

# LANCE

## LOADING AND BRACING ON FLAT BED OR "LOW-BOY" TRAILER OF THE LAUNCH FIXTURE ASSEMBLY (CRATED)

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## 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 A WOOD OR A WOOD AND METAL FLOOR. TRAILERS WITH ALL METAL FLOORS WILL NOT BE USED. ONLY ONE (1) 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 USED OR THE QUANTITIES OF UNITS TO BE SHIPPED WITH THE VIEW OF FULL UTILIZATION OF CARRIER EQUIPMENT.
- 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 ANCHORING FACILITIES OF A STRENGTH EQUAL TO OR BETTER THAN SPECIFIED LADING TIEDOWN ASSEMBLIES (SEE SPECIAL PROVISIONS OF GENERAL NOTE "G" BELOW).
- D. SHIPMENT GROSS WEIGHT, AXLE DISTRIBUTION OF LADING WEIGHT, AND OVERALL DIMENSIONS MUST MEET STATE LAW REQUIREMENTS.
- E. LADING DATA (CRATED):
- ITEM DIMENSIONS ----- 13'-1" LONG BY 61" WIDE BY 58" HIGH.  
ITEM GROSS WEIGHT -- 2,350 POUNDS.
- F. WHEN STEEL STRAPPING IS SEALED AT AN END-OVER-END LAP JOINT, A MINIMUM OF TWO (2) SEALS, BUTTED TOGETHER, WITH TWO (2) PAIR OF CRIMPS PER SEAL MUST BE USED TO SEAL THE JOINT.
- G. IF THE STAKE POCKETS AND/OR ANCHOR DEVICES ON A TRAILER ARE NOT PROPERLY LOCATED TO PERMIT SECURING OF THE TWO INCH (2") STEEL STRAPPING AS SHOWN, OR IF THE POCKETS AND/OR ANCHOR DEVICES ARE NOT EQUAL TO OR GREATER THAN THE STRENGTH OF THE 2" TIEDOWN STRAPS, STRAPPING MAY BE APPLIED TO FORM A COMPLETE LOOP WHICH ENCOMPASSES BOTH THE LADING AND THE TRAILER FRAME AND/OR BED. CAUTION: WHEN INSTALLING A TIEDOWN STRAP WHICH ENCOMPASSES BOTH LADING AND TRAILER FRAME AND/OR BED, AVOID TRAILER WHEELS, FIFTH WHEEL PLATE, CONTROLS, AND APPURTENANCES; AND USE PADS ON ALL SHARP EDGES AS CUSHIONING FOR THE STRAPPING. NOTE: PROVISIONS OF GENERAL NOTE "F" ABOVE WILL ALSO APPLY.
- H. SEE THE "SPECIAL PROVISIONS" ON THIS PAGE FOR SPECIFICATIONS WHICH MUST BE APPLIED IF CHAINS AND LOAD BINDERS ARE USED IN LIEU OF THE SPECIFIED TIEDOWNS.
- J. DUNNAGE LUMBER SPECIFIED THROUGHOUT THIS PROCEDURAL DRAWING IS OF NOMINAL SIZE. FOR EXAMPLE, 2" X 6" MATERIAL IS ACTUALLY 1-5/8" THICK BY 5-5/8" WIDE.
- K. 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. SEE "APPLICATION OF STAGGERED NAILING PATTERN" ON PAGE 4.

