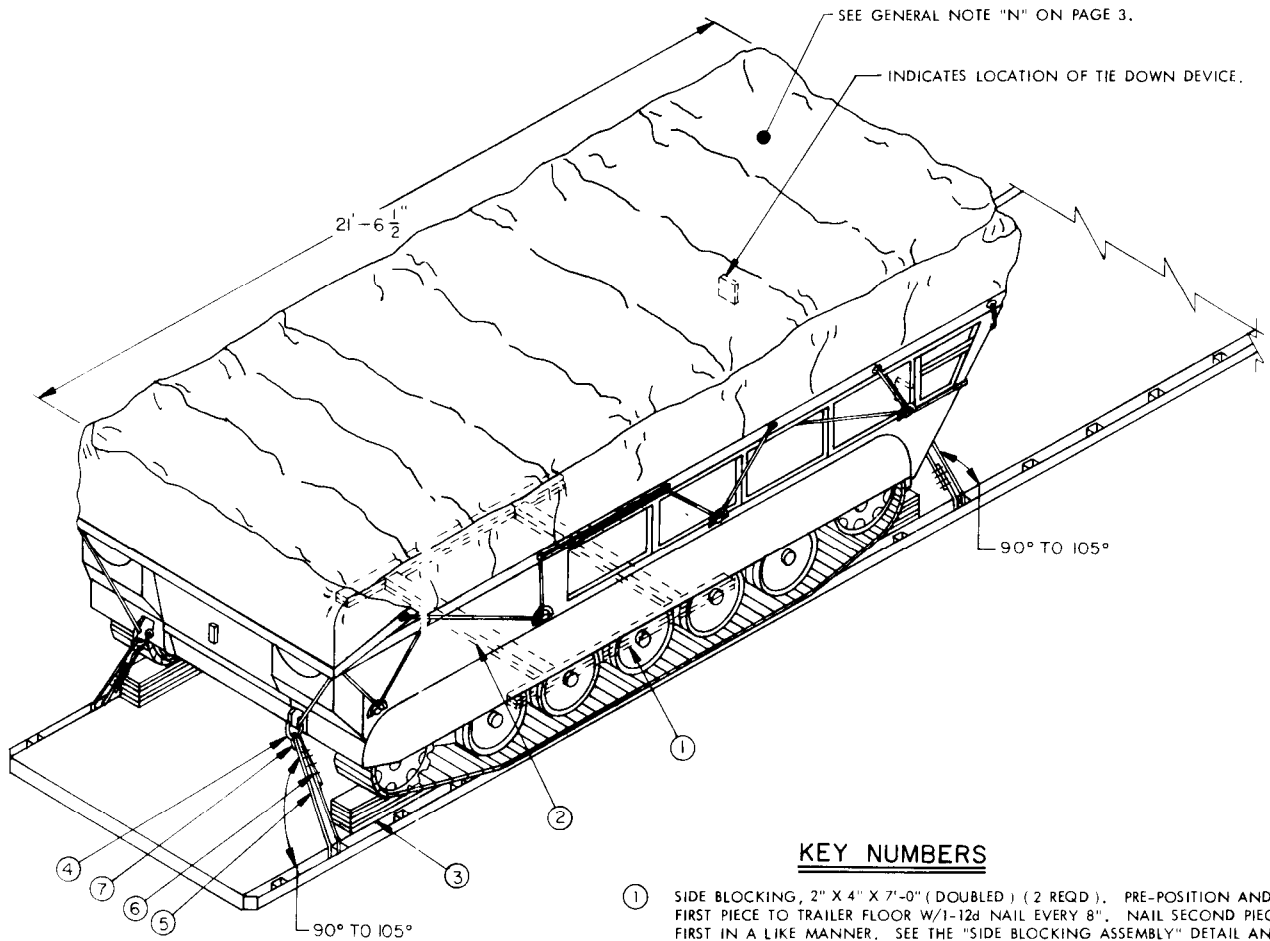


LANCE

LOADING AND BRACING ON FLAT BED
OR "LOW-BOY" TRAILER OF LOADER-
TRANSPORTER, GUIDED MISSILE, XM688EI

DRAFTSMAN RGM		PROJ ENG DIW/AM	AM R10 LC	SUBMITTED
CHECKER JDS		AMC AMMO CTR JLS	AMSMI-SP 2/21/72	B. B. Abrams
REVISIONS				APPROVED
1	NOV 69	<i>[Handwritten]</i>	<i>[Handwritten]</i>	Andrew B. [Signature]
2	MAY 71	<i>[Handwritten]</i>	<i>[Handwritten]</i>	ARMY MISSILE COMMAND
3	JUN 72	<i>[Handwritten]</i>	<i>[Handwritten]</i>	APPROVED BY ORDER OF COMMANDING GENERAL, U. S. ARMY MATERIEL COMMAND
				P. [Signature]
				U. S. ARMY MATERIEL COMMAND
				19 SEPTEMBER 1967
				CLASS
				DIVISION
				DRAWING
				FILE
				19 48 7537 GSE II LC 2

DO NOT SCALE

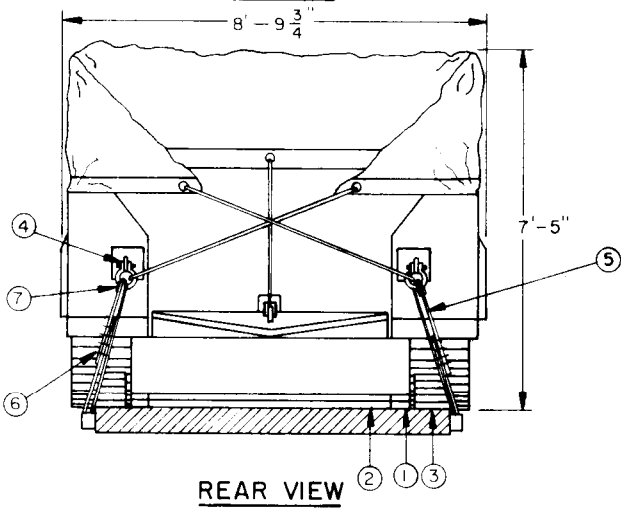


ISOMETRIC VIEW

KEY NUMBERS

- ① SIDE BLOCKING, 2" X 4" X 7'-0" (DOUBLED) (2 REQD). PRE-POSITION AND NAIL FIRST PIECE TO TRAILER FLOOR W/1-12d NAIL EVERY 8". NAIL SECOND PIECE TO FIRST IN A LIKE MANNER. SEE THE "SIDE BLOCKING ASSEMBLY" DETAIL AND GENERAL NOTE "M" ON PAGE 3.
- ② LATERAL BRACING, 2" X 4" BY CUT TO FIT (DOUBLED) (2 REQD). PRE-POSITION AS SHOWN. NAIL FIRST PIECE TO TRAILER FLOOR W/1-12d NAIL EVERY 8". NAIL SECOND PIECE TO FIRST IN A LIKE MANNER. SEE THE "SIDE BLOCKING ASSEMBLY" DETAIL ON PAGE 3.
- ③ TRACK BLOCKING (4 REQD). SEE DETAIL ON PAGE 3.
