

NIKE-HERCULES

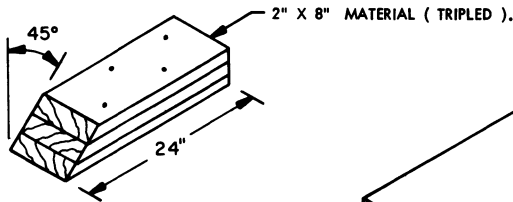
LOADING AND BRACING ON FLAT BED
OR "LOW-BOY" TRAILER OF ANTENNA-
RECEIVER-TRANSMITTER GROUP;
TARGET TRACKING, TARGET RANGING
AND MISSILE TRACKING, TRAILER
MOUNTED

LOAD AS SHOWN MAY REQUIRE "CLEARANCE"
CONSIDERATION BECAUSE OF EXCESSIVE
LOADING SIZE.

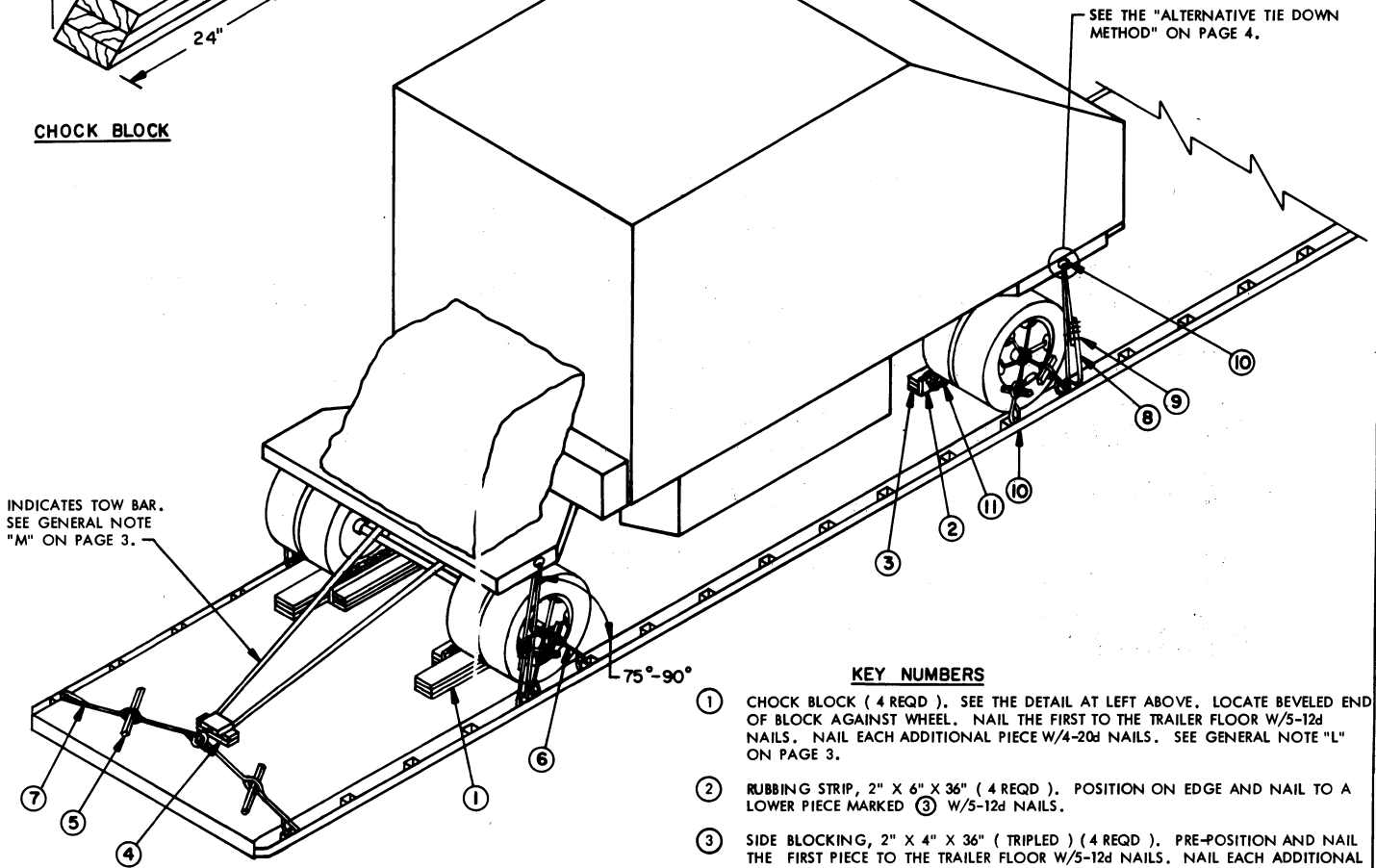
THIS DRAWING SUPERSEDES USAMC
DRAWINGS 19-48-7418-GSE IINH8 AND
19-48-7424-GSE IINH9.