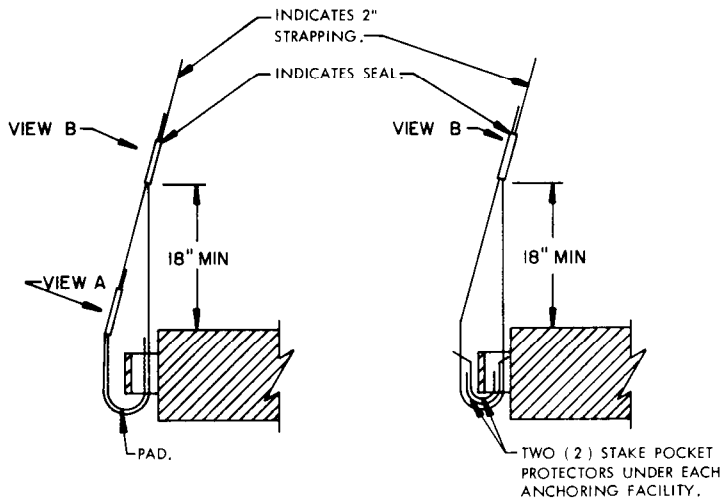
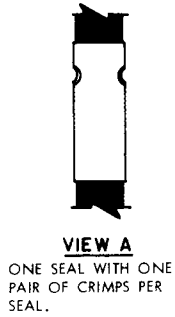
## SPECIAL PROVISIONS:

LADING MAY BE SECURED BY CARRIER-OWNED CHAINS AND LOAD BINDERS IN LIEU OF SPECIFIED HOLD-DOWN STRAPPING DUNNAGE MATERIALS, PROVIDING THE FOLLOWING CONDITIONS ARE MET:

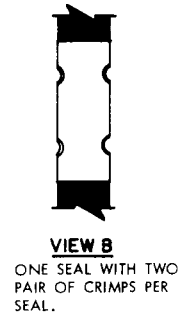
1. ONLY CHAINS AND LOAD BINDERS OF GOOD QUALITY SHOULD BE USED. CAUTION: EXTREME CARE MUST BE USED IN TENSIONING CHAINS TO PREVENT DAMAGE TO THE LADING.
2. IN LIEU OF EACH HOLD-DOWN STRAP MARKED (5) ON PAGE 4, ONE (1) LINE OF 1/4" CHAIN MAY BE USED. THE STRAPPING BOARD MARKED (4) MUST BE DOUBLED AND LAMINATED W/1-10d NAIL EVERY 12". EACH CHAIN SHALL BE SECURED TO THE LAMINATED BOARD W/4-20d NAILS BY DRIVING EACH NAIL INTO THE BOARD THRU AN OPENING IN A CHAIN LINK AND BENDING IT OVER THE LINK.
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.

