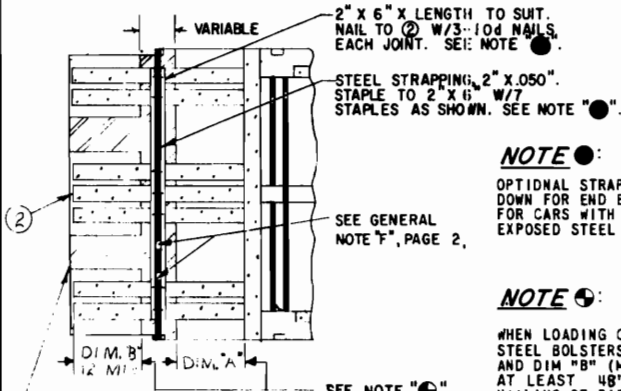
METHOD OF INSTALLING 2" STRAPPING AND STAKE POCKET PROTECTORS (ALT. PAD).

2" x 4" x 24" (2 REQD). NAIL #3-12d NAILS.



ANTI-CHAFING ASSEMBLY "A"

SEE GENERAL NOTE "H", PAGE 2.



END BLOCKING FOR CARS WITH EXPOSED STEEL BOLSTERS (SEE GENERAL NOTE "D")

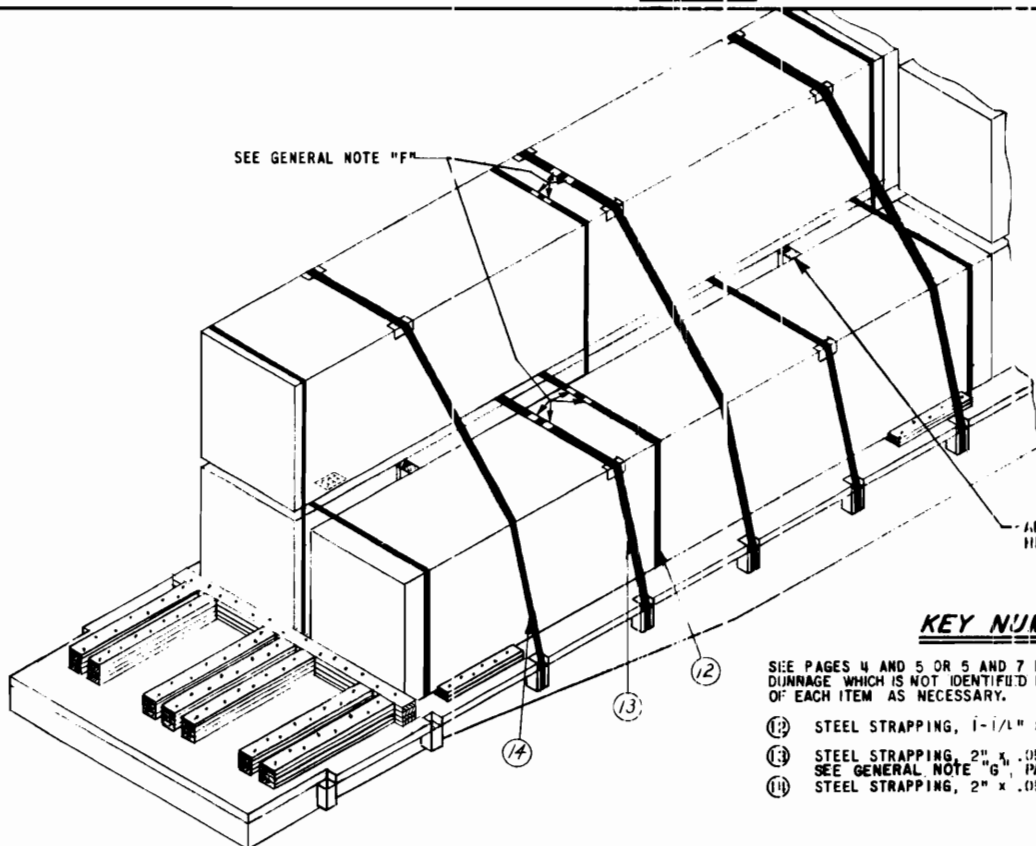
NOTE

OPTIONAL STRAP HOLD-DOWN FOR END BLOCKING FOR CARS WITH OR WITHOUT EXPOSED STEEL BOLSTERS.

NOTE

WHEN LOADING CARS WITH EXPOSED STEEL BOLSTERS, TOTAL OF DIM "A" AND DIM "B" (MIN 12") MUST EQUAL AT LEAST 48" TO PROVIDE PROPER NAILING OF PIECE ② TO CAR FLOOR. SEE KEY NUMBER ②, PAGE 4, OR NA LING.

DETAILS



ISOMETRIC VIEW

(LCL 7 UNIT LOAD)

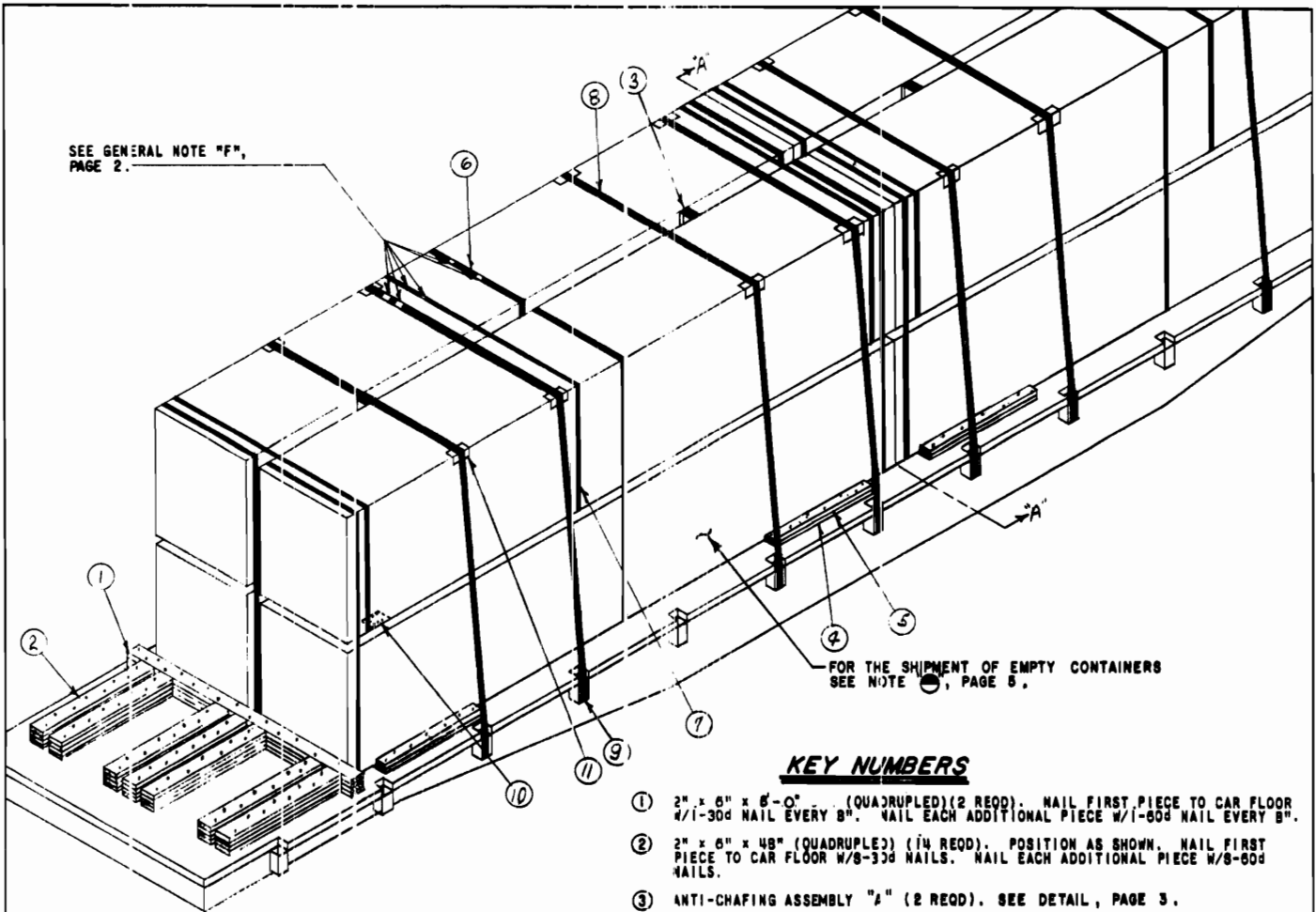
NOTE:

STRAPPING PROCEDURES SHOWN FOR SECUREMENT OF THE THREE (3) CONTAINER LOAD UNIT CAN ALSO BE USED ON SHIPMENT OF 30'S CONTAINERS. **LCL-7 UNIT LOAD**

KEY NUMBERS

SEE PAGES 4 AND 5 OR 5 AND 7 FOR KEY NUMBERS APPLICABLE TO DUNNAGE WHICH IS NOT IDENTIFIED BELOW, ADJUST QUANTITIES REQUIRED OF EACH ITEM AS NECESSARY.

