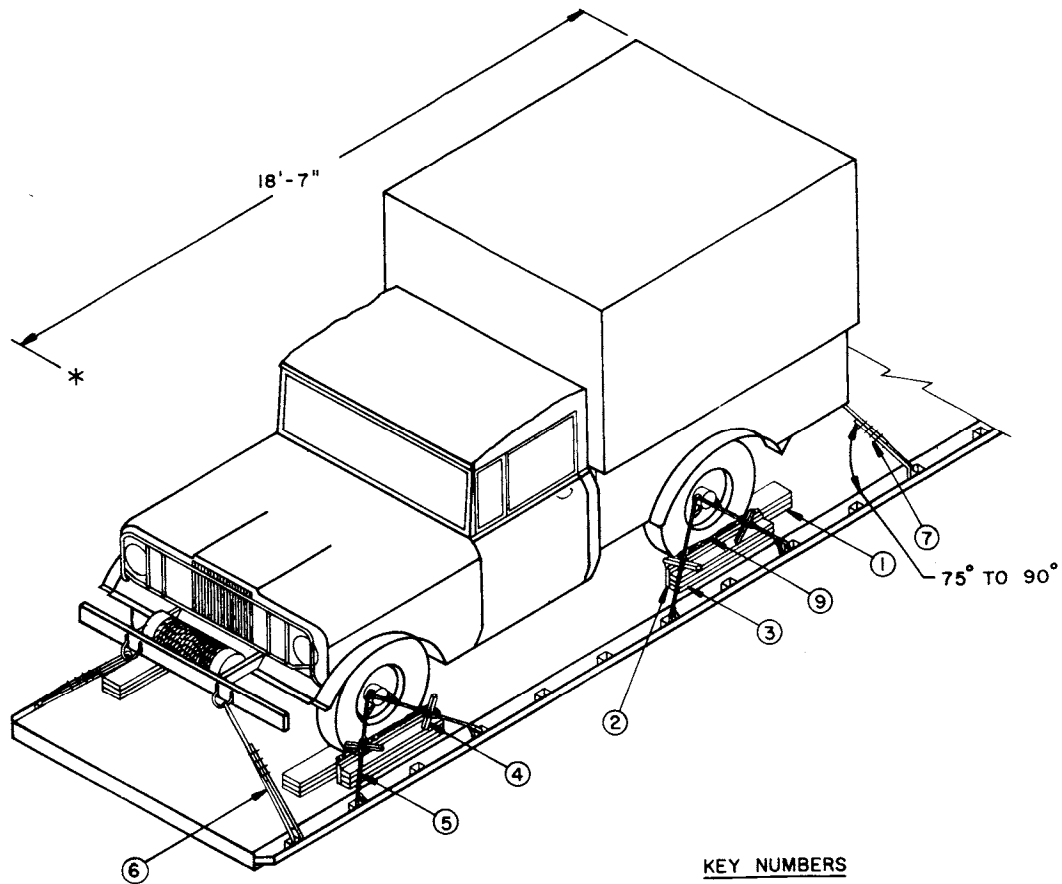


# LANCE

LOADING AND BRACING ON FLAT BED  
OR "LOW-BOY" TRAILER OF SHELTER,  
ELECTRICAL EQUIPMENT, MOUNTED ON  
A 1-1/4-TON CARGO TRUCK, M715

DRAFTSMAN P.B. / <i>Shel</i>	PROJ ENG MND / <i>Shel</i>	ASST - LCM <i>Shel</i>	SUBMITTED	
CHIEF R.H. / <i>Shel</i>	AMC AMMO CTR <i>John Boyd</i>	AMC <i>MB</i>	<i>N.R. Dickson</i> COMMANDING OFFICER, SAVANNA ARMY DEPOT	
REVISIONS			APPROVED	
			<i>Morris E. Johnson</i> ARMY MISSILE COMMAND	
			APPROVED BY ORDER OF COMMANDING GENERAL, U. S. ARMY MATERIEL COMMAND	
			<i>John L. Boyd Jr.</i> USAMC AMMO CENTER	
			U. S. ARMY MATERIEL COMMAND	
			SEPTEMBER 1971	
			CLASS	DIVISION
			19	48
			DRAWING	FILE
			7493	GSE 11LC5