## MATERIAL SPECIFICATIONS

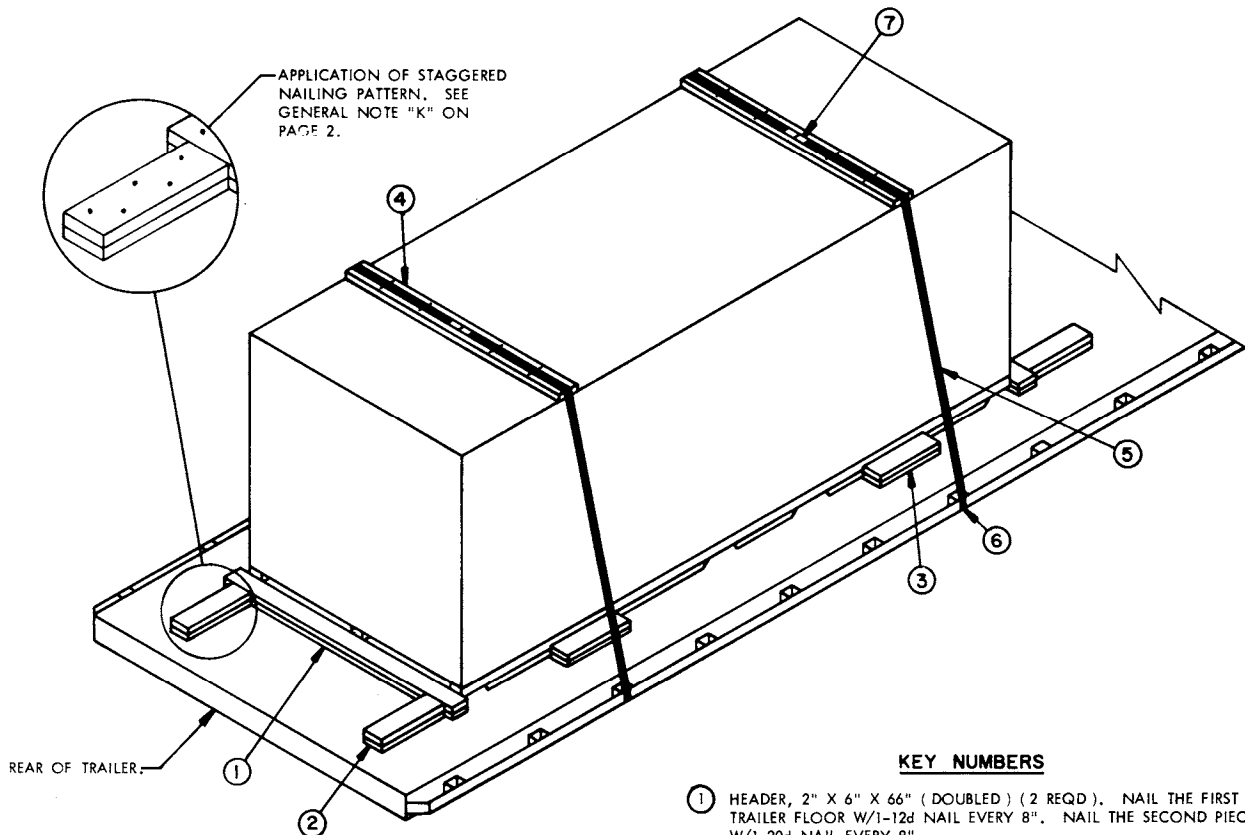
- LUMBER ----- : DOUGLAS FIR OR COMPARABLE LUMBER WITH STRAIGHT GRAIN AND FREE OF MATERIAL DEFECTS. REF: FED SPEC MM-L-751.
- NAILS ----- : COMMON, CEMENT COATED OR CHEMICALLY ETCHED.  
REF: FED SPEC FF-N-105.  
ALT: ANNULAR-RING TYPE NAIL OF SAME SIZE.
- STRAPPING, STEEL - : TYPE 1, CLASS A, B, OR C. REF: FED SPEC QQ-5-781.
- STRAP SEAL; STRAP STAPLE; STAKE  
POCKET PROTECTOR : COMMERCIAL GRADE.



**DETAIL A**  
METHOD OF INSTALLING  
2" STRAPPING AND PAD  
AT ANCHORING FACILITY.



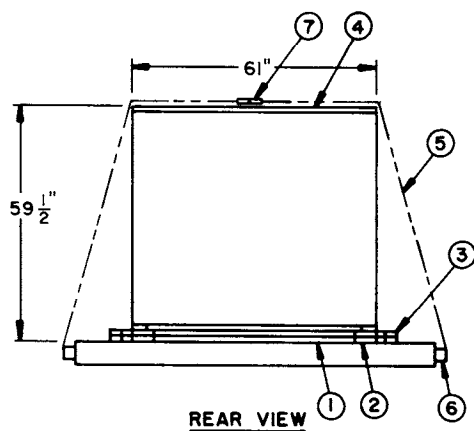
**DETAIL B**  
METHOD OF INSTALLING  
2" STRAPPING AND STAKE  
POCKET PROTECTORS (ALT  
PAD).