DO NOT SCALE

| REVISIONS | | | | DRAFTSMAN | PROJ ENG | | |
|-----------|--|--|--|---|--------------------|--------------------|---------------|
| | | | | <i>[Signature]</i> | MWD/HAW | | |
| | | | | CHECKER | LOG ENGRS OFFICE | AMSHI-SP | |
| | | | | <i>[Signature]</i> | <i>[Signature]</i> | <i>[Signature]</i> | |
| | | | | APPROVED | | | |
| | | | | <i>Wesley E. Gilleland</i> | | | |
| | | | | U. S. ARMY MISSILE COMMAND | | | |
| | | | | APPROVED BY ORDER OF COMMANDING GENERAL | | | |
| | | | | U. S. ARMY MATERIEL COMMAND | | | |
| | | | | <i>[Signature]</i> | | | |
| | | | | USAMC AMMO CENTER | | | |
| | | | | U. S. ARMY MATERIEL COMMAND | | | |
| | | | | OCTOBER 1972 | | | |
| | | | | CLASS | DIVISION | DRAWING | FILE |
| | | | | 19 | 48 | 7573 | GSE IINH31 |

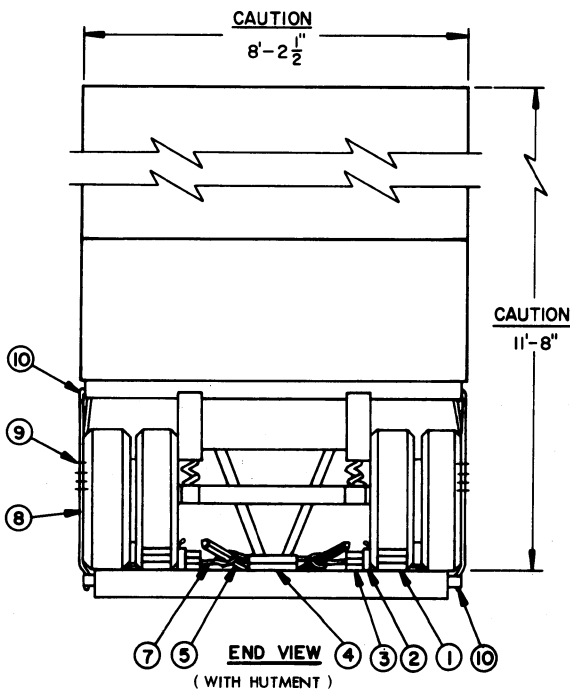


CHOCK BLOCK



ISOMETRIC VIEW

(WITH HUTMENT)