- ④ SHACKLE, SIZE 7/8" (4 REQD). POSITION ONE EACH AT TWO FRONT AND TWO REAR TIE DOWN POINTS ON VEHICLE. NOTE: NOT REQUIRED IF VEHICLE IS ALREADY EQUIPPED WITH SHACKLES WHEN OFFERED FOR SHIPMENT. IF THE VEHICLE HAS TOW HOOKS ATTACHED TO THE TIE DOWN POINTS, THESE SHALL BE REMOVED AND STORED IN THE DRIVER'S COMPARTMENT. SEE GENERAL NOTE "K" ON PAGE 3.
- ⑤ STEEL WIRE ROPE, 1/2" DIAMETER, 11.5 TONS (4 REQD). INSTALL CABLE TO APPROXIMATE THE ANGLE SHOWN AND TO FORM A COMPLETE LOOP FROM TIE DOWN FACILITY ON TRAILER THRU LADING TIE DOWN DEVICE AND BACK TO TRAILER TIE DOWN FACILITY. SEE GENERAL NOTES "F", "H", AND "J" ON PAGE 3. NOTE: CABLE OF A LARGER SIZE MAY BE USED IF AVAILABLE WHEN SPECIFIED CABLE IS NOT AVAILABLE, OR IF A LARGER SIZE IS BEING USED FOR TIE DOWN OF OTHER ITEMS BEING SHIPPED.
- ⑥ CLIP, SIZE 1/2" (24 REQD). USE FOUR (4) PER CABLE AND ONE (1) PER THIMBLE. SEE GENERAL NOTE "F" ON PAGE 3, AND KEY NUMBER ⑦ GUIDANCE BELOW.
- ⑦ THIMBLE, STANDARD, SIZE 1/2" (8 REQD). USE ONE (1) PER TRAILER TIE DOWN FACILITY AND ONE (1) PER LADING TIE DOWN DEVICE. SECURE TO WIRE ROPE MARKED ⑤ W/1-CLIP PER THIMBLE. A STANDARD THIMBLE AS SPECIFIED CAN BE SECURED TO A CABLE WITH A 1/2" CLIP. HOWEVER, IF DESIRED, OR IF THE 1/2" THIMBLE BEING USED IS OF A TYPE WHICH CANNOT BE SECURED TO A CABLE WITH A 1/2" CLIP, A 5/8" CLIP MAY BE USED. SEE GENERAL NOTE "F" ON PAGE 3. NOTE THAT AN "OPEN PATTERN" THIMBLE IS RECOMMENDED.