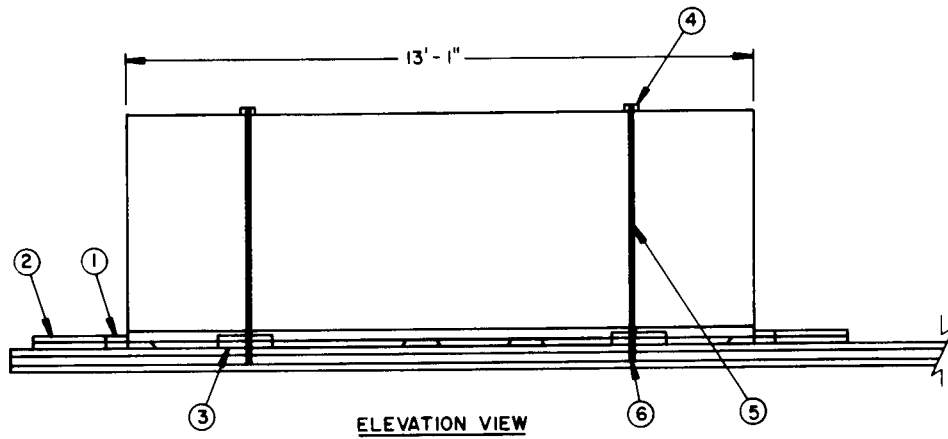
**ISOMETRIC VIEW**

**KEY NUMBERS**

- ① HEADER, 2" X 6" X 66" ( DOUBLED ) ( 2 REQD ). NAIL THE FIRST PIECE TO THE TRAILER FLOOR W/1-12d NAIL EVERY 8". NAIL THE SECOND PIECE TO THE FIRST W/1-20d NAIL EVERY 8".
- ② BACK-UP CLEAT, 2" X 6" X 18" ( DOUBLED ) ( 4 REQD ). POSITION IN LINE WITH THE ITEM SKID AND NAIL THE FIRST PIECE TO THE TRAILER FLOOR W/5-12d NAILS. NAIL THE SECOND PIECE TO THE FIRST W/5-20d NAILS. SEE SPECIAL NOTE 1 ON PAGE 5.
- ③ SIDE BLOCKING, 2" X 6" X 18" ( DOUBLED ) ( 4 REQD ). POSITION AGAINST THE ITEM SKID AND NAIL THE FIRST PIECE TO THE TRAILER FLOOR W/5-12d NAILS. NAIL THE SECOND PIECE TO THE FIRST IN A LIKE MANNER.
- ④ STRAPPING BOARD, 2" X 6" X 61" ( 2 REQD ).
- ⑤ STEEL STRAPPING, 2" X .050" X 24'-0" LONG STEEL STRAPPING ( 2 REQD ). INSTALL EACH STRAP FROM TWO ( 2 ) 12'-0" LONG PIECES. STAPLE TO PIECE MARKED ④ W/4-2" STAPLES. SEE GENERAL NOTE "F" AND THE "SPECIAL PROVISIONS" ON PAGE 2.
- ⑥ PAD, 2" X .050" STRAP, 18" LONG ( 4 REQD ). POSITION UNDER AND SEAL TO PIECES MARKED ⑤. SEE "DETAIL A" ON PAGE 3. ALT: STAKE POCKET PROTECTOR ( 8 REQD ). USE TWO ( 2 ) UNDER EACH TIE DOWN FACILITY WITH PIECES MARKED ⑤. SEE "DETAIL B" ON PAGE 3.
- ⑦ SEAL FOR 2" STRAPPING ( 12 REQD, 6 PER STRAP ). EXCEPT FOR THE SEALS USED TO SECURE THE PADS, DOUBLE CRIMP EACH SEAL. SEE GENERAL NOTE "F" ON PAGE 2.



**REAR VIEW**



SPECIAL NOTE:

1. TWO (2) BACK-UP CLEATS, SHOWN AS PIECES MARKED ②, AND USED WITH ONE HEADER, SHOWN AS PIECES MARKED ①, ARE ADEQUATE FOR RETAINING A MAXIMUM LOAD WEIGHT OF 12,000 POUNDS.

**BILL OF MATERIAL**

LUMBER	LINEAR FEET	BOARD FEET
2" X 6"	57	57
NAILS	NO. REQD	POUNDS
12d ( 3-1/4" )	76	1-1/2
20d ( 4" )	36	1-1/2
STEEL STRAPPING, 2" X .050" -----	54' REQD -----	18 LBS
SEAL FOR 2" STRAPPING -----	12 REQD -----	3 LBS
STAPLE FOR 2" STRAPPING -----	8 REQD -----	NIL

**LOAD AS SHOWN**

<u>ITEM</u>	<u>QUANTITY</u>	<u>WEIGHT ( APPROX )</u>
LAUNCH FIXTURE		
ASSEMBLY ( CRATED ) -- 1-----		2,350 LBS
DUNNAGE -----		166 LBS
TOTAL WEIGHT -----		2,516 LBS