KEY NUMBERS

- ① CHOCK BLOCK (4 REQD). SEE THE DETAIL AT LEFT ABOVE. LOCATE BEVELLED END OF BLOCK AGAINST WHEEL. NAIL THE FIRST TO THE TRAILER FLOOR W/5-12d NAILS. NAIL EACH ADDITIONAL PIECE W/4-20d NAILS. SEE GENERAL NOTE "L" ON PAGE 3.
- 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). PRE-POSITION AND NAIL THE FIRST PIECE TO THE TRAILER FLOOR W/5-12d NAILS. NAIL EACH ADDITIONAL PIECE IN A LIKE MANNER.
- ④ LUNETTE SUPPORT PIECE, 2" X 4" X 12" (DOUBLED) (1 REQD). NAIL THE FIRST PIECE TO THE TRAILER FLOOR W/3-12d NAILS. NAIL THE SECOND PIECE TO THE FIRST IN A LIKE MANNER. SEE GENERAL NOTE "M" ON PAGE 3.
- ⑤ WIRE TWISTER, 2" X 2" BY A LENGTH TO SUIT (10 REQD). SEE GENERAL NOTE "F" ON PAGE 3.
- ⑥ EIGHT (8) STRANDS OF NO. 8 GAGE BLACK ANNEALED WIRE (8 REQD). PASS THRU HOLES IN A WHEEL AND A TRANSPORTER TIE DOWN FACILITY TO FORM A COMPLETE LOOP. TWIST TAUT WITH PIECE MARKED ⑤. SEE GENERAL NOTE "F" ON PAGE 3 AND THE "WHEEL SECUREMENT" DETAIL ON PAGE 4.
- ⑦ FOUR (4) STRANDS OF NO. 8 GAGE BLACK ANNEALED WIRE (2 REQD). PASS THRU LADING LUNETTE AND A TRANSPORTER TIE DOWN FACILITY TO FORM A COMPLETE LOOP. TWIST TAUT WITH PIECE MARKED ⑤.
- ⑧ 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 TRANSPORTER THRU A TIE DOWN DEVICE ON THE LADING AND BACK TO THE TRANSPORTER TIE DOWN FACILITY. NOTE: CABLE OF A LARGER SIZE MAY BE USED. SEE GENERAL NOTES "F", "G", "H", AND "J" ON PAGE 3 AND THE "SPECIAL PROVISIONS" ON PAGE 4.
- ⑨ CLIP, WIRE ROPE, SIZE 3/8" (24 REQD). USE FOUR (4) PER CABLE AND ONE (1) PER THIMBLE. SEE GENERAL NOTE "F" ON PAGE 3, AND KEY NUMBER ⑩ GUIDANCE BELOW.
- ⑩ THIMBLE, STANDARD, SIZE 3/8" (8 REQD). USE ONE (1) PER LADING TIE DOWN FACILITY AND ONE (1) PER TRANSPORTER TIE DOWN FACILITY. SECURE TO WIRE ROPE MARKED ⑧ W/1-CLIP PER THIMBLE. NOTE: 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 WITH A 3/8" CLIP A 1/2" CLIP MAY BE USED. NOTE THAT AN "OPEN PATTERN" THIMBLE IS RECOMMENDED.
- ⑪ WATERPROOF PAPER OR BURLAP OF A SUFFICIENT SIZE TO POSITION UNDER AND EXTEND 2" ABOVE PIECE MARKED ②.

| LADING DATA CHART | | | |
|-------------------|-----------------|----------------|------------------|
| ANTENNA | RECEIVER | TRANSMITTER | GROUP |
| W/O HUTMENT | TARGET TRACKING | TARGET RANGING | MISSILE TRACKING |
| LENGTH * | 27'-11-1/2" | 27'-11-1/2" | 27'-11-1/2" |
| WIDTH | 8'-7" | 8'-11" | 8'-7" |
| HEIGHT | 11'-5" | 11'-5" | 11'-5" |
| GROSS WEIGHT | 12,780 LBS | 13,160 LBS | 12,780 LBS |
| WITH HUTMENT | | | |
| LENGTH * | 28'-1-1/2" | 28'-1-1/2" | 28'-1-1/2" |
| WIDTH | 8'-2-1/2" | 8'-2-1/2" | 8'-2-1/2" |
| HEIGHT | 11'-8" | 11'-8" | 11'-8" |
| GROSS WEIGHT | 13,930 LBS | 14,180 LBS | 13,930 LBS |

* INCLUDES 80" EXTENDED TOW BAR. SEE GENERAL NOTE "M".

| BILL OF MATERIAL | | |
|--|-------------|------------|
| LUMBER | LINEAR FEET | BOARD FEET |
| 2" X 2" | 15 | 5 |
| 2" X 4" | 38 | 25 |
| 2" X 6" | 12 | 2 |
| 2" X 8" | 24 | 22 |
| NAILS | NO. REQD | POUNDS |
| 12d (3-1/4") | 106 | 1-3/4 |
| 20d (4") | 32 | 1-1/4 |
| ROPE, STEEL WIRE, 3/8" DIA ----- 48' REQD ----- 12 LBS | | |
| CLIP, 3/8" ----- 24 REQD ----- 8 LBS | | |
| THIMBLE, STANDARD, 3/8" ----- 8 REQD ----- 2 LBS | | |
| WIRE, NO. 8 GAGE ----- 360' REQD ----- 33 LBS | | |
| WATERPROOF PAPER OR BURLAP ----- AS REQD ----- NIL | | |
| CLIP, 1/2" (ALT FOR 3/8") ----- 8 REQD ----- 4 LBS | | |