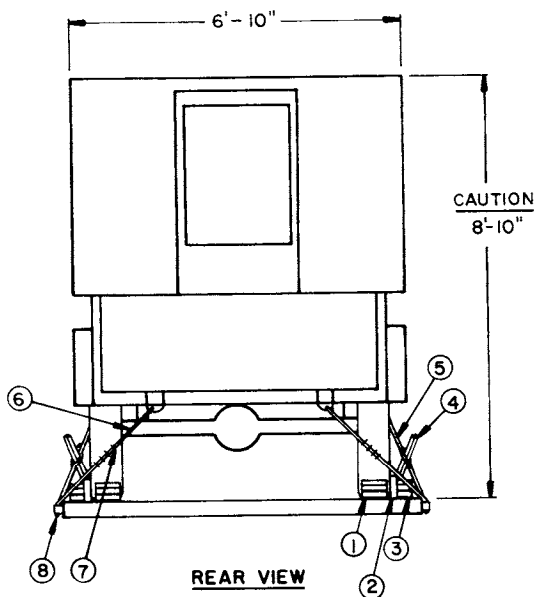
DO NOT SCALE



**ISOMETRIC VIEW**

**KEY NUMBERS**

- ① CHOCK BLOCK (4 REQD). SEE THE DETAIL ON PAGE 4. LOCATE BEVELED END OF BLOCK AGAINST A WHEEL. NAIL THE FIRST PIECE TO THE TRAILER FLOOR W/5-12d NAILS. NAIL EACH ADDITIONAL PIECE W/4-20d NAILS. SEE GENERAL NOTE "L".
- ② RUBBING STRIP, 2" X 6" X 36" (4 REQD). POSITION ON EDGE AND NAIL TO A LOWER PIECE MARKED ③ W/5-12d NAILS.
- ③ SIDE BLOCKING, 2" X 4" X 36" (TRIPLED) (4 REQD). NAIL THE FIRST PIECE TO THE TRAILER FLOOR W/5-12d NAILS. NAIL EACH ADDITIONAL PIECE IN A LIKE MANNER.
- ④ WIRE TWISTER, 2" X 2" BY A LENGTH TO SUIT (8 REQD). SEE GENERAL NOTE "F".
- ⑤ SIX (6) STRANDS OF NO. 8 GAGE BLACK ANNEALED WIRE (8 REQD). PASS THRU THE TIE DOWN HOLES IN A WHEEL HUB AND A TRAILER TIE DOWN FACILITY TO FORM A COMPLETE LOOP. TWIST TAUT WITH PIECE MARKED ④. SEE GENERAL NOTE "F" ON PAGE 3 AND THE "WHEEL SECUREMENT" DETAIL ON PAGE 4.
- ⑥ STEEL WIRE ROPE, 3/8" DIA, 6.56 TONS (4 REQD). INSTALL CABLE TO APPROXIMATE THE ANGLE SHOWN AND TO FORM A COMPLETE LOOP FROM A TIE DOWN FACILITY ON THE TRAILER THRU A LADING TIE DOWN DEVICE AND BACK TO THE TRAILER TIE DOWN FACILITY. SEE GENERAL NOTES "F", "H", AND "J". NOTE: CABLE OF A LARGER SIZE MAY BE USED. SEE THE "SPECIAL PROVISIONS" ON PAGE 3.
- ⑦ CLIP, WIRE ROPE, SIZE 3/8" (24 REQD). USE FOUR (4) PER CABLE JOINT AND ONE (1) PER THIMBLE. SEE GENERAL NOTE "F".
- ⑧ THIMBLE, STANDARD, SIZE 3/8" (8 REQD). USE ONE (1) PER TRAILER TIE DOWN FACILITY AND ONE (1) PER LADING TIE DOWN DEVICE. SECURE TO WIRE ROPE MARKED ⑥ W/CLIP PER THIMBLE. A STANDARD THIMBLE, AS SPECIFIED, CAN BE SECURED TO A CABLE 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 "F".
- ⑨ WATERPROOF PAPER OR BURLAP OF A SUFFICIENT SIZE TO POSITION UNDER AND EXTEND 2" ABOVE PIECE MARKED ②.



