

REV NO 2 APPROVED BY
 MECH DIV AAR, THEIR LETTER
 DATED 17 DEC 73 FILE NO. 52 34.
 SIGNED Frank L. Paus
 DATE 17 DEC 1973
 TEA, MTMTS, FT EUSTIS, VA.

HAWK

LOADING AND BRACING ON FLAT CAR OF BATTERY CONTROL CENTRAL, SIMULATOR STATION, AND SHOP EQUIPMENT

INDEX

<u>ITEM</u>	<u>PAGE(S)</u>
GENERAL NOTES, AND MATERIAL SPECIFICATIONS -----	2
LADING DATA CHART -----	3
UNCRATED ITEM -----	4, 5
CRATED ITEM -----	6, 7
DETAILS -----	7, 8

THIS OUTLOADING PROCEDURAL DRAWING INCLUDES PROCEDURES FOR GENERAL SERVICE FLAT CARS (FM) AND FOR CUSHIONED FLAT CARS (FMS) EQUIPPED WITH SPECIAL CHAIN TIE-DOWN DEVICES OF VARIOUS DESIGN AND MANUFACTURE.

THIS DRAWING SUPERSEDES THE FOLLOWING DRAWINGS AND ALL REVISIONS THERETO:

- 19-48-7028-GSE 5HA4, DATED 1 JULY 1959
- 19-48-7062-GSE 5HA11, DATED 12 JULY 1960
- 19-48-7063-GSE 5HA12, DATED 12 JULY 1960
- 19-48-7064-GSE 5HA13, DATED 12 JULY 1960
- 19-48-7065-GSE 5HA14, DATED 12 JULY 1960
- 19-48-7066-GSE 5HA15, DATED 12 JULY 1960
- 19-48-7071-GSE 5HA20, DATED 12 JULY 1960
- 19-48-7072-GSE 5HA21, DATED 12 JULY 1960
- 19-48-7132-GSE 5HA40, DATED 8 MARCH 1963

THIS DRAWING, INCLUDING REVISION 2, SUPERSEDES DRAWING 19-48-7192-GSE 5HA50, DATED MARCH 1971 AND REVISION 1 THERETO, DATED MARCH 1972.

REVISIONS				DRAFTSMAN	PROJ. ENG.
2	JUN 73	<i>B</i>	<i>Wesley E. Johnson</i>	<i>Wesley E. Johnson</i>	<i>Wesley E. Johnson</i>
			<i>Wesley E. Johnson</i>	CHECKER	LOG ENGRG OFFICE
				APPROVED	AMSNI-3P
				U. S. ARMY MISSILE COMMAND	
				APPROVED BY ORDER OF COMMANDING GENERAL, U. S. ARMY MATERIEL COMMAND	
				USAMC AMMO CENTER	
				U. S. ARMY MATERIEL COMMAND	
				JUNE 1973	
				CLASS	DIVISION
				DRAWING	FILE
				19	48
				7192	GSE 5HA50