- ⑫ STEEL STRAPPING, 1-1/4" x .035" x 23'-0" (3 REQD).
- ⑬ STEEL STRAPPING, 2" x .050" x 27'-0" (2 REQD). PRE-POSITION. SEE GENERAL NOTE "G", PAGE 2.
- ⑭ STEEL STRAPPING, 2" x .050" x 34'-0" (3 REQD).



SEE GENERAL NOTE "F",
PAGE 2.

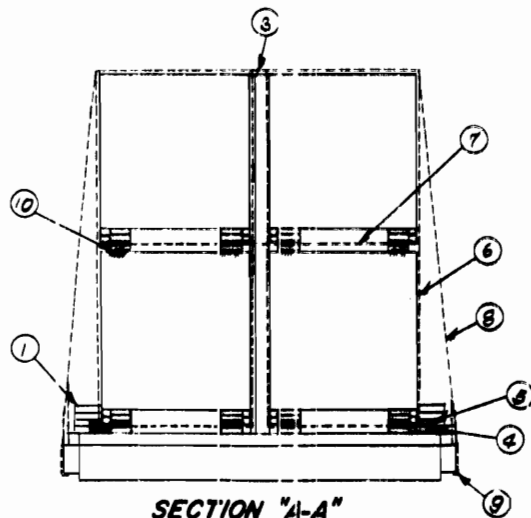
FOR THE SHIPMENT OF EMPTY CONTAINERS
SEE NOTE "G", PAGE 8.

ISOMETRIC VIEW

50'-6" LONG X 8'-6" WIDE (PLATFORM) FLAT CAR

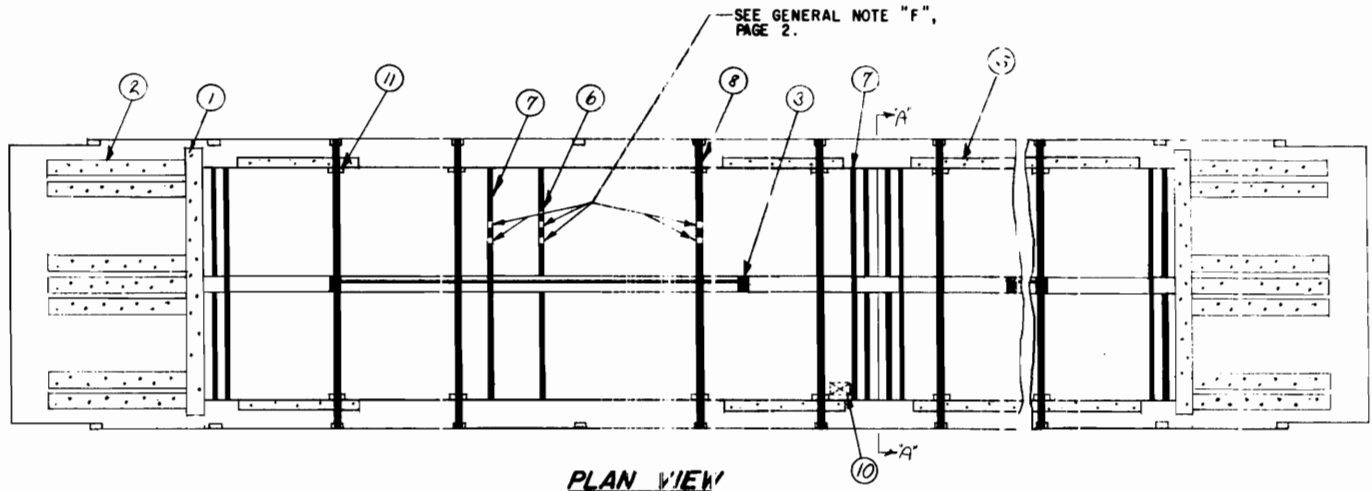
KEY NUMBERS

- ① 2" x 6" x 6'-0" (QUADRUPLED) (2 REQD). NAIL FIRST PIECE TO CAR FLOOR W/1-30d NAIL EVERY 8". NAIL EACH ADDITIONAL PIECE W/1-60d NAIL EVERY 8".
- ② 2" x 6" x 48" (QUADRUPLED) (14 REQD). POSITION AS SHOWN. NAIL FIRST PIECE TO CAR FLOOR W/8-30d NAILS. NAIL EACH ADDITIONAL PIECE W/8-60d NAILS.
- ③ ANTI-CHAFING ASSEMBLY "A" (2 REQD). SEE DETAIL, PAGE 3.
- ④ 2" x 6" x 42" (8 REQD). NAIL TO CAR FLOOR W/7-30d NAILS.
- ⑤ 2" x 4" x 42" (8 REQD). NAIL TO ④ W/7-30d NAILS.
- ⑥ STEEL STRAPPING, 1-1/4" x .035" x 23'-0" (12 REQD).
- ⑦ STEEL STRAPPING, 1-1/4" x .035" x 23'-0" (8 REQD).
- ⑧ STEEL STRAPPING, 2" x .050" x 38'-0" (8 REQD). SEE GENERAL NOTE "G", PAGE 2.
- ⑨ PAD, 2" x .050" STRAP 24" LONG (16 REQD). POSITION UNDER AND SEAL TO ①. SEE DETAIL "A", PAGE 3.
ALT: STAKE POCKET PROTECTOR, 3/8" HOLE NO. 10 (16 REQD). TWO (2) USED UNDER EACH STAKE POCKET WITH ①. SEE DETAIL "B", PAGE 3.
- ⑩ ANTI-SKID PLATES (24 REQD). POSITION UNDER SKIDS OF CONTAINERS IN SECOND LAYER. SIX (6) REQD PER CONTAINER. SEE GENERAL NOTE "J", PAGE 2.
- ⑪ EDGE PROTECTORS FOR 2" STRAPPING (16 REQD). SEE GENERAL NOTE "H", PAGE 2.



SECTION "A-A"

TWO WIDE METHOD FOR 235" LONG CNTR.



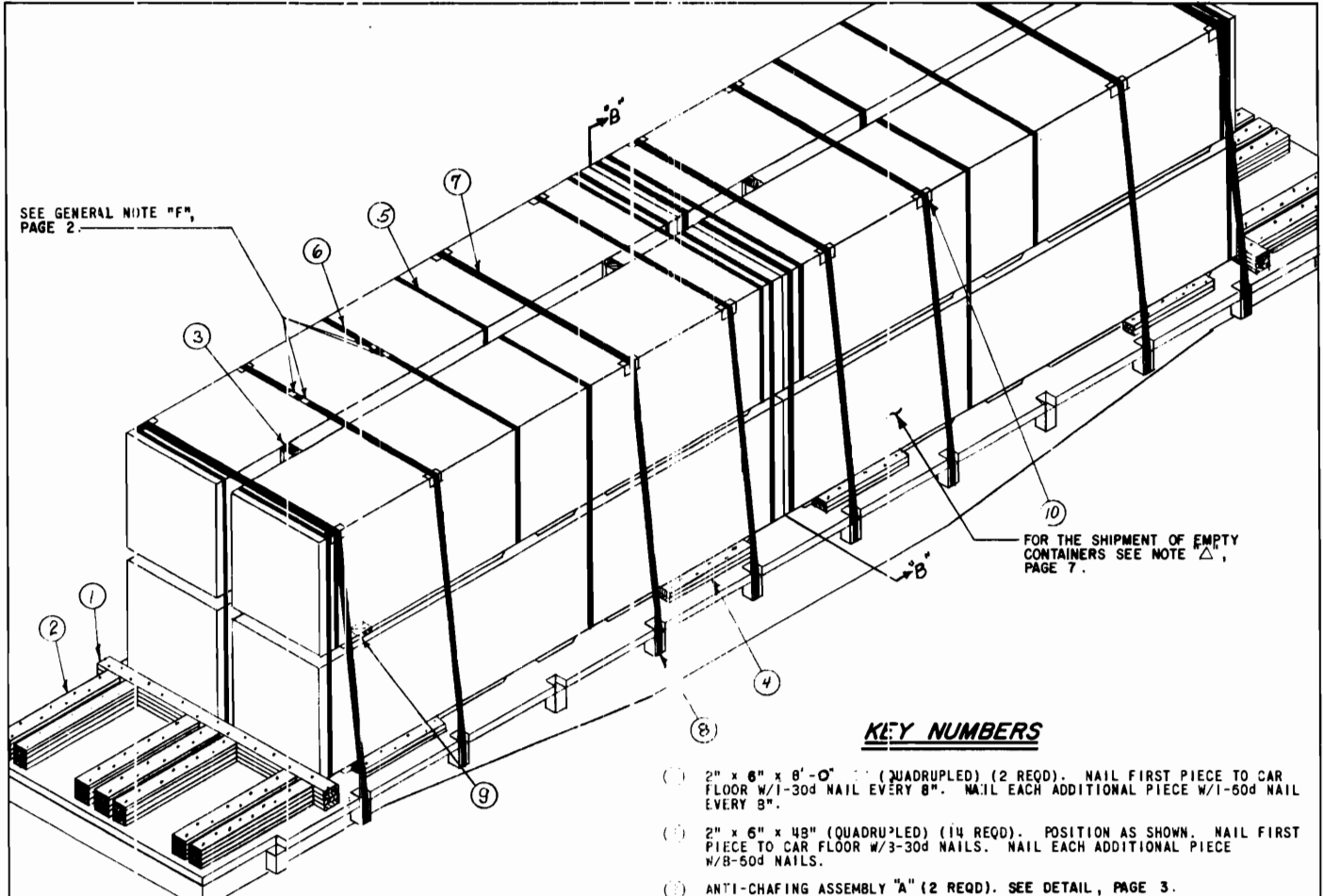
50'-5" LONG x 8'-6" WIDE (PLATFORM) FLAT CAR