CAUTION



REAR VIEW

REVISIONS

REVISION NO. 1, DATED NOV 1969, CONSISTS OF:

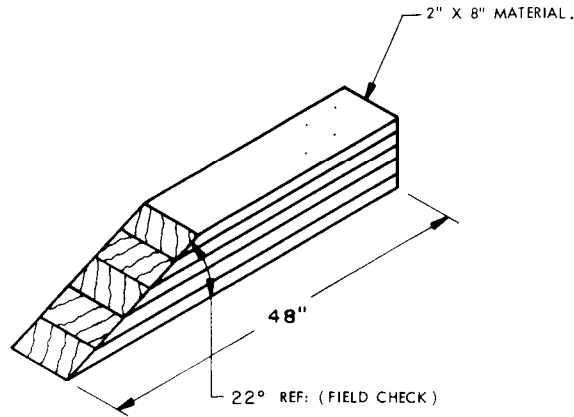
1. SHACKLE SIZE AND SPECIFICATIONS CHANGED.
2. GENERAL NOTES UPDATED.
3. DRAWING FORMAT UPDATED.

REVISION NO. 2, DATED MAY 1971, CONSISTS OF:

1. CHANGING GENERAL NOTE "G".
2. ADDING "SPECIAL PROVISIONS" FOR USE OF CHAINS AND LOAD BINDERS.
3. ADDING FEDERAL SPECIFICATION FOR CLIPS.

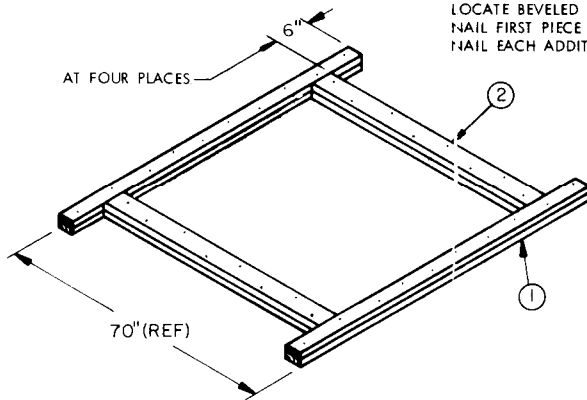
REVISION NO. 3, DATED JUNE 1972, CONSIST OF:

1. SHOWING THE ITEM WITH A TRANSIT COVER INSTALLED.
2. UPDATING GENERAL NOTES.



TRACK BLOCKING

LOCATE BEVELED END OF BLOCK AGAINST TRACK.
NAIL FIRST PIECE TO TRAILER FLOOR W/4-12d NAILS.
NAIL EACH ADDITIONAL PIECE W/4-20d NAILS.