**REAR VIEW**

**SPECIAL PROVISIONS:**

LADING MAY BE SECURED BY CARRIER-OWNED CHAINS AND LOAD BINDERS IN LIEU OF SPECIFIED WIRE ROPE CABLE AND/OR STRANDED ANNEALED WIRE 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 FACILITIES.
2. ONE (1) LINE OF 3/8" CHAIN, OR TWO (2) LINES OF 1/4" CHAIN, MAY BE SUBSTITUTED FOR EACH WIRE ROPE CABLE TIE DOWN MARKED (C). CHAINS SHALL BE INSTALLED AT THE SAME LOCATIONS SHOWN FOR WIRE ROPE CABLES AND IN THE SAME MANNER AS DIRECTED IN GENERAL NOTE "H".
3. FOR WHEEL SECUREMENT, IN LIEU OF TWO (2) STRANDED WIRE TIE DOWNS MARKED (C), ONE (1) LINE OF 1/4" CHAIN MAY BE USED. TO FACILITATE THE APPLICATION OF CHAINS AND LOAD BINDERS, A CHAIN MAY BE INSTALLED FROM A FORWARD TIE DOWN FACILITY AT THE SIDE OF THE TRANSPORTER, PASSED BEHIND THE WHEEL AND OVER THE AXLE OF THE LADING, AND THEN TO A REARWARD TIE DOWN FACILITY ON THE SAME SIDE OF THE TRANSPORTER.
4. IF DESIRED, CHAINS OF A LARGER SIZE THAN SPECIFIED ABOVE MAY BE USED.
5. 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.
6. THE TENSIONING DEVICE OF EACH LOAD BINDER MUST BE SAFETY-WIRE TIED TO PREVENT ACCIDENTAL OPENING OR LOOSENING IN TRANSIT.
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.