- NOTE:**
 FOR THE SHIPMENT OF EMPTY CONTAINERS THE FOLLOWING IS APPLICABLE:
1. REDUCE LENGTH OF PIECES MARKED (2) TO 30" WITH A PROPORTIONAL REDUCTION TO THE NAILING.
 2. ELIMINATE SIX (6) EACH OF PIECES MARKED (2). ALIGN REMAINING PIECES WITH CONTAINER SKIDS.
 3. REDUCE LENGTH OF PIECES MARKED (4) AND (5) TO 24" WITH A PROPORTIONAL REDUCTION TO THE NAILING.
 4. ELIMINATE THE CENTRALLY LOCATED PIECES MARKED (6) FROM EACH STACK OF TWO CONTAINERS AND THE CENTRALLY LOCATED PIECES MARKED (7) FROM EACH LOAD UNIT OF FOUR CONTAINERS.
 5. ELIMINATE THE TWO (2) MOST CENTRALLY LOCATED PIECES MARKED (8) AND (11) FROM EACH LOAD UNIT OF FOUR CONTAINERS.
 6. ELIMINATE ALL PIECES MARKED (10)

BILL OF MATERIAL		
LUMBER	LINEAL FEET	BOARD FEET
1" x 4"	24	8
2" x 4"	60	40
2" x 5"	316	316
4" x 4"	32	43
NAILS	NO. REQD	POUNDS
6d (2")	12	-
12d (3-1/4")	44	1
30d (4-1/2")	250	12-1/2
60d (6")	408	41-1/2
STRAPPING, STEEL, 1-1/4" x .035" - 414' REQD - 50 LBS		
STRAPPING, STEEL, 2" x .050" - - - 312' REQD - 104 LBS		
ANTI-SKID PLATES - - - - - 24 REQD - 6 LBS		
EDGE PROTECTORS - - - - - 16 REQD - 4 LBS		

LOAD AS SHOWN		
ITEM	QUANTITY	WEIGHT (APPROX)
ROCKET MOTOR, M56, W/FINS	8	47,064 LBS
DUNNAGE		1,246 LBS
TOTAL WEIGHT		48,310 LBS (APPROX)

TWO WIDE METHOD FOR 235" LONG CVTR.



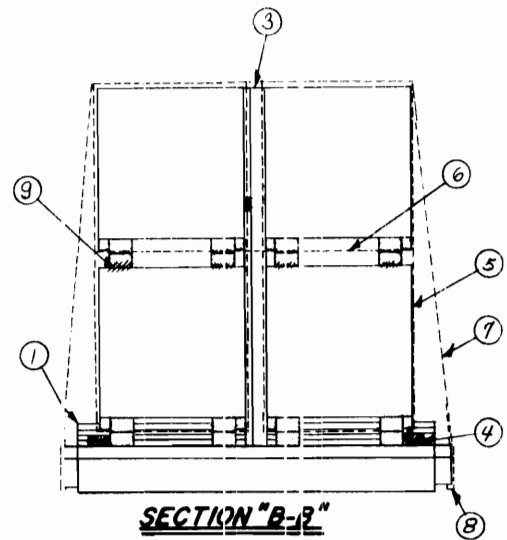
SEE GENERAL NOTE "F",
PAGE 2.

FOR THE SHIPMENT OF EMPTY
CONTAINERS SEE NOTE "A",
PAGE 7.

ISOMETRIC VIEW
42'-6" LONG X 8'-6" WIDE (PLATFORM) FLAT CAR

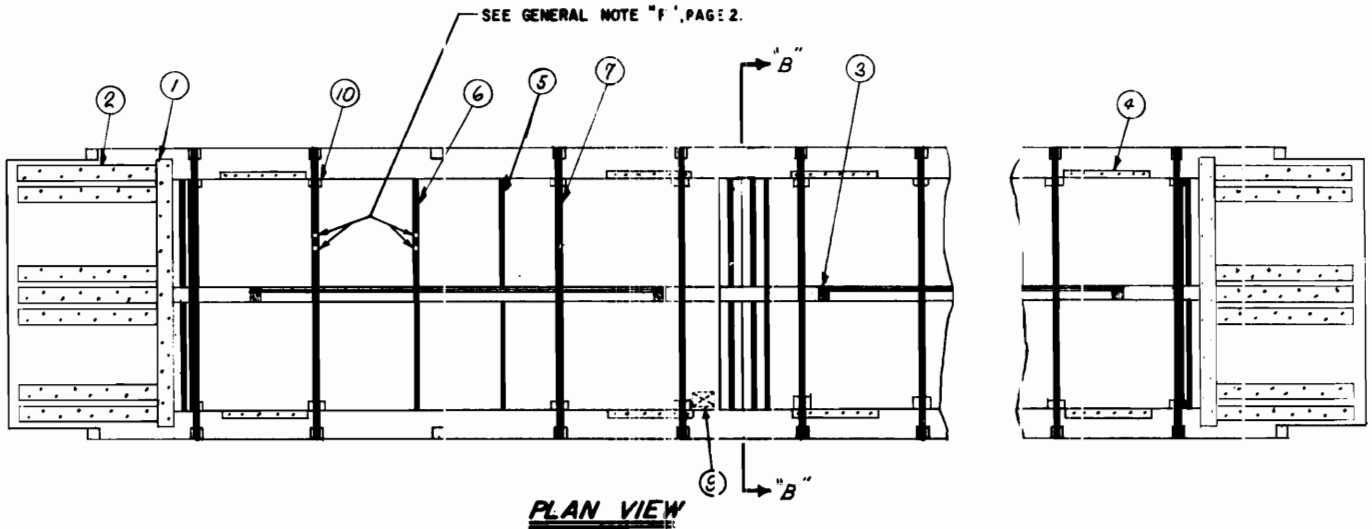
KEY NUMBERS

- (1) 2" x 6" x 8'-0" (QUADRUPLED) (2 REQD). NAIL FIRST PIECE TO CAR FLOOR W/1-30d NAIL EVERY 8". NAIL EACH ADDITIONAL PIECE W/1-50d NAIL EVERY 8".
- (2) 2" x 6" x 48" (QUADRUPLED) (14 REQD). POSITION AS SHOWN. NAIL FIRST PIECE TO CAR FLOOR W/3-30d NAILS. NAIL EACH ADDITIONAL PIECE W/8-50d NAILS.
- (3) ANTI-CHAFING ASSEMBLY "A" (2 REQD). SEE DETAIL, PAGE 3.
- (4) 2" x 6" x 36" (DOUBLE) (8 REQD). NAIL FIRST PIECE TO CAR FLOOR W/5-30d NAILS. NAIL SECOND PIECE TO FIRST IN LIKE MANNER.
- (5) STEEL STRAPPING, 1-1/4" x .035" x 23'-0" (12 REQD).
- (6) STEEL STRAPPING, 1-1/4" x .035" x 23'-0" (6 REQD).
- (7) STEEL STRAPPING, 2" x .050" x 35'-0" (8 REQD). SEE GENERAL NOTE "G", PAGE 2.
- (8) PAD, 2" x .050" STRAP 24" LONG (16 REQD). POSITION UNDER AND SEAL TO (7). SEE DETAIL "A", PAGE 3.
ALT: STAKE POCKET PROTECTOR SIGMODE NO.1 (OR EQUAL) (32 REQD). TWO (2) USED UNDER EACH STAKE POCKET WITH (7). SEE DETAIL "B", PAGE 3.
- (9) ANTI-SKID PLATES (24 REQD). POSITION UNDER SKIDS OF CONTAINERS IN SECOND LAYER. SIX (6) REQD PER CONTAINER. SEE GENERAL NOTE "J", PAGE 2.
- (10) EDGE PROTECTORS FOR 2" STRAPPING (16 REQD). SEE GENERAL NOTE "H", PAGE 2.



SECTION "B-B"

TWO WIDE METHOD FOR 198" LONG CNTR.