SIDE BLOCKING ASSEMBLY

GENERAL NOTES

- A. THIS DOCUMENT HAS BEEN PREPARED AND ISSUED IN ACCORDANCE WITH AMCR 740-13.
- B. THE LOAD AS SHOWN IS BASED ON A FLAT BED OR "LOW-BOY" TRAILER 8'-0" WIDE WITH WOOD OR WOOD AND METAL FLOOR. TRAILERS WITH ALL METAL FLOORS WILL NOT BE USED. CAUTION: LOAD AS SHOWN MAY REQUIRE "CLEARANCE" CONSIDERATION BECAUSE OF EXCESSIVE LADING WIDTH.
- C. ONLY TRAILERS CAPABLE OF SAFELY TRANSPORTING THE LADING TO DESTINATION WITHOUT DAMAGE WILL BE SELECTED. TRAILERS SELECTED MUST HAVE "SOUND" FLOORS WHICH PROVIDE NAIL RETENTION PROPERTIES EQUAL TO OR BETTER THAN SPECIFIED DUNNAGE LUMBER, AND A SUFFICIENT NUMBER OF TIEDOWN FACILITIES OF A STRENGTH EQUAL TO OR BETTER THAN SPECIFIED LADING TIE DOWN ASSEMBLIES.
- D. SHIPMENT GROSS WEIGHT, AXLE DISTRIBUTION OF LADING WEIGHT AND OVERALL DIMENSIONS MUST MEET STATE LAW REQUIREMENTS.
- E. LADING DATA:
ITEM DIMENSIONS ----- 21'-6-1/2" LONG X 8'-9-3/4" WIDE X 7'-5" HIGH.
ITEM GROSS WEIGHT ---- 15,880 POUNDS (APPROX).
- F. 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.
- G. SEE "SPECIAL PROVISIONS" ON PAGE 4 FOR SPECIFICATIONS WHICH MUST BE APPLIED IF CHAINS AND LOAD BINDERS ARE USED.
- H. WIRE ROPE CABLE MUST BE TENSIONED SUFFICIENTLY TO CAUSE SLIGHT VEHICLE BODY DEPRESSION. TENSIONING CAN BE ACCOMPLISHED BY EMPLOYING TWO (2) CABLE "GRIPPERS" AND AN APPLICABLY SIZED "COME-A-LONG" TYPE MECHANICAL HOIST.
- J. CAUTION: IT IS RECOMMENDED THAT CABLE BE INSTALLED TO APPROXIMATE ANGLE SHOWN; HOWEVER, IF PLACEMENT OF TRANSPORTER TIEDOWN FACILITIES PREVENTS THIS, CARE MUST BE EXERCISED TO ENSURE THAT CABLES ON THE SAME SIDE OF LADING ARE INSTALLED SO THEIR RETENTION FORCES ACT IN OPPOSITE LONGITUDINAL DIRECTIONS.
- K. MORE DISTANCE MAY BE REQUIRED BETWEEN THE DRILLED PADS AT THE OPEN END OF A SHACKLE SO THAT IT WILL FIT PROPERLY OVER THE THICKNESS OF THE TOWING/TIEDOWN BRACKET ON THE VEHICLE. TO PROVIDE THE NEEDED CLEARANCE, EQUAL AMOUNTS OF MATERIAL MAY BE REMOVED FROM THE SHACKLE PADS BY GRINDING OR MACHINING.
- L. DUNNAGE LUMBER SPECIFIED THROUGHOUT THIS PROCEDURAL DRAWINGS IS OF NOMINAL SIZE UNLESS OTHERWISE DIMENSIONED. 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.
- N. CAUTION: PRIOR TO SHIPPING THE DESIGNATED ITEM, THE TACTICAL COVER WILL BE PROPERLY STORED ON THE VEHICLE. THE VEHICLE TRANSIT COVER (PART NUMBER 10162360) WILL BE INSTALLED, AS SHOWN IN THE LOAD VIEWS, TO PROVIDE WEATHER PROTECTION; THE TACTICAL COVER WILL NOT BE USED FOR THIS PURPOSE. IF A SLING IS USED FOR HANDLING THE LOADER-TRANSPORTER, AND THE TRANSIT COVER IS INSTALLED, THE ENDS OF THE COVER WILL BE TURNED BACK TO EXPOSE THE LIFTING LOOPS FOR ATTACHMENT OF THE SLING. THE COVER WILL BE RESECURED AS SHOWN PRIOR TO MOVEMENT OF THE LOAD.