**GENERAL NOTES**

- A. THIS DOCUMENT HAS BEEN PREPARED AND ISSUED IN ACCORDANCE WITH AER 740-13.
- B. THE LOAD AS SHOWN IS BASED ON A FLAT BED OR "LOW-BOY" TRAILER 8'0" WIDE WITH A WOOD OR A WOOD AND METAL FLOOR. TRAILERS WITH ALL METAL FLOORS WILL NOT BE USED. ONLY ONE UNIT OF LADING IS SHOWN. HOWEVER, MULTIPLES OF UNITS, AS SHOWN OR DISSIMILAR IN NATURE, MAY BE LOADED ON A TRAILER. THE NUMBER OF UNITS TO BE LOADED ON A TRAILER WILL BE DEPENDENT ON THE SIZE OF THE TRAILER TO BE USED OR THE QUANTITIES OF UNITS TO BE SHIPPED, WITH THE VIEW OF FULL UTILIZATION OF CARRIER EQUIPMENT. **CAUTION:** THE LOAD AS SHOWN MAY REQUIRE "CLEARANCE" CONSIDERATION BECAUSE OF EXCESSIVE LADING SIZE.
- 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 THE SPECIFIED DUNNAGE LUMBER, AND A SUFFICIENT NUMBER OF TIE DOWN FACILITIES OF A STRENGTH EQUAL TO OR BETTER THAN SPECIFIED LADING TIE DOWN ASSEMBLIES.
- D. SHIPMENT GROSS WEIGHT, AXLE DISTRIBUTION OF THE LADING WEIGHT AND OVERALL DIMENSIONS MUST MEET STATE LAW REQUIREMENTS.
- E. LADING DATA:  
ITEM DIMENSIONS ----- 18'-7" LONG X 6'-10" WIDE X 8'-10" HIGH.  
ITEM GROSS WEIGHT ----- 6,780 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, EXCEPT THAT THE NUTS ON 3/8" CLIPS WILL BE TIGHTENED TO A TORQUE OF 35 TO 40 FOOT POUNDS. **CAUTION:** DURING WIRE ROPE INSTALLATION, AVOID CONTACT WITH ALL ELECTRICAL WIRING, VEHICLE CONTROLS AND OTHER APPURTENANCES. METAL FILLERS OR COMPARABLE POSITIONING MATERIALS MUST BE USED BETWEEN TIE DOWN WIRES AND/OR CABLES AND ALL SHARP EDGES, AND ANTI-CHAFING MATERIAL MUST BE USED BETWEEN CONTACTING TIE DOWN WIRES AND LADING TIRES. ADDITIONALLY, LADING TIRES WILL BE INFLATED TO HIGHWAY OPERATING PRESSURE, AND GEAR SHIFT LEVERS OF AUTOMATIC OR CONVENTIONAL TRANSMISSIONS MUST BE PLACED AND WIRE-TIED IN NEUTRAL POSITION, AND ALL HAND BRAKES MUST BE "SET" WITH THE HAND LEVERS WIRE-TIED OR BLOCKED, AND LADING ENGINE MUST BE MADE INOPERATIVE FOR TRANSIT.
- G. SEE THE "SPECIAL PROVISIONS" AT LEFT FOR SPECIFICATIONS WHICH MUST BE APPLIED IF CHAINS AND LOAD BINDERS ARE USED.
- H. **CAUTION:** IT IS RECOMMENDED THAT CABLE BE INSTALLED TO APPROXIMATE THE ANGLE SHOWN; HOWEVER, IF PLACEMENT OF TRANSPORTER TIE DOWN FACILITIES PREVENTS THIS, CARE MUST BE EXERCISED TO ENSURE THAT CABLES ON THE SAME SIDE OF THE LADING ARE INSTALLED SO THEIR RETENTION FORCES ACT IN OPPOSITE LONGITUDINAL DIRECTIONS.
- J. WIRE ROPE CABLE MUST BE TENSIONED SUFFICIENTLY TO CAUSE A SLIGHT BODY DEPRESSION. TENSIONING CAN BE ACCOMPLISHED BY EMPLOYING TWO (2) CABLE "GRIPPERS" AND AN APPLICABLY SIZED "COME-A-LONG" TYPE MECHANICAL HOIST.
- K. DUNNAGE LUMBER SPECIFIED THROUGHOUT THIS PROCEDURAL DRAWING IS OF NOMINAL SIZE. FOR EXAMPLE, 2" X 4" MATERIAL IS ACTUALLY 1-5/8" THICK BY 3-5/8" WIDE AND 2" X 6" MATERIAL IS ACTUALLY 1-5/8" THICK BY 5-5/8" WIDE.
- L. **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.