DO NOT SCALE

GENERAL NOTES

- A. THIS DOCUMENT HAS BEEN PREPARED AND ISSUED IN ACCORDANCE WITH AMCR 740-13.
- B. THE LOADS AS SHOWN ARE BASED ON FLAT CARS 10'-0" WIDE (PLATFORM); WIDER CARS CAN BE USED. ONLY ONE UNIT OF LADING IS SHOWN IN EACH LOAD VIEW; HOWEVER, MULTIPLES OF UNITS, AS SHOWN OR DISSIMILAR IN NATURE, MAY BE LOADED ON A CAR. THE NUMBER OF UNITS TO BE LOADED ON A CAR WILL BE DEPENDENT ON THE SIZE OF THE CAR USED OR THE QUANTITIES OF UNITS TO BE SHIPPED, WITH THE VIEW OF FULL UTILIZATION OF CARRIER EQUIPMENT.
- NOTICE TO TRANSPORTATION OFFICER:
- FOR THE SHIPMENT OF ANY UNCRATED ITEM LISTED, IN LIEU OF REQUISITIONING A GENERAL SERVICE FM * FLAT CAR AS DEPICTED HEREIN, EVERY EFFORT SHOULD BE MADE TO ACQUIRE AN FMS * TYPE CAR. THIS IS A CUSHIONED CAR EQUIPPED WITH SPECIAL TIE DOWN CHANNELS AND MOVABLE ANCHOR AND CHAIN ASSEMBLY TIE DOWN DEVICES **, SUCH AS IS USED FOR TRANSPORTING AGRICULTURAL MACHINERY AND HEAVY, EARTH MOVING EQUIPMENT. SEE "SPECIAL PROVISIONS" ON PAGE 5 FOR GUIDANCE.
- * ASSOCIATION OF AMERICAN RAILROADS (AAR) MECHANICAL DESIGNATION FOR CAR TYPE. REFERENCE IS MADE TO THE "OFFICIAL RAILWAY EQUIPMENT REGISTER".
- ** A TYPICAL CAR OF THIS TYPE IS SHOWN BY FIGURE 88-B OF SECTION 6 IN PUBLICATION OF AAR TITLED "GENERAL RULES GOVERNING THE LOADING OF COMMODITIES ON OPEN TOP CARS".
- C. FOR LADING DATA, SEE THE LADING DATA CHART ON PAGE 3.
- D. REFER TO ORD DWG 19-48-C-ORDJU-588, "WIRE ROPE AND ANNEALED WIRE APPLICATION METHODS FOR SECURING LADING ON RAIL & MOTOR CARRIER EQUIP", FOR PROPER TIE DOWN APPLICATION, EXCEPT THAT THE NUTS ON 3/8" CABLE CLIPS WILL BE TIGHTENED TO A TORQUE OF 35 TO 40 FOOT POUNDS.
- E. REFER TO ASSOCIATION OF AMERICAN RAILROADS MANUAL, "GENERAL RULES GOVERNING THE LOADING OF COMMODITIES ON OPEN TOP CARS", FOR APPLICABLE LOADING RULES: PREFACE, 1-A, 2, 3, 4, 5, 9, 14, AND 15.
- F. 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 THE "TYPICAL END BLOCKING FOR CARS WITH EXPOSED STEEL BOLSTERS" DETAIL ON PAGE 8 FOR APPLICATION OF DUNNAGE METHODS WHICH PERMIT THE USE OF SOME CARS THAT HAVE EXPOSED STEEL COMPONENTS.
- G. WHEN ANY STRAP IS SEALED AT AN END-OVER-END LAP JOINT, OR AS SHOWN IN DETAILS "A" AND "B" ON PAGE 7, A MINIMUM OF TWO (2) SEALS, BUTTED TOGETHER, WITH TWO (2) PAIR OF CRIMPS PER SEAL MUST BE USED.
- H. CAUTION: STAKE POCKETS WILL BE USED FOR ANCHORING 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" STRAPPING, AND ALSO BE OF A DESIGN WHICH WILL PROVIDE A BEARING SURFACE ACROSS THE FULL WIDTH OF THE STRAPPING THAT WILL NOT DEFORM A STRAP, ESPECIALLY AT THE EDGES, WHEN IT IS TENSIONED.
- J. TO ACHIEVE PROPER CABLE TENSION, EMPLOY TWO (2) CABLE "GRIPPERS" AND AN APPLICABLY SIZED "COME-A-LONG" TYPE MECHANICAL HOIST.
- K. CAUTION: IT IS RECOMMENDED THAT CABLE BE INSTALLED TO APPROXIMATE THE ANGLE SHOWN; HOWEVER, IF PLACEMENT OF THE CAR STAKE POCKETS PREVENTS THIS, CARE MUST BE EXERCISED TO ENSURE THAT THE CABLES ON THE SAME SIDE OF THE LADING ARE INSTALLED SO THEIR RETENTION FORCES ACT IN OPPOSITE LONGITUDINAL DIRECTIONS --- CONTACT OF THE CABLE WITH THE EDGE OF THE LADING IS PROHIBITED.
- L. 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 OR 1-5/8" THICK BY 3-5/8" WIDE AND 2" X 6" MATERIAL IS ACTUALLY 1-1/2" THICK BY 5-1/2" WIDE OR 1-5/8" THICK BY 5-5/8" WIDE.
- M. NOTICE: 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.

MATERIAL SPECIFICATIONS

- LUMBER ----- : DOUGLAS FIR OR COMPARABLE LUMBER WITH STRAIGHT GRAIN AND FREE OF MATERIAL DEFECTS. REF: FED SPEC MM-L-751.
- NAILS ----- : COMMON, CEMENT COATED OR CHEMICALLY ETCHED. REF: FED SPEC FF-N-105. ALT: ANNULAR-RING TYPE NAIL OF SAME SIZE.
- ROPE ----- : STEEL WIRE, PLAIN, PREFORMED, REGULAR LAY, 6.56 TONS 6 X 19, FLEXIBLE IWRC, MACWHYTE WIRE ROPE CO (OR EQUAL) REF: FED SPEC RR-W-410.
- CLIPS ----- : "U" BOLT, CROSBY, HEAVY DUTY (OR EQUAL). REF: FED SPEC FF-C-450, TYPE 1, CLASS 1.
- STRAPPING, STEEL : TYPE 1, CLASS A, B, OR C. REF: FED SPEC QQ-5-781.
- STRAP SEAL; STRAP
STAPLE; STAKE
POCKET PROTECTOR: COMMERCIAL GRADE.