12'-6" LONG x 8'-6" WIDE (PLATFORM) FLAT CAR

NOTE A:

FOR THE SHIPMENT OF EMPTY CONTAINERS THE FOLLOWING IS APPLICABLE :

1. REDUCE LENGTH OF PIECES MARKED (2) TO 30" WITH A PROPORTIONAL REDUCTION TO THE NAILING
2. ELIMINATE SIX (6) EACH OF PIECES MARKED (2). ALIGN REMAINING PIECES WITH CONTAINER SKIDS.
3. REDUCE LENGTH OF PIECE MARKED (4) TO 24" WITH A PROPORTIONAL REDUCTION TO THE NAILING.
4. ELIMINATE THE CENTRALLY LOCATED PIECES MARKED (5) FROM EACH STACK OF TWO CONTAINERS AND THE CENTRALLY LOCATED PIECES MARKED (6) FROM EACH LOAD UNIT OF FOUR CONTAINERS.
5. ELIMINATE THE TWO (2) MOST CENTRALLY LOCATED PIECES MARKED (1) AND (10) FROM EACH LOAD UNIT OF FOUR CONTAINERS.
6. ELIMINATE ALL PIECES MARKED (9).

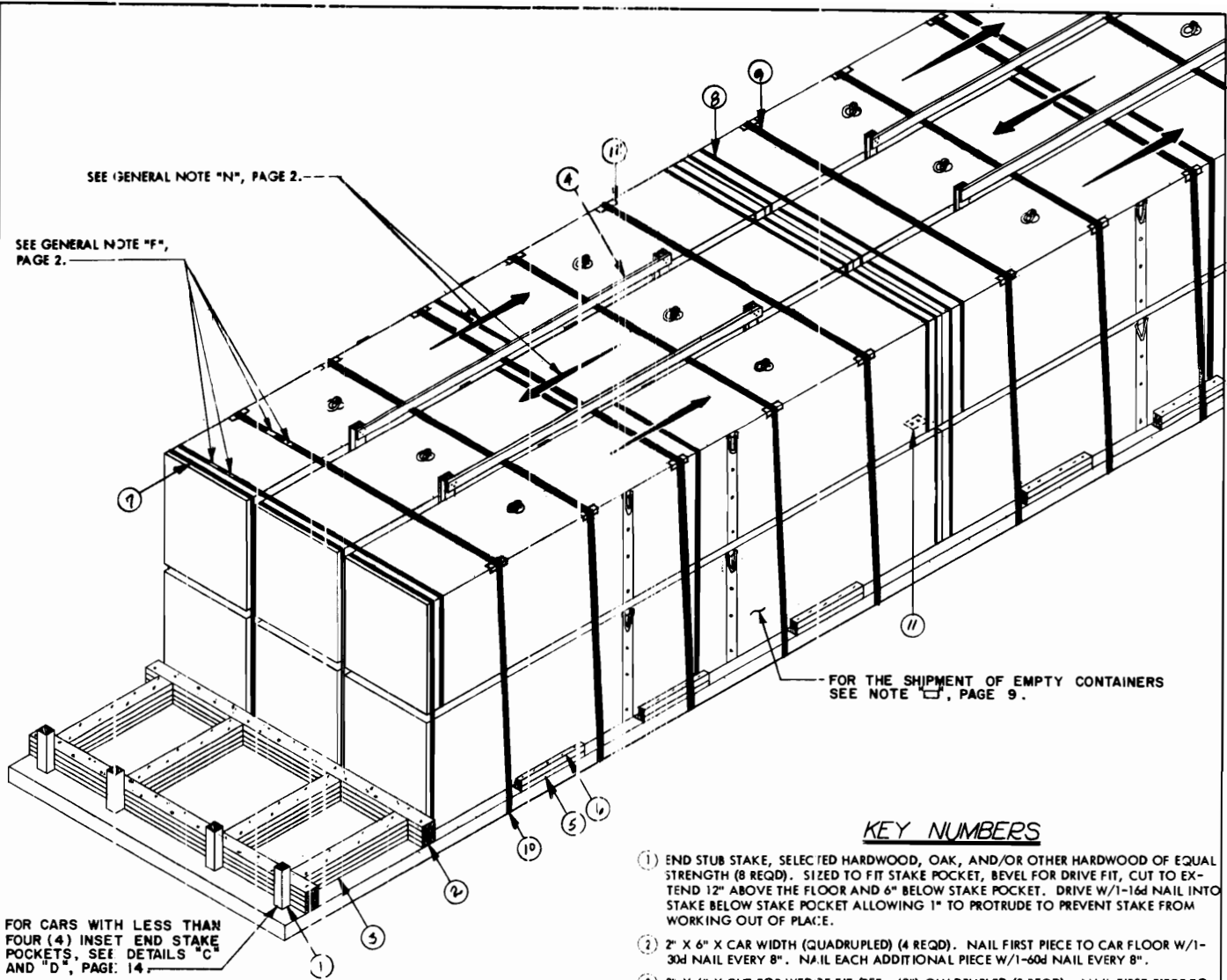
BILL OF MATERIAL

LUMBER	LINEAL FEET	BOARD FEET
1" x 4"	24	8
2" x 4"	31	21
2" x 6"	336	336
4" x 4"	32	43
NAILS		
	NO. REQD	POUNDS
6d (2")	12	-
12d (3-1/4")	44	1
30d (4-1/2")	234	11-3/4
60d (6")	408	41
STRAPPING, STEEL, 1-1/4" x .035" - 414' REQD - 60 LBS		
STRAPPING, STEEL, 2" x .050" - 312' REQD - 104 LBS		
ANTI-SKID PLATES - 24 REQD - 5 LBS		
EDGE PROTECTORS - 16 REQD - 4 LBS		

LOAD AS SHOWN

ITEM	QUANTITY	WEIGHT (APPROX)
ROCKET MOTOR, M65, W/FINS	8	39,600 LBS
DINNAGE		1,249 LBS
TOTAL WEIGHT		40,849 LBS (APPROX)

TWO WIDE METHOD FOR 198" LONG CNTR.



SEE GENERAL NOTE "N", PAGE 2.

SEE GENERAL NOTE "F", PAGE 2.

FOR THE SHIPMENT OF EMPTY CONTAINERS SEE NOTE "I", PAGE 9.

FOR CARS WITH LESS THAN FOUR (4) INSET END STAKE POCKETS, SEE DETAILS "C" AND "D", PAGE 14.

ISOMETRIC VIEW

49'-0" LONG (BETWEEN INSET END STAKE POCKETS)
10'-6" WIDE (PLATFORM).

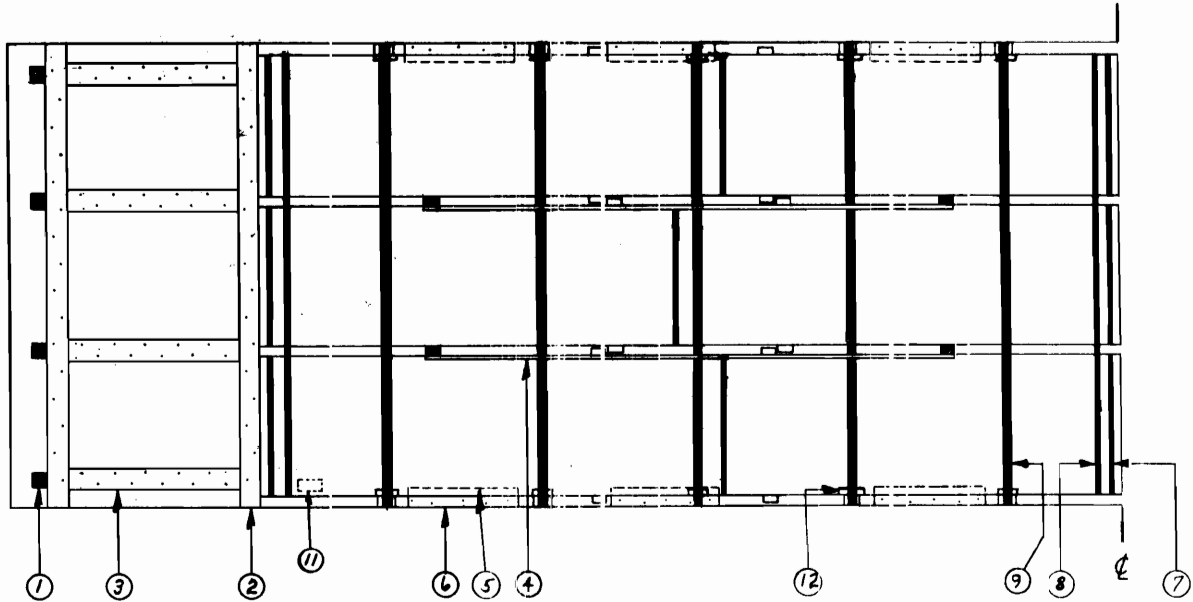
NOTE:

NOTCH PIECES (5) AND (6) AS REQUIRED TO PROVIDE CLEARANCE FOR 2" HOLD DOWN STRAP, PIECE (9), TO ENTER STAKE POCKET.