MATERIAL SPECIFICATIONS

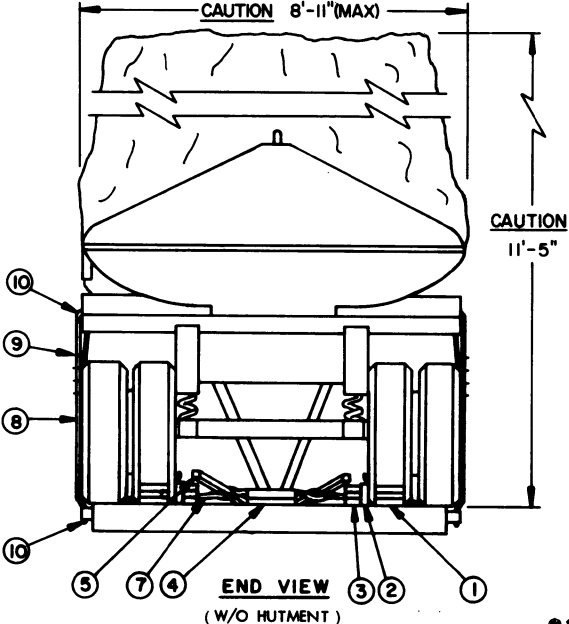
LUMBER -----: DOUGLAS FIR OR COMPARABLE LUMBER WITH STRAIGHT GRAIN AND FREE FROM MATERIAL DEFECTS. REF: FED SPEC MM-L-751.

NAILS -----: COMMON, CEMENT COATED OR CHEMICALLY ETCHED. REF: FED SPEC FF-N-105.
ALT: ANNULAR-RING TYPE NAIL OF THE 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.

CLIP -----: "U" BOLT, CROSBY, HEAVY DUTY (OR EQUAL). REF: FED SPEC FF-C-450, TYPE 1, CLASS 1.

WIRE -----: ANNEALED, BLACK. REF: FED SPEC QQ-W-461.



SEE "LADING DATA CHART" ABOVE FOR ITEMS COVERED.

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 BED OR "LOW-BOY" TRAILERS 8'-0" WIDE WITH WOOD OR WOOD AND METAL FLOORS. 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 USED OR THE QUANTITIES OF UNITS TO BE SHIPPED, WITH THE VIEW OF FULL UTILIZATION OF CARRIER EQUIPMENT. CAUTION: THE LOADS AS SHOWN MAY REQUIRE "CLEARANCE" CONSIDERATION BECAUSE OF EXCESSIVE LADING SIZE. SEE NOTE "M" BELOW.
- 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 THE DOWN 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. FOR LADING DATA, SEE THE "LADING DATA CHART" AT LEFT.
- 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 NUTS ON 3/8" CABLE CLIPS WILL BE TIGHTENED TO A TORQUE OF 35 TO 45 FOOT POUNDS. CAUTION: DURING WIRE ROPE INSTALLATION, AVOID CONTACT WITH ALL ELECTRICAL WIRING, VEHICLE CONTROLS AND OTHER APPURTENANCES. METAL FILLERS OR COMPARABLE CUSHIONING MATERIAL 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 ALL HAND BRAKES MUST BE "SET" WITH HAND LEVERS WIRE TIED OR BLOCKED.
- G. SEE THE "SPECIAL PROVISIONS" ON PAGE 4 FOR SPECIFICATIONS WHICH MUST BE APPLIED IF CHAINS AND LOAD BINDERS ARE USED.
- H. WIRE ROPE CABLES 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 TIE DOWNS BE INSTALLED TO APPROXIMATE THE ANGLE SHOWN; HOWEVER, IF PLACEMENT OF TRANSPORTER TIE DOWN FACILITIES PREVENTS THIS, CARE MUST BE EXERCISED TO ENSURE THAT CABLE TIE DOWNS ON THE SAME SIDE OF THE LADING ARE INSTALLED SO THEIR RETENTION FORCES ACT IN OPPOSITE LONGITUDINAL DIRECTIONS.
- K. 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.
- 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.
- M. IF DESIRED, TO REDUCE THE LENGTH OF THE SPACE USED TO SHIP THE DEPICTED ITEM (S), THE TOW BAR MAY BE TURNED 180° TO EXTEND UNDER THE BODY OF THE ITEM AND SECURED IN THE SAME MANNER AS SPECIFIED IN THE LOAD VIEW.
- N. CAUTION: DURING TRANSIT, SPRING-BRIDGING LINK RODS MUST BE DISENGAGED.