REVISIONS

REVISION NO. 2, DATED JUNE 1973 CONSISTS OF:

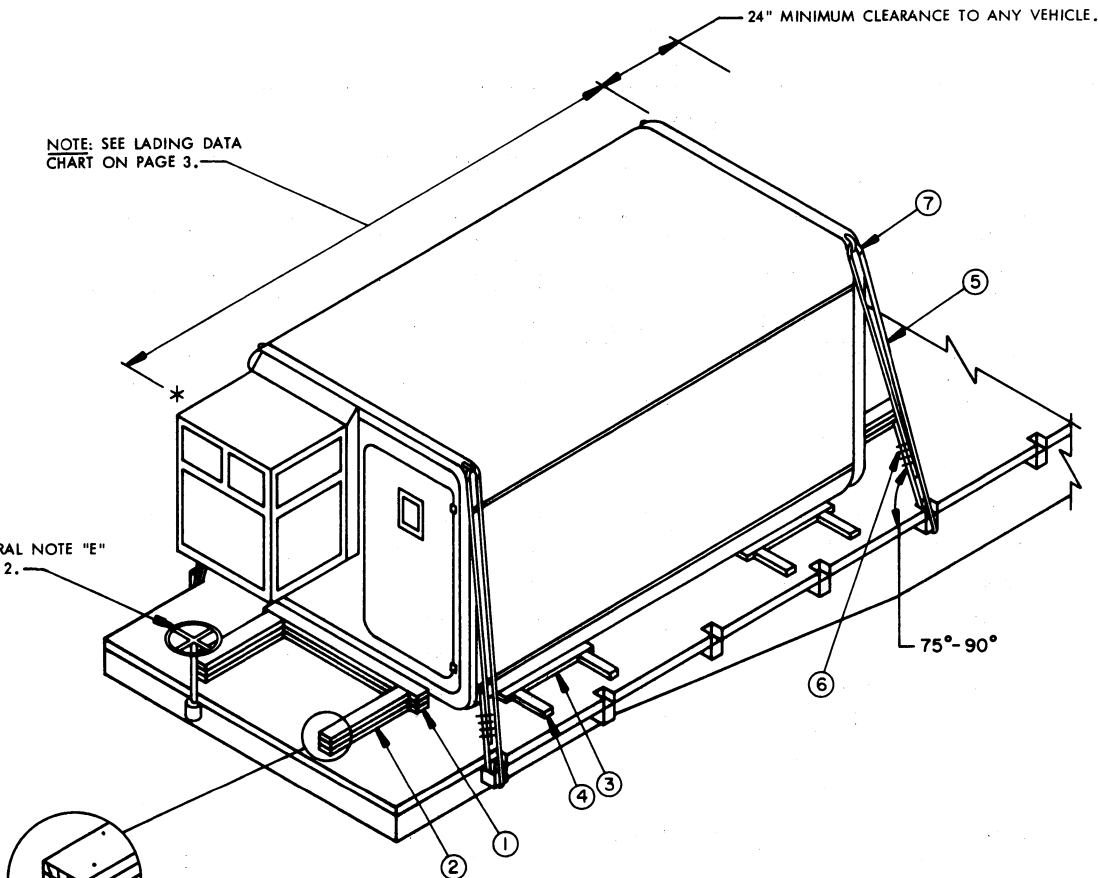
- INCLUDING THE FOLLOWING ITEMS;
BATTERY CONTROL CENTRAL: AN/TSW-2, AN/TSW 8
SHOP EQUIPMENT: AN/TSM-40, AN/TSM-41,
AN/TSM-42, AN/TSM-43, AN/TSM-45, AN/TSM-88,
AN/TSM-90, AN/TSM-91, AN/TSM-92, AN/TSM-104,
AN/TSM-106, AN/TSM-108, XM 2E2.
SIMULATOR STATION: AN/TPQ-21, AN/TPQ-29.
- DELETING ALL ACCESSORY ITEMS.