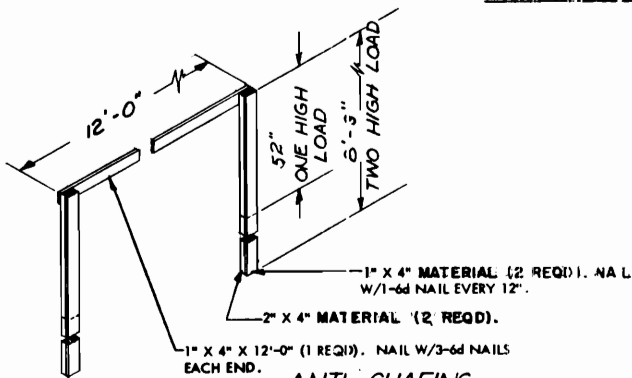
KEY NUMBERS

- (1) END STUB STAKE, SELECTED HARDWOOD, OAK, AND/OR OTHER HARDWOOD OF EQUAL STRENGTH (8 REQD). SIZED TO FIT STAKE POCKET, BEVEL FOR DRIVE FIT, CUT TO EXTEND 12" ABOVE THE FLOOR AND 6" BELOW STAKE POCKET. DRIVE W/1-16d NAIL INTO STAKE BELOW STAKE POCKET ALLOWING 1" TO PROTRUDE TO PREVENT STAKE FROM WORKING OUT OF PLACE.
- (2) 2" X 6" X CAR WIDTH (QUADRUPLED) (4 REQD). NAIL FIRST PIECE TO CAR FLOOR W/1-30d NAIL EVERY 8". NAIL EACH ADDITIONAL PIECE W/1-60d NAIL EVERY 8".
- (3) 2" X 6" X CUT FOR WEDGGE FIT (REF; 48") QUADRUPLED (8 REQD). NAIL FIRST PIECE TO CAR FLOOR W/8-30d NAILS. NAIL EACH ADDITIONAL PIECE W/8-60d NAILS.
- (4) ANTI-CHAFING ASSEMBLY (4 REQD). SEE "ANTI-CHAFING ASSEMBLY-B", PAGE 9.
- (5) 2" X 6" X 30" (12 REQD) NAIL TO CAR FLOOR W/5-30d NAILS. SEE NOTE "E"
- (6) 2" X 4" X 30" (12 REQD) NAIL TO (5) W/5-30d NAILS.
- (7) STEEL STRAPPING, 1-1/4" X .035" X 23'-0" (18 REQD).
- (8) STEEL STRAPPING, 1-1/4" X .035" X 30'-0" (4 REQD).
- (9) STEEL STRAPPING, 2" X .050" X 37'-0" (10 REQD). SEE GENERAL NOTE "G", PAGE 2.
- (10) PAD, 2" X .050" STRAP 1/4" LONG (20 REQD). POSITION UNDER AND SEAL TO (9). SEE DETAIL "A", PAGE 3. ALT: STAKE POCKET PROTECTOR, SIGNODE NO. 1 (OR EQUAL) (40REQD). TWO (2) USED UNDER EACH STAKE POCKET WITH (9). SEE DETAIL "B", PAGE 3.
- (11) ANTI-SKID PLATES (36 REQD). POSITION UNDER SKIDS OF CONTAINERS IN SECOND LAYER ONLY. SIX (6) REQD PER CONTAINER. SEE GENERAL NOTE "J", PAGE 2.
- (12) EDGE PROTECTORS FOR 2" STRAPPING (16 REQD). SEE GENERAL NOTE "H", PAGE 2.

THREE WIDE METHOD FOR 235" LONG CNTR



PLAN VIEW



ANTI-CHAFING
ASSEMBLY "B"

NOTE :

FOR THE SHIPMENT OF EMPTY CONTAINERS THE FOLLOWING IS APPLICABLE :

1. ELIMINATE THE CENTRALLY LOCATED PIECES MARKED ⑤ AND ⑥ FROM EACH LOAD UNIT OF SIX (6) CONTAINERS.
2. ELIMINATE THE CENTRALLY LOCATED PIECES MARKED ⑦ FROM EACH STACK OF TWO CONTAINERS.
3. ELIMINATE THE THREE MOST CENTRALLY LOCATED PIECES MARKED ⑨ AND ⑫ FROM EACH LOAD UNIT OF SIX (6) CONTAINERS.
4. ELIMINATE ALL PIECES MARKED ⑪.

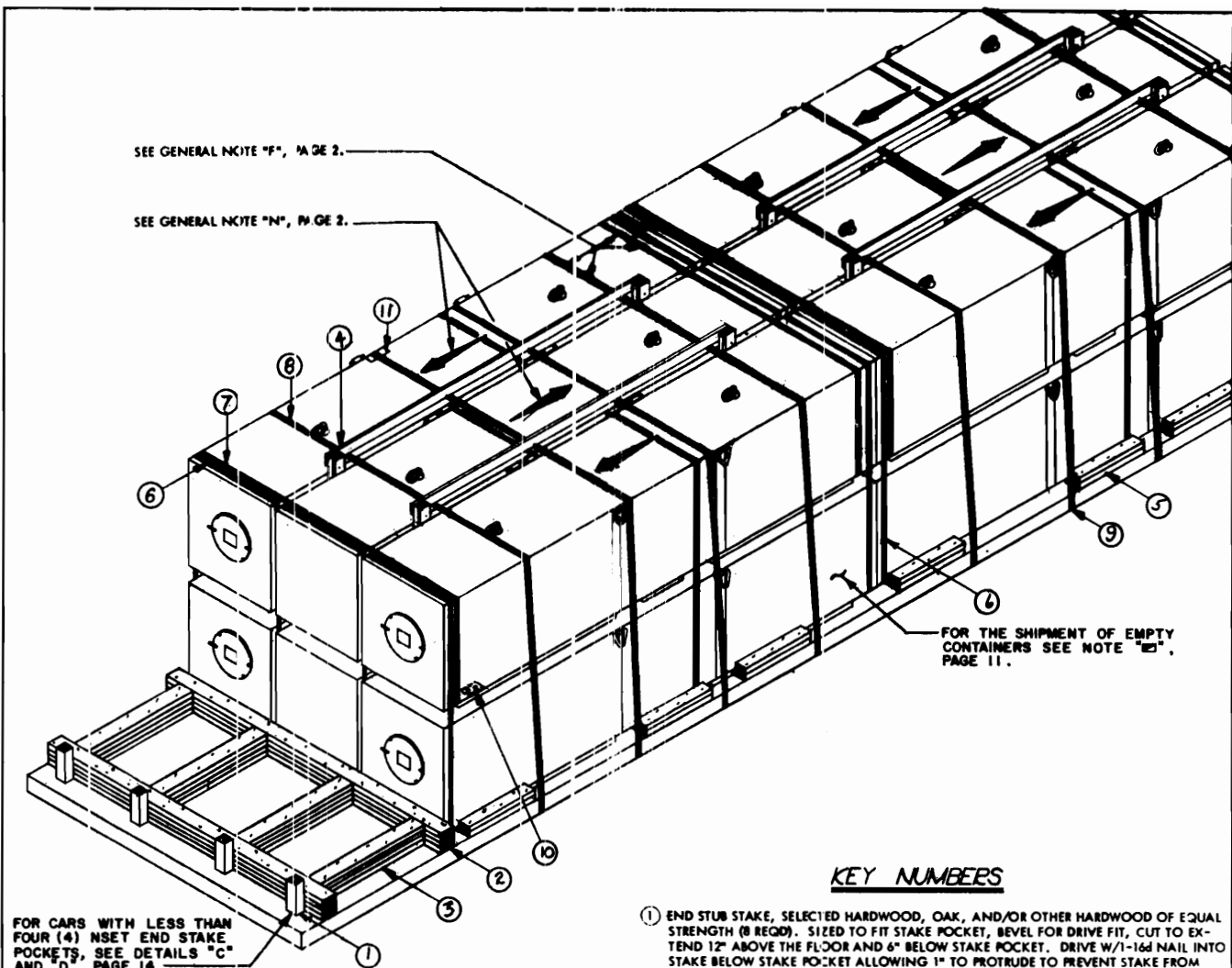
BILL OF MATERIAL

LUMBER	LINEAL FEET	BOARD FEET
1" X 4"	118	39
2" X 4"	100	67
2" X 6"	326	326
4" X 4"	20	27
NAILS	NO. REQD	POUNDS
6d (2")	96	1/2
16d (3-1/2")	8	1/4
30d (4-1/2")	248	12-1/2
60d (6")	384	38-1/2
STRAPPING, STEEL, 1-1/4" X .035" - 834' REQD		37 LBS
STRAPPING, STEEL, 2" X .050" - 410' REQD		137 LBS
ANTI-SKID PLATE - 36 REQD		9 LBS
EDGE PROTECTOR - 16 REQD		4 LBS

LOAD AS SHOWN

ITEM	QUANTITY	WEIGHT (APPROX)
ROCKET MOTOR, M66,		
W/FINS	2	70,596 LBS
DUNNAGE		1,427 LBS
		TOTAL WEIGHT - 72,023 LBS (APPROX)

THREE WIDE METHOD FOR 235" LONG CNTR



SEE GENERAL NOTE "F", PAGE 2.