**BILL OF MATERIAL**

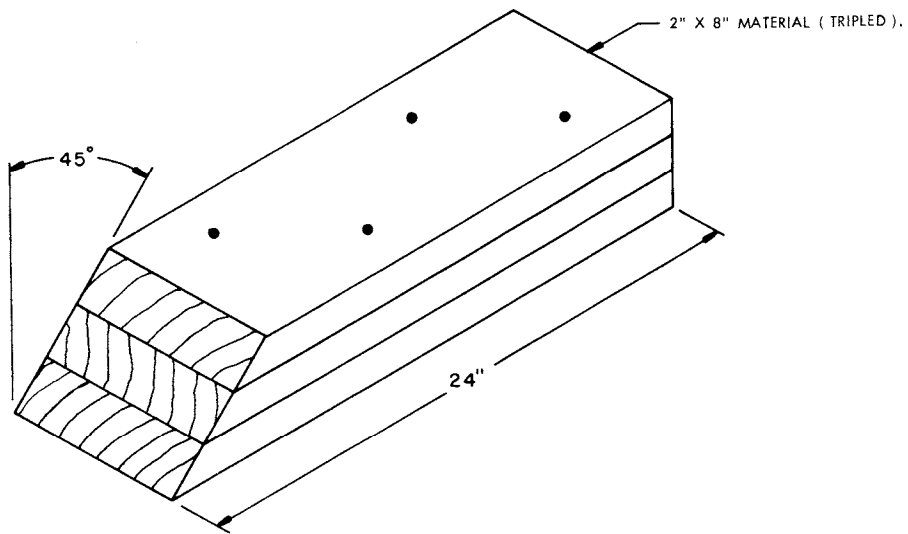
LUMBER	LINEAR FEET	BOARD FEET
2" X 2"	12	4
2" X 4"	36	24
2" X 6"	12	12
2" X 8"	24	32
NAILS	NO. REQD	POUNDS
12d (3-1/4")	120	2-1/4
20d (4")	40	1-1/4
ROPE, STEEL WIRE, 3/8" DIA -----	32' REQD -----	8 LBS
CLIP, 3/8" -----	24 REQD -----	8 LBS
THIMBLE, STANDARD, 3/8" -----	8 REQD -----	2 LBS
WIRE, NO. 8 GAGE -----	240' REQD -----	22 LBS
WATERPROOF PAPER OR BURLAP -----	AS REQD -----	NIL
CLIP, 1/2" (ALT FOR 3/8") -----	8 REQD -----	4 LBS

**MATERIAL SPECIFICATIONS**

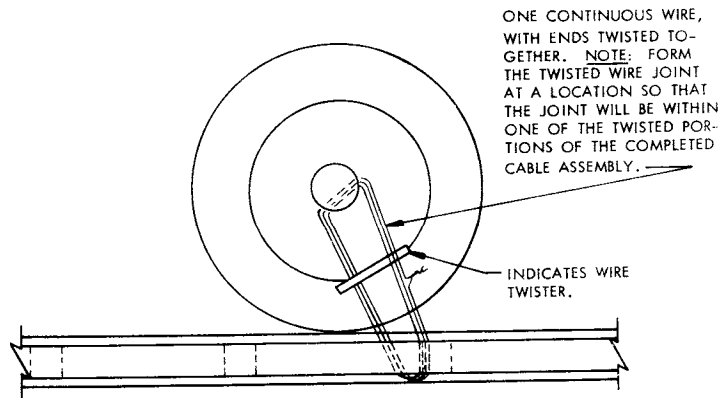
- LUMBER** : DOUGLAS FIR OR COMPARABLE LUMBER WITH STRAIGHT GRAIN AND FREE OF MATERIAL DEFECTS. REF: FED SPEC MM-L-751.
- NAILS** : COMMON, CEMENT COATED OR CHEMICALLY ETCHED. REF: FED SPEC FF-N-105. ALT: ANNULAR-RING TYPE NAIL OF SAME SIZE.
- ROPE** -- : STEEL WIRE, PLAIN, PREFORMED, REGULAR LAY, 6.56 TONS, 6 X 19, FLEXIBLE IWKC, 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.
- WIRE** -- : ANNEALED, BLACK. REF: FED SPEC QQ-W-461.

**LOAD AS SHOWN**

ITEM	QUANTITY	WEIGHT (APPROX)
SHELTER, ELECTRICAL EQUIPMENT -----	1 -----	6,780 LBS
DUNNAGE -----		223 LBS
		7,003 LBS



CHOCK BLOCK



WHEEL SECUREMENT

A SIX (6) STRAND INSTALLATION OF NO. 8 GAGE BLACK ANNEALED WIRE IS SHOWN, PASSED THRU THE TIE DOWN HOLES IN A WHEEL HUB AND A TRAILER TIE DOWN FACILITY TO FORM A COMPLETE LOOP, AND READY TO BE TWISTED TAUT WITH A WIRE TWISTER.