LADING DATA CHART

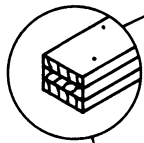
LADING DATA CHART								
ITEM	UNCRATED				CRATED			
BATTERY CONTROL CENTRAL	LENGTH	WIDTH	HEIGHT	WEIGHT (LBS)	LENGTH	WIDTH	HEIGHT	WEIGHT (LBS)
AN/TSW-2	15'-10"	7'-1"	6'-10"	5470	16'-5"	8'-1"	7'-8"	7470
AN/TSW-8	15'-10"	7'-1"	6'-10"	5470	16'-5"	8'-1"	7'-8"	7470
SHOP EQUIPMENT								
AN/TSM-40	15'-10"	7'-1"	6'-10"	5900	16'-5"	8'-1"	7'-8"	7900
AN/TSM-41	15'-10"	7'-1"	6'-10"	5659	16'-5"	8'-1"	7'-8"	7659
AN/TSM-42	15'-10"	7'-1"	6'-10"	5726	16'-5"	8'-1"	7'-8"	7726
AN/TSM-43	15'-10"	7'-1"	6'-10"	5617	16'-5"	8'-1"	7'-8"	7617
AN/TSM-45	15'-10"	7'-1"	6'-10"	5900	16'-5"	8'-1"	7'-8"	7900
AN/TSM-88	14'-1-1/2"	7'-1"	6'-10"	3055	15'-0"	8'-1"	7'-8"	5055
AN/TSM-89	15'-10"	7'-1"	6'-10"	5945	16'-5"	8'-1"	7'-8"	7945
AN/TSM-90	15'-10"	7'-1"	6'-10"	5280	16'-5"	8'-1"	7'-8"	7280
AN/TSM-91	15'-10"	7'-1"	6'-10"	5351	16'-5"	8'-1"	7'-8"	7351
AN/TSM-92	15'-10"	7'-1"	6'-10"	5480	16'-5"	8'-1"	7'-8"	7480
AN/TSM-104	15'-10"	7'-1"	6'-10"	5938	16'-5"	8'-1"	7'-8"	7938
AN/TSM-105	15'-10"	7'-1"	6'-10"	5945	16'-5"	8'-1"	7'-8"	7945
AN/TSM-106	14'-1-1/2"	7'-1"	6'-10"	5285	15'-0"	8'-1"	7'-8"	7285
AN/TSM-107	15'-10"	7'-1"	6'-10"	5873	16'-5"	8'-1"	7'-8"	7873
AN/TSM-108	15'-10"	7'-1"	6'-10"	5530	16'-5"	8'-1"	7'-8"	7530
AN/TSM-121	14'-1-1/2"	7'-1"	6'-10"	4715	15'-0"	8'-1"	7'-8"	6715
XM2E2	15'-10"	7'-1"	6'-10"	6100	16'-5"	8'-1"	7'-8"	8100
SIMULATOR STATION								
AN/TPQ-21	15'-10"	7'-1"	6'-10"	5800	16'-5"	8'-1"	7'-8"	7800
AN/TPQ-29	15'-10"	7'-1"	6'-10"	5800	16'-5"	8'-1"	7'-8"	7800

NOTE: SEE LADING DATA CHART ON PAGE 3.

SEE GENERAL NOTE "E" ON PAGE 2.



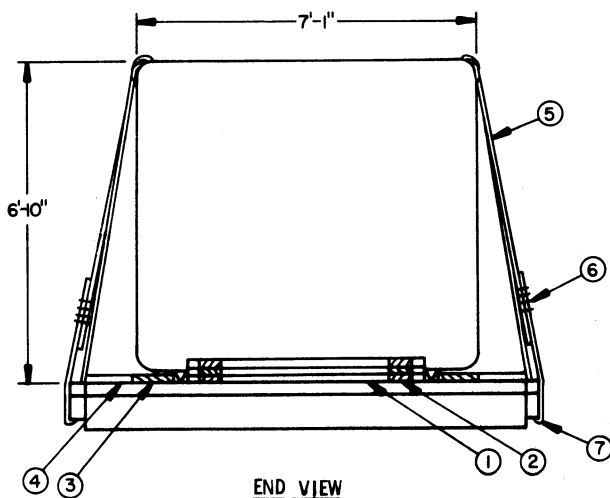
ISOMETRIC VIEW



APPLICATION OF STAGGERED NAILING PATTERN. SEE GENERAL NOTE "M" ON PAGE 2.