SEE GENERAL NOTE "N", PAGE 2.

FOR THE SHIPMENT OF EMPTY CONTAINERS SEE NOTE "E", PAGE 11.

FOR CARS WITH LESS THAN FOUR (4) INSET END STAKE POCKETS, SEE DETAILS "C" AND "D", PAGE 14.

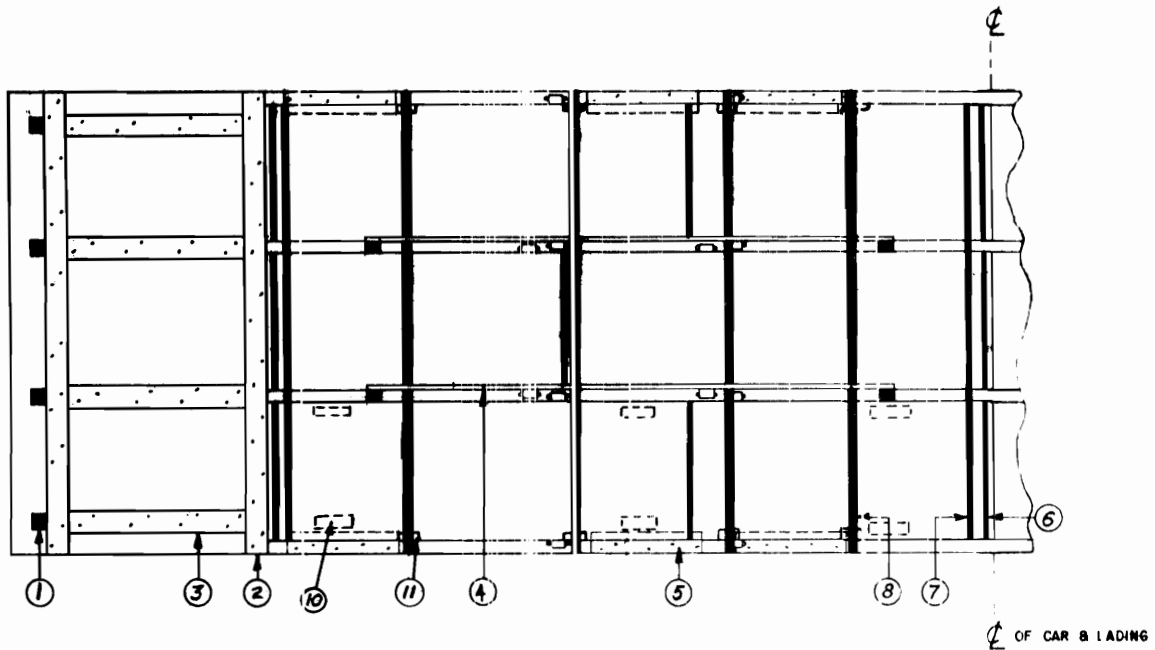
ISOMETRIC VIEW

43'-0" LONG (BETWEEN INSET END STAKE POCKETS)
X 10'-6" WIDE (PLATFORM).

KEY NUMBERS

- ① END STUB STAKE, SELECTED HARDWOOD, OAK, AND/OR OTHER HARDWOOD OF EQUAL STRENGTH (8 REQD). SIZED TO FIT STAKE POCKET, BEVEL FOR DRIVE FIT, CUT TO EXTEND 12" ABOVE THE FLOOR AND 6" BELOW STAKE POCKET. DRIVE W/1-16d NAIL INTO STAKE BELOW STAKE POCKET ALLOWING 1" TO PROTRUDE TO PREVENT STAKE FROM WORKING OUT OF PLACE.
- ② 2" X 6" X CAR WIDTH (QUADRUPLED) (4 REQD). NAIL FIRST PIECE TO CAR FLOOR W/1-30d NAIL EVERY 8". NAIL EACH ADDITIONAL PIECE W/1-60d NAIL EVERY 8".
- ③ 2" X 6" X CUT FOR WEDGE FIT (REF: 48") QUADRUPLED (8 REQD). NAIL FIRST PIECE TO CAR FLOOR W/8-30d NAILS. NAIL EACH ADDITIONAL PIECE W/8-60d NAILS.
- ④ ANTI-CHAFING ASSEMBLY (4 REQD). SEE "ANTI-CHAFING ASSEMBLY-B", PAGE 9.
- ⑤ 2" X 6" X 30" (DOUBLE!!) (12 REQD). NAIL FIRST PIECE TO CAR FLOOR W/5-30d NAILS. NAIL SECOND PIECE TO FIRST IN LIKE MANNER.
- ⑥ STEEL STRAPPING, 1-1/4" X .035" X 23'-0" (16 REQD).
- ⑦ STEEL STRAPPING, 1-1/4" X .035" X 30'-0" (4 REQD).
- ⑧ STEEL STRAPPING, 2" X .050" X 37'-0" (8 REQD).
- ⑨ PAD, 2" X .050" STRAP 24" LONG (16 REQD). POSITION UNDER AND SEAL TO ⑧. SEE DETAIL "A", PAGE 3. ALT: STAKE POCKET PROTECTOR, SIGNODE NO. 1 (OR EQUAL) (32 REQD). TWO (2) USED UNDER EACH STAKE POCKET WITH ⑧. SEE DETAIL "B", PAGE 3.
- ⑩ ANTI-SKID PLATES (36 REQD). POSITION UNDER SKIDS OF CONTAINERS IN SECOND LAYER ONLY. SIX (6) REQD PER CONTAINER. SEE GENERAL NOTE "J", PAGE 2.
- ⑪ EDGE PROTECTORS FOR 1" STRAPPING (16 REQD). SEE GENERAL NOTE "H", PAGE 2.

THREE WIDE METHOD FOR 198' LONG UNITS



PLAN VIEW

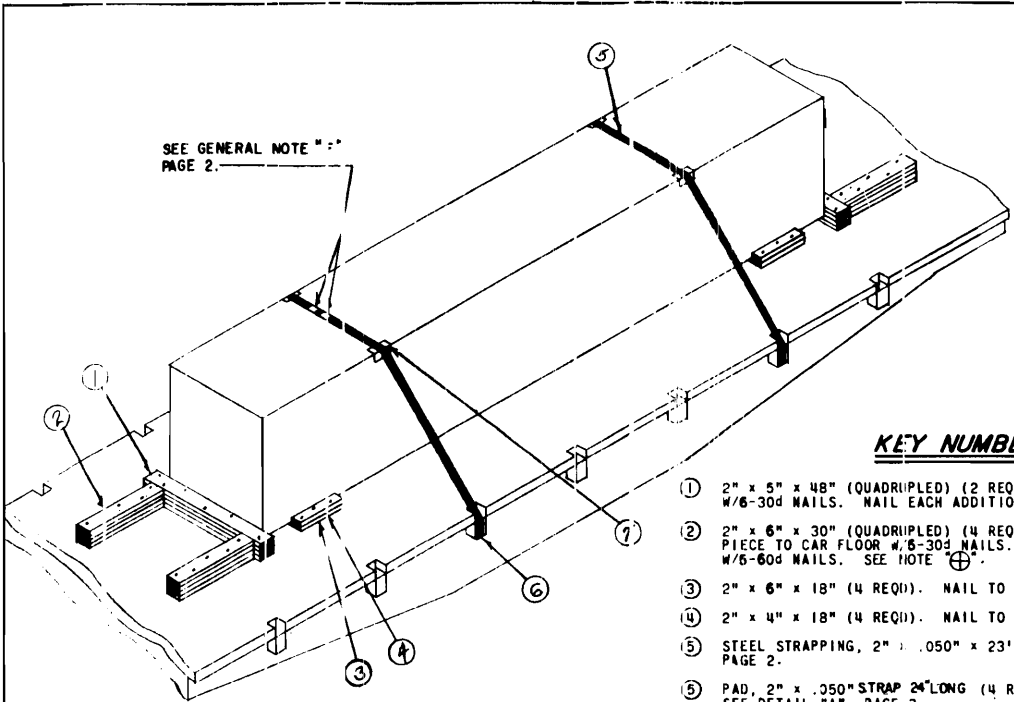
- NOTE:**
 FOR THE SHIPMENT OF EMPTY CONTAINERS THE FOLLOWING IS APPLICABLE:
1. ELIMINATE THE CENTRALLY LOCATED PIECES MARKED (5) FROM EACH LOAD UNIT OF SIX CONTAINERS.
 2. ELIMINATE THE CENTRALLY LOCATED PIECES MARKED (6) FROM EACH STACK OF TWO CONTAINERS.
 3. ELIMINATE THE TWO (2) MOST CENTRALLY LOCATED PIECES MARKED (8) AND (11) FROM EACH LOAD UNIT OF SIX CONTAINERS.
 4. ELIMINATE ALL PIECES MARKED (10).