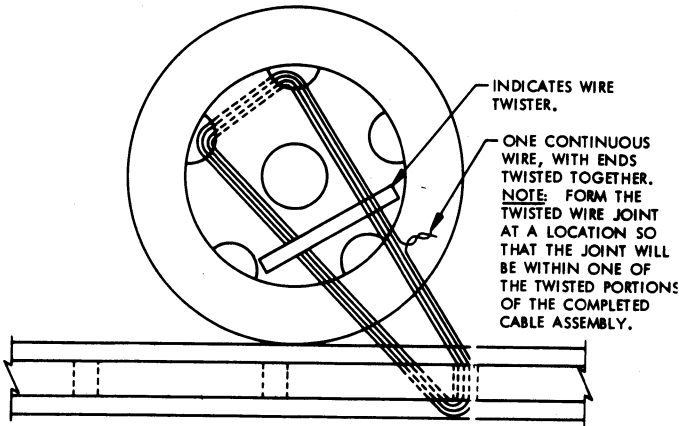
LOAD AS SHOWN

| ITEM | QUANTITY | WEIGHT (APPROX) |
|---|----------|-----------------|
| * ANTENNA-RECEIVER-TRANSMITTER TRAILER WITH HUTMENT | 1 | 14,180 LBS |
| DUNNAGE | | 246 LBS |
| TOTAL WEIGHT | | 14,426 LBS |

SPECIAL PROVISIONS:

LADING MAY BE SECURED BY CARRIER-OWNED CHAINS AND LOAD BINDERS IN LIEU OF SPECIFIED STRANDED ANNEALED WIRE AND/OR 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.
2. TWO (2) LINES OF 3/8" CHAIN, OR THREE (3) LINES OF 1/4" CHAIN MAY BE SUBSTITUTED FOR EACH WIRE ROPE CABLE, PIECE MARKED ⑧ ON PAGE 2. CHAINS SHALL BE INSTALLED AT THE SAME LOCATIONS SHOWN FOR WIRE ROPE CABLES AND IN THE SAME MANNER AS DIRECTED IN GENERAL NOTE "J" ON PAGE 3. IF A TIE DOWN FACILITY WILL NOT ACCOMMODATE THE CHAINS, SEE THE "ALTERNATIVE TIE DOWN METHOD" ON THIS PAGE FOR GUIDANCE.
3. FOR SECURING THE LADING LUNETTE, IN LIEU OF THE STRANDED WIRE TIE DOWNS, PIECE MARKED ⑦ ON PAGE 2, TWO (2) LINES OF 1/4" CHAIN MAY BE SUBSTITUTED.
4. FOR WHEEL SECUREMENT, ONE (1) LINE OF 1/4" CHAIN MAY BE USED IN LIEU OF TWO (2) STRANDED WIRE TIE DOWNS MARKED ④ ON PAGE 2. THE CHAIN SHALL BE INSTALLED TO EXTEND FROM A FORWARD TIE DOWN FACILITY AT THE SIDE OF THE TRANSPORTER, THRU AN UPPER LIGHTENING HOLE OF THE WHEEL, BACK THRU AN ADJACENT LIGHTENING HOLE AND THEN DOWN TO A REARWARD TIE DOWN FACILITY ON THE SAME SIDE OF THE TRANSPORTER.
5. IF DESIRED, CHAINS OF A LARGER SIZE THAN SPECIFIED ABOVE MAY BE USED.
6. 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.
7. THE TENSIONING DEVICE OF EACH LOAD BINDER MUST BE SAFETY-WIRE TIED TO PREVENT ACCIDENTAL OPENING OR LOOSENING IN TRANSIT.
8. ANTI-CHAFING MATERIAL MUST BE PLACED AND SECURED BETWEEN CHAINS AND LADING AT ALL POINTS OF CONTACT, EXCEPT AT DEFINITIVE TIE DOWN POINTS.



WHEEL SECUREMENT

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

CLIP, WIRE ROPE, SIZE 3/8"
(3 REQD, 2 PER CABLE AND
1 PER THIMBLE).

INDICATES TWO (2) LINES
OF 3/8" CHAIN OR THREE
(3) LINES OF 1/4" CHAIN.



THIMBLE, STANDARD,
SIZE 3/8" (1 REQD).

STEEL WIRE ROPE, 3/8" DIA.,
6.56 TONS, 36" LONG (1 REQD).

ALTERNATIVE TIE DOWN METHOD

THIS VIEW DEPICTS A METHOD WHICH MAY BE USED WHEN THE LADING TIE DOWN FACILITY, THROUGH WHICH A CHAIN TIE DOWN IS TO BE THREADED, IS TOO SMALL TO ACCOMMODATE THE CHAIN. IF DESIRED, OR IF SPECIFIED CABLE IS NOT AVAILABLE, A SHACKLE OF SUITABLE SIZE TO RECEIVE A CHAIN TIE DOWN, MAY BE USED IN LIEU OF THE CABLE METHOD SHOWN ABOVE. **CAUTION:** EXTREME CARE MUST BE USED IN TENSIONING CHAINS TO PREVENT DAMAGE TO THE LADING.