KEY NUMBERS

- ① HEADER, 2" X 6" X 60" (TRIPLED) (2 REQD). NAIL THE FIRST PIECE TO THE CAR FLOOR W/7-30d NAILS. NAIL EACH ADDITIONAL PIECE W/7-60d NAILS. SEE GENERAL NOTE "M" ON PAGE 2.
- ② BACK-UP CLEAT, 2" X 6" X 30" (TRIPLED) (4 REQD). POSITION 3" FROM THE END OF A PIECE MARKED ① AND NAIL THE FIRST PIECE TO THE CAR FLOOR W/5-30d NAILS. NAIL EACH ADDITIONAL PIECE W/5-60d NAILS. SEE GENERAL NOTE "F" ON PAGE 2.
- ③ SIDE BLOCKING, 2" X 10" X 36" (4 REQD). POSITION AGAINST LADING SKID AND NAIL TO THE CAR FLOOR W/6-30d NAILS.
- ④ SIDE BLOCKING, 2" X 4" X 12" (8 REQD). POSITION 3" FROM THE END OF A PIECE MARKED ③ AND NAIL TO THE CAR FLOOR W/3-30d NAILS.
- ⑤ STEEL WIRE ROPE, 3/8" DIAMETER, 6.56 TONS (4 REQD). INSTALL THE CABLE TO APPROXIMATE THE ANGLE SHOWN AND TO FORM A COMPLETE LOOP FROM THE STAKE POCKET ON THE CAR THRU THE LADING TIE DOWN DEVICE AND BACK TO THE STAKE POCKET. NOTE: CABLE OF A LARGER SIZE MAY BE USED. SEE GENERAL NOTES "D", "E", "J", AND "K" ON PAGE 2 AND "SPECIAL PROVISIONS" ON PAGE 5.
- ⑥ CLIP, SIZE 3/8" (24 REQD). USE FOUR (4) PER CABLE JOINT AND ONE (1) PER THIMBLE. SEE GENERAL NOTE "D" ON PAGE 2.
- ⑦ THIMBLE, STANDARD, SIZE 3/8" (8 REQD). USE ONE (1) PER STAKE POCKET AND ONE (1) PER LADING TIE DOWN DEVICE. SECURE TO PIECE MARKED ⑤ W/1-CLIP PER THIMBLE. A STANDARD THIMBLE, AS SPECIFIED, CAN BE SECURED TO A WIRE ROPE WITH A 3/8" CLIP. HOWEVER, IF DESIRED, OR IF THE 3/8" THIMBLE BEING USED IS OF A TYPE WHICH CANNOT BE SECURED TO A CABLE WITH A 3/8" CLIP, A 1/2" CLIP MAY BE USED. NOTE THAT AN "OPEN PATTERN" THIMBLE IS RECOMMENDED. SEE GENERAL NOTE "D" ON PAGE 2.



END VIEW

SPECIAL PROVISIONS:

THIS UNCRATED ITEM MAY BE SECURED ON A CUSHIONED FMS TYPE CAR WITH CHAIN TIE DOWN ASSEMBLIES IN LIEU OF USING THE DEPICTED GENERAL SERVICE FM TYPE CAR AND THE SPECIFIED TIE DOWN MATERIALS, PROVIDING THE FOLLOWING CONDITIONS ARE MET:

1. THE CAR MUST HAVE A NAILABLE FLOOR AREA AT LEAST 9'-4" WIDE BETWEEN THE OUTER CHANNELS FOR THE SECUREMENT OF PIECES MARKED ① THRU ④ .
2. ONE (1) MOVABLE ANCHOR WITH CHAIN ASSEMBLY TIE DOWN DEVICE MUST BE SUBSTITUTED FOR EACH WIRE ROPE CABLE TIE DOWN MARKED ⑤ . CHAINS WILL BE ATTACHED TO THE LADING AT THE SAME LOCATIONS SHOWN FOR THE WIRE ROPE. NOTE THAT IF THE LADING TIE DOWN DEVICE IS NOT LARGE ENOUGH TO PERMIT PASSAGE OF THE HOOK ON THE CHAIN ASSEMBLY, A 5/8" (OR LARGER) SHACKLE MAY BE USED FOR ATTACHMENT OF THE CHAIN. ANCHOR DEVICES WILL BE LOCATED SO AS TO POSITION THE CHAINS WITHIN THE ANGULAR TOLERANCES SPECIFIED ON THE LOAD VIEW.
3. BEFORE AND DURING INSTALLATION, THE ANCHOR DEVICES SHALL BE INSPECTED FOR BENT HOOKS, STRETCH, GOUGES, BENT LINKS, AND EXCESSIVE WEAR IN THE CHAINS, AND FOR DAMAGED LOAD BINDERS OR WINCHES, OR ANY OTHER NOTICEABLE DEFECTS. ANY DEFICIENCY SHALL BE CAUSE FOR NOT USING AN ANCHOR AND CHAIN ASSEMBLY.
4. CHAINS MUST NOT BE TWISTED DURING INSTALLATION. CHAINS ARE TO BE STRUCK WITH A HAMMER OR BAR AFTER TIGHTENING TO ELIMINATE ANY POSSIBLE MISALIGNMENT OF LINKS. FURTHER TIGHTENING MAY BE REQUIRED TO TAKE UP ANY SLACK THAT DEVELOPS DUE TO LINK ALIGNMENT.
5. TURNBUCKLES OR OTHER TENSIONING DEVICES NOT EQUIPPED WITH SELF-LOCKING DEVICES MUST BE WIRED OR PINNED TO PREVENT THEM FROM TURNING OR LOOSENING DURING TRANSIT.
6. OPEN HOOKS MUST BE SECURED WITH A WIRE AS REQUIRED TO PREVENT THE HOOK FROM BECOMING DISENGAGED FROM THE CHAIN LINK TO WHICH IT IS ATTACHED.
7. ANTI-CHAFING MATERIAL MUST BE PLACED AND SECURED BETWEEN THE CHAINS AND THE LADING AT ALL POINTS OF CONTACT, EXCEPT AT DEFINITIVE TIE DOWN POINTS.