<u>BILL OF MATERIAL</u>		
LUMBER	LINEAL FEET	BOARD FEET
1" X 4"	118	39
2" X 4"	100	67
2" X 6"	236	326
4" X 4"	20	27
NAILS	NO. REQD.	POUNDS
6d (8")	96	1/2
16d (8-1/2")	8	1/4
30d (8-1/2")	368	12-1/2
60d (8")	384	38-1/2
STRAPPING, STEEL, 1-1/4" X .080"	636 REQD	97 LBS
STRAPPING, STEEL, 2" X .080"	328 REQD	109 LBS
ANTI-SKID PLATE	26 REQD	9 LBS
EDGE PROTECTOR	16 REQD	4 LBS

LOAD AS SHOWN

ITEM	QUANTITY	WEIGHT (APPROX)
ROCKET MOTOR, M65, W/FINS	12	59,400 LBS
DUNNAGE		1,380 LBS
TOTAL WEIGHT		60,780 LBS (APPROX)

THREE WIDE 198" LONG CNTR



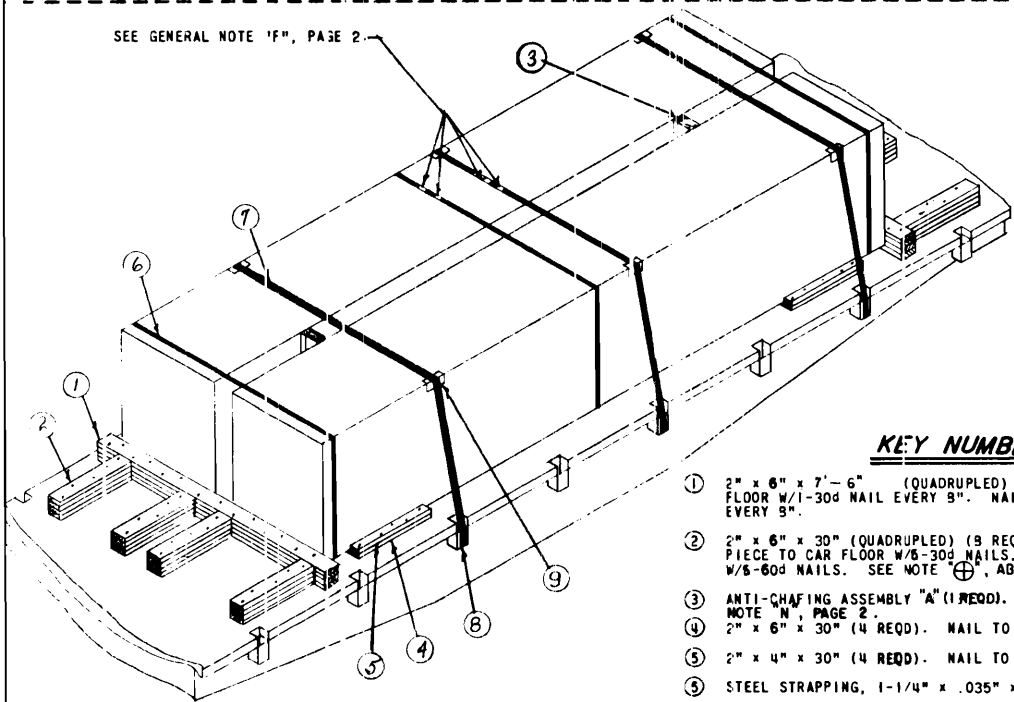
TYPICAL LCL

ONE UNIT LOAD. 235" LONG CONTAINER SHOWN.

KEY NUMBERS (1 UNIT LOAD)

- ① 2" x 5" x 48" (QUADRUPLD) (2 REQD). NAIL FIRST PIECE TO CAR FLOOR W/6-30d NAILS. NAIL EACH ADDITIONAL PIECE W/6-60d NAILS.
 - ② 2" x 6" x 30" (QUADRUPLD) (4 REQD). POSITION AS SHOWN. NAIL FIRST PIECE TO CAR FLOOR W/6-30d NAILS. NAIL EACH ADDITIONAL PIECE W/6-60d NAILS. SEE NOTE "⊕".
 - ③ 2" x 6" x 18" (4 REQD). NAIL TO CAR FLOOR W/3-30d NAILS.
 - ④ 2" x 4" x 18" (4 REQD). NAIL TO ③ W/3-30d NAILS. SEE NOTE "▲", BELOW.
 - ⑤ STEEL STRAPPING, 2" x .050" x 23'-0" (2 REQD). SEE GENERAL NOTE "G", PAGE 2.
 - ⑥ PAD, 2" x .050" STRAP 24" LONG (4 REQD). POSITION UNDER AND SEAL TO ⑤. SEE DETAIL "A", PAGE 3.
 - ⑦ ALT: STAKE POCKET PROTECTOR/SIGNODE NO. (OR EQUAL) (8 REQD). TWO (2) USED UNDER EACH STAKE POCKET WITH ⑤. SEE DETAIL "B", PAGE 3.
 - ⑦ EDGE PROTECTORS FOR 2" STRAPPING (4 REQD). SEE GENERAL NOTE "H", PAGE 2.
- NOTE ⊕:
TWO BACK-UP CLEATS, SHOWN AS PIECES MARKED ②, ARE ADEQUATE FOR RETAINING A MAXIMUM LCL LOAD OF 7,500 POUNDS.
FOUR BACK-UP CLEATS ARE ADEQUATE FOR RETAINING A MAXIMUM LCL LOAD OF 15,000 POUNDS.

SEE GENERAL NOTE "F", PAGE 2.



TYPICAL LCL

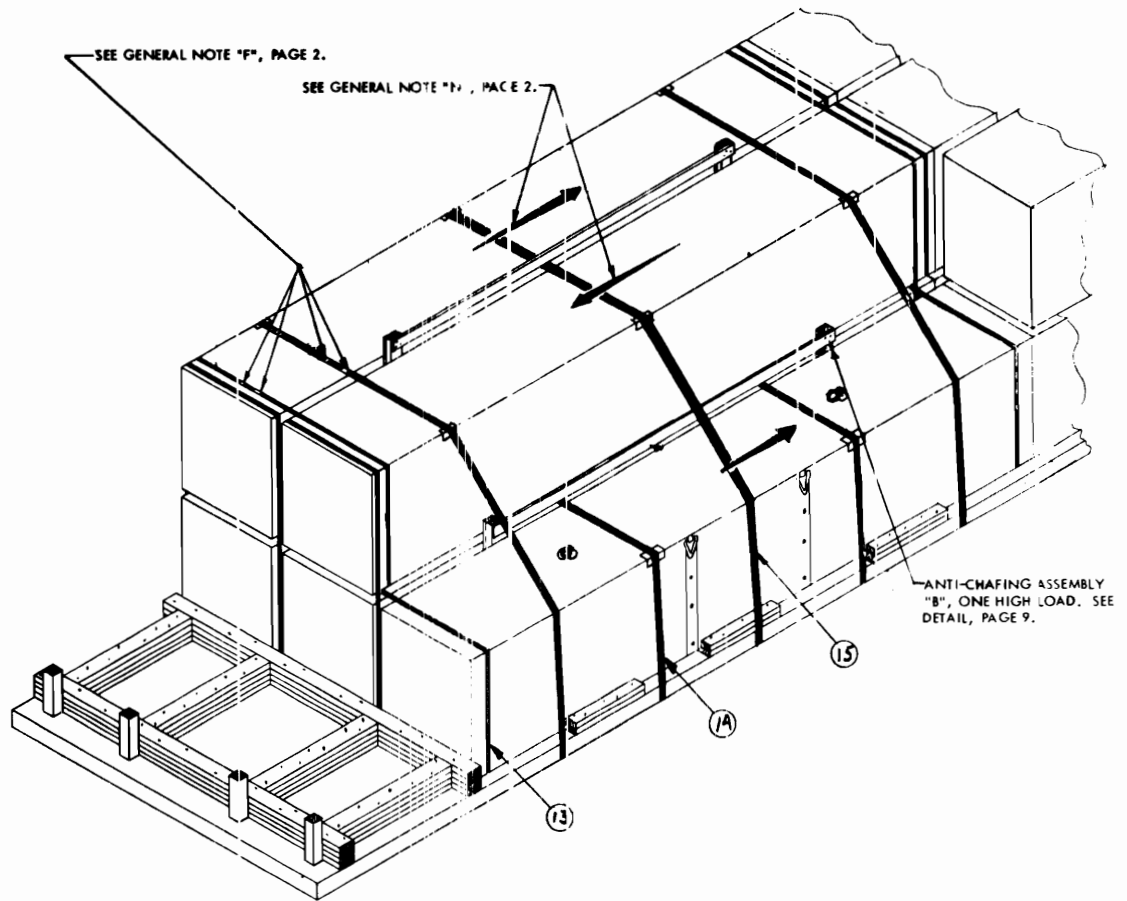
TWO UNIT LOAD. 235" LONG CONTAINER SHOWN.

NOTE ▲:
WHEN LOADING THE 198" LONG CONTAINER, THIS PIECE SHOULD BE 2" x 6" MATERIAL.