BILL OF MATERIAL

LUMBER	LINEAR FEET	BOARD FEET
2" X 4"	49	33
2" X 8"	55	74
NAILS	NO. REQD	POUNDS
12d (3-1/4")	80	1-1/2
20d (4")	64	2-1/2
ROPE, STEEL WIRE, 1/2" DIA ----- 48' REQD ----- 21 LBS		
CLIP, 1/2" ----- 24 REQD ----- 10 LBS		
THIMBLE, STANDARD, 1/2" ----- 8 REQD ----- 2 LBS		
SHACKLE, 7/8" ----- 4 REQD ----- 14 LBS		
CLIP, 5/8" (ALT FOR 1/2", 8 REQD) ----- 5 LBS		

MATERIAL SPECIFICATIONS

LUMBER -- DOUGLAS FIR OR COMPARABLE LUMBER WITH STRAIGHT GRAIN AND FREE FROM 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, 11.5 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 I, CLASS 1.

SHACKLE: ROUND PIN, ANCHOR. REF: FED SPEC RR-C-271, TYPE IV, CLASS 4.

LOAD AS SHOWN

ITEM	QUANTITY	WEIGHT (APPROX)
LOADER-TRANSPORTER, XM688E1	1	15,880 LBS
DUNNAGE		319 LBS
TOTAL WEIGHT		16,199 LBS

SPECIAL PROVISIONS:

- A. LADING MAY BE SECURED BY CARRIER-OWNED CHAINS AND LOAD BINDERS IN LIEU OF SPECIFIED WIRE ROPE CABLE TIE DOWN DUNNAGE MATERIALS, PROVIDING THE FOLLOWING CONDITIONS ARE MET:
1. ONLY CHAINS AND LOAD BINDERS OF GOOD QUALITY SHOULD BE USED. CAUTION: EXTREME CARE MUST BE USED IN TENSIONING CHAINS TO PREVENT DAMAGE TO THE LADING OR DEFORMATION OF LADING TIE DOWN DEVICES.
 2. TWO (2) LINES OF 3/8" CHAIN, OR FOUR (4) LINES OF 1/4" CHAIN, MAY BE SUBSTITUTED FOR EACH WIRE ROPE CABLE TIE DOWN MARKED (3). CHAINS SHALL BE INSTALLED AT THE SAME LOCATIONS SHOWN FOR WIRE ROPE CABLES AND TENSIONED SUFFICIENTLY TO CAUSE SLIGHT VEHICLE BODY DEPRESSION.
 3. IF DESIRED, CHAINS OF A LARGER SIZE THAN SPECIFIED ABOVE MAY BE USED.
 4. BEFORE AND DURING INSTALLATION, THE CHAINS AND LOAD BINDERS SHALL BE INSPECTED FOR BENT HOOKS, STRETCH, GOUGES, BENT LINKS, WEAR, AND ANY OTHER NOTICEABLE DEFECTS. ANY DEFICIENCY SHALL BE CAUSE FOR REJECTION OF A CHAIN OR LOAD BINDER. CHAINS MUST NOT BE TWISTED DURING INSTALLATION.
 5. THE TENSIONING DEVICE OF EACH LOAD BINDER MUST BE SAFETY-WIRE TIED TO PREVENT ACCIDENTAL OPENING OR LOOSENING IN TRANSIT.
 6. 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.