BILL OF MATERIAL

LUMBER	LINEAR FEET	BOARD FEET
2" X 4"	8	6
2" X 6"	60	60
2" X 10"	12	20
NAILS	NO. REQD	POUNDS
30d (4-1/2")	82	4
60d (6")	69	7
ROPE, STEEL WIRE, 3/8" DIA ----- 80' REQD ----- 20 LBS CLIP, 3/8" ----- 24 REQD ----- 8 LBS THIMBLE, STANDARD, 3/8" ----- 8 REQD ----- 2 LBS CLIP, 1/2" (ALT FOR 3/8") ----- 8 REQD ----- 4 LBS		

LOAD AS SHOWN

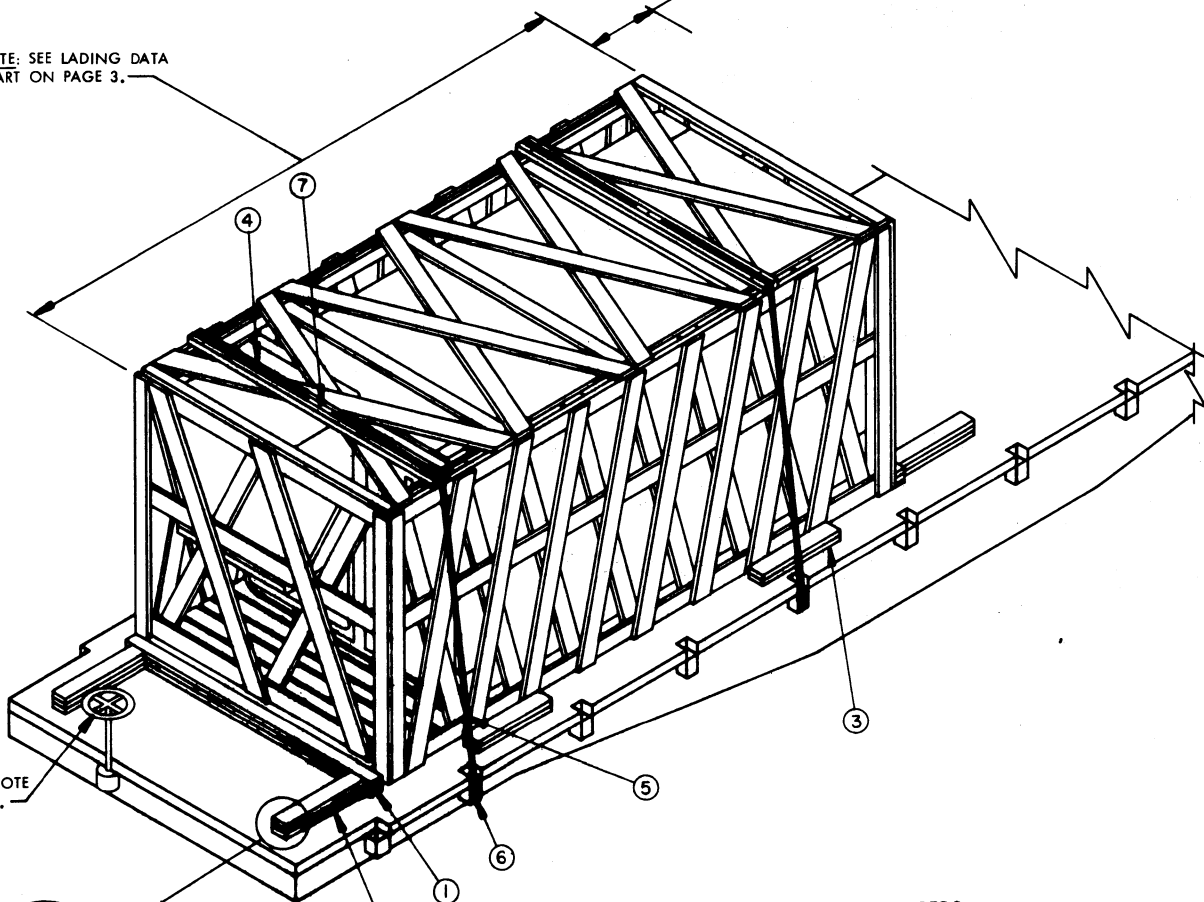
<u>ITEM</u>	<u>QUANTITY</u>	<u>WEIGHT (APPROX)</u>
UNCRATED ITEM -----	1 -----	6,100 LBS (MAX)
DUNNAGE -----		260 LBS
TOTAL WEIGHT -----		6,360 LBS

UNCRATED ITEM

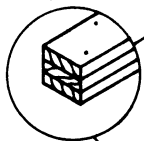
PAGE 5

NOTE: SEE LADING DATA CHART ON PAGE 3.