KEY NUMBERS (2 UNIT LOAD)

- ① 2" x 6" x 7'-6" (QUADRUPLD) (2 REQD). NAIL FIRST PIECE TO CAR FLOOR W/1-30d NAIL EVERY 9". NAIL EACH ADDITIONAL PIECE W/1-60d EVERY 9".
- ② 2" x 6" x 30" (QUADRUPLD) (8 REQD). POSITION AS SHOWN. NAIL FIRST PIECE TO CAR FLOOR W/6-30d NAILS. NAIL EACH ADDITIONAL PIECE W/6-60d NAILS. SEE NOTE "⊕", ABOVE.
- ③ ANTI-CHAFING ASSEMBLY "A" (1 REQD). SEE DETAIL, PAGE 3. SEE GENERAL NOTE "N", PAGE 2.
- ④ 2" x 6" x 30" (4 REQD). NAIL TO CAR FLOOR W/6-30d NAILS.
- ⑤ 2" x 4" x 30" (4 REQD). NAIL TO ④ W/6-30d NAILS.
- ⑥ STEEL STRAPPING, 1-1/4" x .035" x 23'-0" (3 REQD).
- ⑦ STEEL STRAPPING, 2" x .050" x 27'-0" (3 REQD). SEE GENERAL NOTE "G", PAGE 2.
- ⑧ PAD, 2" x .050" STRAP 24" LONG (6 REQD). POSITION UNDER AND SEAL TO ⑦. SEE DETAIL "A", PAGE 3.
- ⑨ ALT: STAKE POCKET PROTECTOR/SIGNODE NO. (OR EQUAL) (12 REQD). TWO (2) USED UNDER EACH STAKE POCKET WITH ⑦. SEE DETAIL "B", PAGE 3.
- ⑩ EDGE PROTECTORS FOR 2" STRAPPING (12 REQD). SEE GENERAL NOTE "H", PAGE 2.

TYPICAL LCL METHODS



ISOMETRIC VIEW

(LCL, 11 UNIT LOAD)

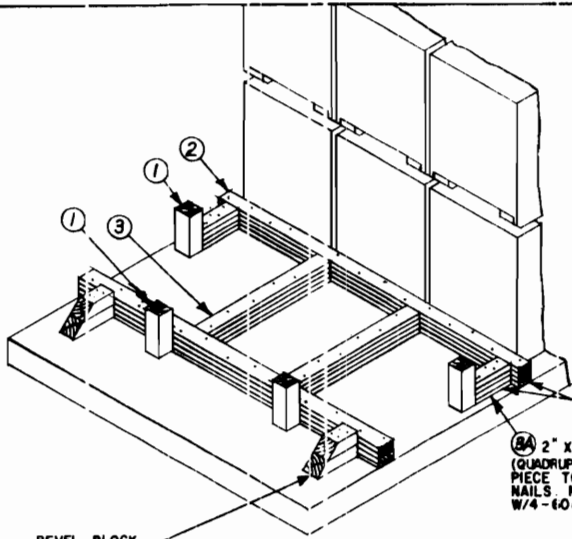
NOTE: STRAPPING PROCEDURES SHOWN FOR SECUREMENT OF THE FIVE (5) CONTAINER LOAD UNIT CAN ALSO BE USED ON SHIPMENT OF 10 CONTAINERS. FOR SHIPMENT OF 3, 5 OR 7 CONTAINERS SEE "LCL - 7 UNIT LOAD", PAGE 3.

KEY NUMBERS

SEE PAGES 8 AND 9 OR 10 AND 11 FOR KEY NUMBERS APPLICABLE TO DUNNAGE WHICH IS NOT IDENTIFIED BELOW. ADJUST QUANTITIES REQUIRED OF EACH ITEM AS NECESSARY.

- ⑬ STRAPPING, STEEL, 1-1/4" X .035" X 37'-0" (2 REQD).
- ⑭ STRAPPING, STEEL, 2" X .050" X 30'-3" (2 REQD), PRE-POSITION. SEE GENERAL NOTE "G", PAGE 2.
- ⑮ STRAPPING, STEEL, 2" X .050" X 36'-3" (3 REQD).

TYPICAL LCL - 11 UNIT LOAD



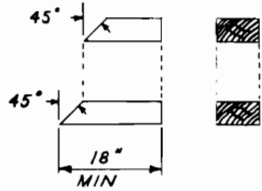
BEVEL BLOCK

DETAIL "C"

FLATCARS WITH FLOORS 10'-3" WIDE

SEE NOTE "B"

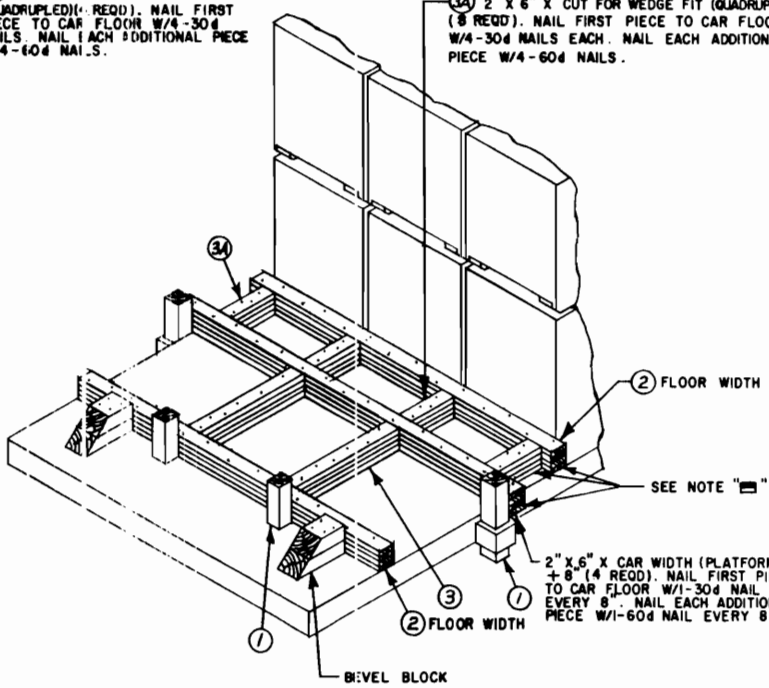
③ 2" x 6" x CUT FOR WEDGE FIT (QUADRUPLED) (4 REQD). NAIL FIRST PIECE TO CAR FLOOR W/4-30d NAILS. NAIL EACH ADDITIONAL PIECE W/4-60d NAILS.



BEVEL BLOCK DETAIL

4" x 8" MATERIAL (AS REQD). NAIL FIRST PIECE TO CAR FLOOR W/6-60d NAILS. NAIL SECOND PIECE TO FIRST W/4-60d NAILS.

④ 2" x 6" x CUT FOR WEDGE FIT (QUADRUPLED) (8 REQD). NAIL FIRST PIECE TO CAR FLOOR W/4-30d NAILS EACH. NAIL EACH ADDITIONAL PIECE W/4-60d NAILS.



SEE NOTE "B"

2" x 6" x CAR WIDTH (PLATFORM) + 8" (4 REQD). NAIL FIRST PIECE TO CAR FLOOR W/1-30d NAIL EVERY 8". NAIL EACH ADDITIONAL PIECE W/1-60d NAIL EVERY 8"

NOTE "B":

THE LOAD AND HEADER, PIECE ②, MAY BE POSITIONED DIRECTLY AGAINST HARDWOOD STAKES IN OUTSIDE STAKE POCKETS. ELIMINATE PIECE ④. WHEN END BLOCKING AS SHOWN IN DETAIL "C" IS REQUIRED, PIECES ③A MUST NOT BE LESS THAN 12" LONG. IF SPACE BETWEEN STAKE AND HEADER, PIECE ②, IS LESS THAN 12", QUADRUPLED SOLID FILL, 10'-6" LONG x 2" THICK x REQUIRED WIDTH MUST BE USED. NAIL FIRST PIECE TO CAR FLOOR W/1-30d NAIL EVERY 8". NAIL EACH ADDITIONAL PIECE W/1-60d NAIL EVERY 8".

NOTE "D":

THE LOAD MAY BE POSITIONED DIRECTLY AGAINST 2" x 6" x CAR WIDTH + 8" MATERIAL. ELIMINATE PIECE ② ADJACENT TO LADING AND PIECES ③A. WHEN END BLOCKING AS SHOWN IN DETAIL "D" IS REQUIRED, PIECES ③A MUST NOT BE LESS THAN 12" LONG. IF SPACE IS LESS THAN 12", QUADRUPLED SOLID FILL MATERIAL, 10'-6" LONG x 2" THICK x REQUIRED WIDTH, MUST BE USED. NAIL FIRST PIECE TO CAR FLOOR W/1-30d NAIL EVERY 8". NAIL EACH ADDITIONAL PIECE W/1-60d NAIL EVERY 8".

DETAIL "D"

FLATCARS WITH STAKE POCKETS BEYOND THE EDGE OF THE CAR FLOOR.

DETAILS "C" & "D" - END BLOCKING FOR FLAT CARS WITH LESS THAN FOUR (4) END STAKE POCKETS