24" MINIMUM CLEARANCE TO ANY VEHICLE.



SEE GENERAL NOTE "E" ON PAGE 2.

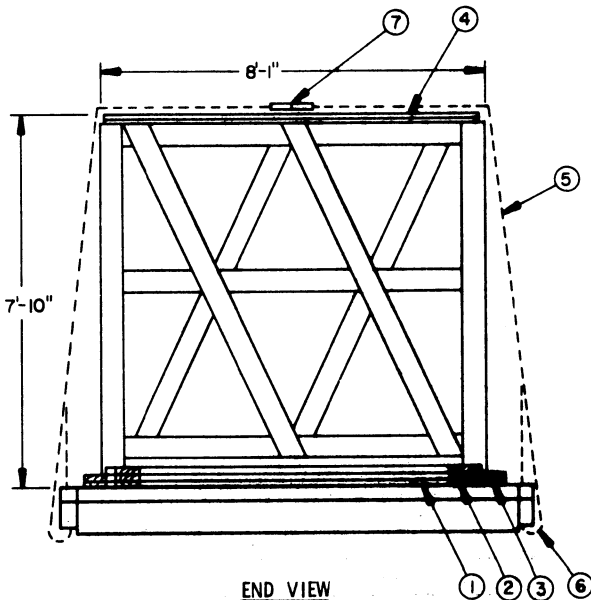


APPLICATION OF STAGGERED NAILING PATTERN. SEE GENERAL NOTE "M" ON PAGE 2.

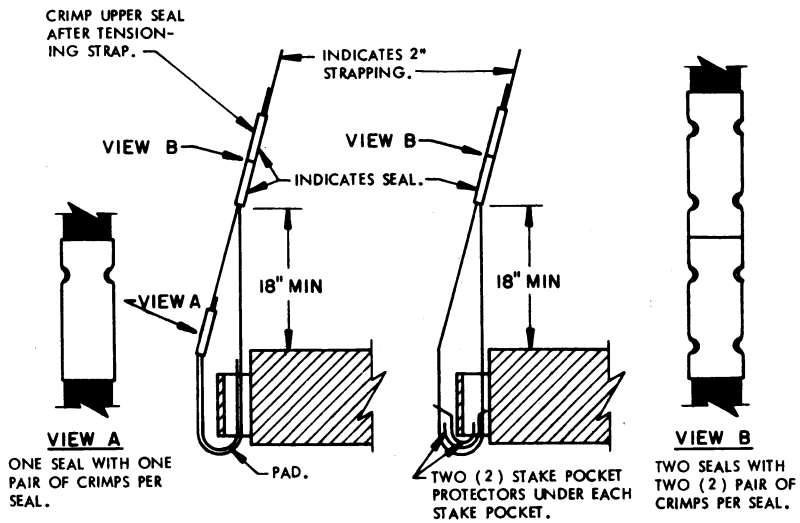
ISOMETRIC VIEW

KEY NUMBERS

- ① HEADER, 2" X 6" X 8'-0" (TRIPLED) (2 REQD). NAIL THE FIRST PIECE TO THE CAR FLOOR W/1-30d NAIL EVERY 8". NAIL EACH ADDITIONAL PIECE W/1-60d NAIL EVERY 8". SEE GENERAL NOTE "M" ON PAGE 2.
- ② BACK-UP CLEAT, 2" X 6" X 30" (TRIPLED) (4 REQD). POSITION 3" FROM THE END OF A PIECE MARKED ① AND NAIL THE FIRST PIECE TO THE CAR FLOOR W/5-30d NAILS. NAIL EACH ADDITIONAL PIECE W/5-60d NAILS. SEE GENERAL NOTE "F" ON PAGE 2.
- ③ SIDE BLOCKING, 2" X 6" X 30" (DOUBLED) (4 REQD). NAIL THE FIRST PIECE TO THE CAR FLOOR W/5-30d NAILS. NAIL THE SECOND PIECE TO THE FIRST IN A LIKE MANNER.
- ④ STRAPPING BOARD, 2" X 6" X 8'-0" (2 REQD).
- ⑤ HOLD-DOWN STRAP, 2" X .050" X 36'-0" LONG STEEL STRAPPING (2 REQD). INSTALL EACH STRAP FROM TWO (2) 18'-0" LONG PIECES. STAPLE TO PIECE MARKED ④ W/4-2" STAPLES.
- ⑥ PAD, 2" X .050" X 24" LONG STEEL STRAPPING (4 REQD). POSITION UNDER AND SEAL TO A PIECE MARKED ⑤. SEE "DETAIL A" ON PAGE 7. ALT: STAKE POCKET PROTECTOR (8 REQD). USE TWO (2) UNDER EACH TIE DOWN FACILITY WITH A PIECE MARKED ⑤. SEE "DETAIL B" ON PAGE 7.
- ⑦ SEAL FOR 2" STRAPPING (16 REQD, 8 PER STRAP). SEE GENERAL NOTE "G" ON PAGE 2.



END VIEW



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).

BILL OF MATERIAL		
LUMBER	LINEAR FEET	BOARD FEET
2" X 6"	114	114
NAILS	NO. REQD	POUNDS
30d (4-1/2")	85	4-1/4
60d (6")	92	9
STEEL STRAPPING, 2" X .050"	80' REQD	27 LBS
SEAL FOR 2" STRAPPING	16 REQD	3 LBS
STAPLE FOR 2" STRAPPING	8 REQD	NIL

LOAD AS SHOWN

ITEM	QUANTITY	WEIGHT (APPROX)
CRATED ITEM	1	8,100 LBS (MAX)
DUNNAGE		329 LBS
TOTAL WEIGHT		8,429 LBS

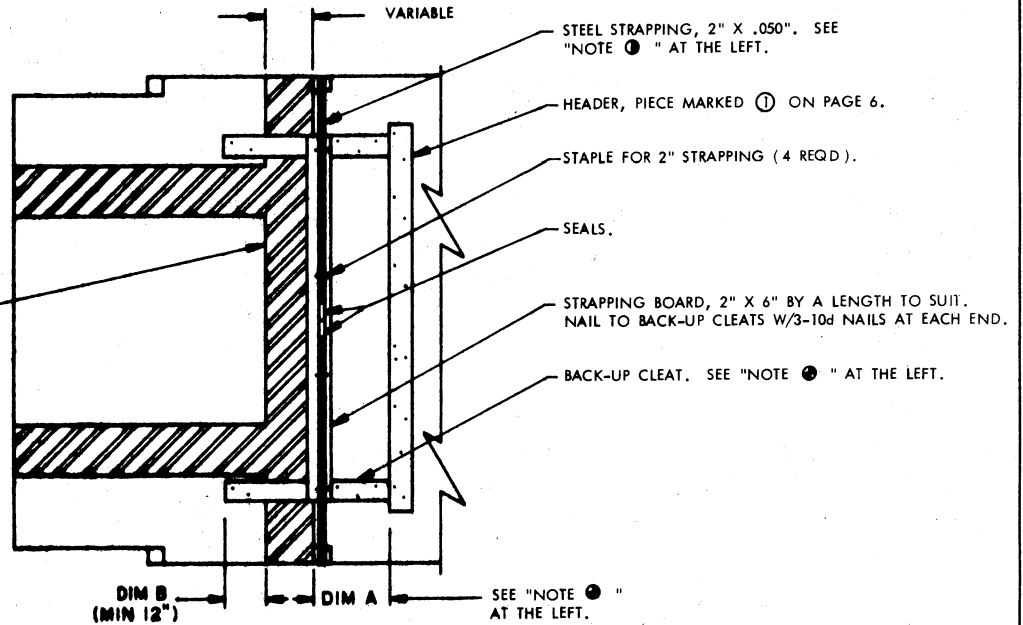
NOTE ① :

WHEN LOADING CARS WHICH HAVE EXPOSED STEEL BOLSTERS, DIMENSION "B" MUST BE AT LEAST 12", AND THE TOTAL OF DIMENSIONS "A" AND "B" MUST BE EQUAL TO OR GREATER THAN THE LENGTH OF A BACK-UP CLEAT (PIECE MARKED ②) TO PROVIDE FOR PROPER NAILING TO THE CAR FLOOR. SEE PIECE MARKED ② ON PAGE 4 OR 6 FOR PROPER NAILING.

NOTE ② :

THE STRAP HOLD DOWN FOR END BLOCKING AS SHOWN AT THE RIGHT IS OPTIONAL; IT MAY BE USED FOR CARS WITH EXPOSED STEEL BOLSTERS AS SHOWN, OR IT MAY BE USED FOR CARS WHICH DO NOT HAVE EXPOSED STEEL BOLSTERS.

INDICATES EXPOSED STEEL BOLSTER.



TYPICAL END BLOCKING FOR CARS WITH EXPOSED STEEL BOLSTERS

SEE GENERAL NOTE "F" ON PAGE 2. THE BLOCKING AS SHOWN IS APPLICABLE FOR THE CRATED ITEM. ADJUST AS NECESSARY FOR THE UNCRATED LOAD ON PAGE 4.