# LOADING AND BRACING ON FLAT BED OR "LOW-BOY" TRAILER OF 105 MM HOWITZER, XM204

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CAUTION: THE PROCEDURES SHOWN HEREIN ARE ONLY APPLICABLE FOR HIGHWAY MOVEMENTS, NOT FOR TRAILER-ON-FLAT-CAR MOVEMENTS.

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#### GENERAL NOTES

- A. THIS DOCUMENT HAS BEEN PREPARED AND ISSUED IN ACCORDANCE WITH AR 740-1.
- 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.
- 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 OVER-ALL DIMENSIONS MUST MEET STATE LAW REQUIREMENTS.
- E. LADING DATA: FOR THE 105MM HOWITZER.

ITEM DIMENSIONS ----- 15'-6" LONG X 6'-5" WIDE X 4'-6" HIGH. \*
ITEM GROSS WEIGHT ---- 4,778 POUNDS (APPROX).

- F. NO. 8 GAGE BLACK ANNEALED WIRE IS SPECIFIED FOR TIEDOWN TO SECURE THE ITEM. IF DESIRED, OR IF NO. 8 GAGE WIRE IS NOT AVAILABLE, WIRE OF A LARGER DIAMETER OR 3/8" (OR LARGER) STEEL WIRE ROPE MAY BE SUBSTITUTED. THE NUTS ON 3/8" CABLE CLIPS WILL BE TIGHTENED TO A TORQUE OF 35 TO 40 FOOT POUNDS. CAUTION: DURING WIRE ROPE INSTALLATION, AVOID CONTACT WITH ALL VEHICLE CONTROLS AND OTHER APPURTENANCES. METAL FILLERS OR COMPARABLE CUSHIONING MATERIALS MUST BE USED BETWEEN TIE DOWN WIRES AND/OR CABLES AND ALL SHARP EDGES. ADDITIONALLY, LADING TIRES WILL BE INFLATED TO NORMAL HIGHWAY OPERATING PRESSURE AND ALL HAND BRAKES MUST BE "SET" WITH THE HAND LEVERS WIRE—TIED.
- G. SEE THE "SPECIAL PROVISIONS" AT THE RIGHT FOR SPECIFICATIONS WHICH MUST BE APPLIED IF CHAINS AND LOAD BINDERS ARE USED.
- H. CAUTION: IT IS RECOMMENDED THAT WIRE TIEDOWNS OR STEEL WIRE ROPE TIEDOWNS BE INSTALLED TO APPROXIMATE THE ANGLE SHOWN; HOWEVER, IF PLACEMENT OF TRANSPORTER TIE DOWN FACILITIES PREVENTS THIS, CARE MUST BE EXERCISED TO ENSURE THAT TIEDOWNS ON THE SAME SIDE OF THE LADING ARE INSTALLED SO THEIR RETENTION FORCES ACT IN OPPOSITE LONGITUDINAL DIRECTIONS.
- J. WIRE TIEDOWNS OR STEEL WIRE ROPE MUST BE TENSIONED TAUT. TENSIONING OF STEEL WIRE ROPE CAN BE ACCOMPLISHED BY EMPLOYING TWO (2) CABLE "GRIPPERS" AND AN APPLICABLE SIZED "COME-A-LONG" TYPE MECHANICAL HOIST. CAUTION: EXTREME CARE MUST BE USED IN TENSIONING STEEL WIRE ROPE TO PREVENT DAMAGE TO THE LADING OR DEFORMATION OF LADING TIE DOWN FACILITIES.
- K. NOTICE: A STAGGERED NAILING PATTERN WILL BE USED WHEREVER POSSIBLE WHEN NAILS ARE DRIVEN INTO JOINTS OF DUNNAGE ASSEMBLIES. ALSO, A STAGGERED NAILING PATTERN WILL BE USED WHEN DUNNAGE IS NAILED TO THE FLOOR OF THE TRANSPORTING VEHICLE, OR WHEN LAMINATING DUNNAGE. THE NAILING PATTERN WILL BE ADJUSTED AS REQUIRED SO THAT A NAIL DOES NOT PENETRATE INTO OR NEAR A CRACK BETWEEN THE FLOOR BOARDS. 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.
- L. DUNNAGE LUMBER SPECIFIED THROUGHOUT THIS PROCEDURAL DRAWING IS OF NOMINAL SIZE UNLESS OTHERWISE DIMENSIONED. FOR EXAMPLE, 2" X 6" MATERIAL IS ACTUALLY 1-1/2" THICK BY 5-1/2" WIDE AND 4" X 4" MATERIAL IS ACTUALLY 3-1/2" THICK BY 3-1/2" WIDE.

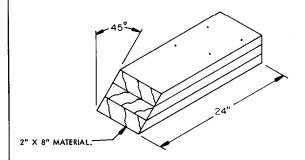
# MATERIAL SPECIFICATIONS

<u>LUMBER</u> :	DOUGLAS FIR OR COMPARABLE LUMBER WITH STRAIGHT GRAIN AND FREE OF MATERIAL DEFECTS. REF: FED SPEC MM-L-751.
<u>NAILS</u> ::	COMMON, CEMENT COATED OR CHEMICALLY ETCHED. REF: FED SPEC FF-N-105. ALT: ANNULAR-RING TYPE NAIL OF SAME SIZE.
$\underline{\text{WIRE}}::$	ANNEALED, BLACK. REF: FED SPEC QQ-W-461.
<u>ROPE</u> :	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.
<u>CLIP</u> ::	"U" BOLT, CROSBY, HEAVY DUTY ( OR EQUAL ), REF: FED SPEC FF-C-450, TYPE I, CLASS I.
STRAPPING, STEEL - :	CLASS 1, TYPE I OR IV, HEAVY DUTY, FINISH A, B ( GRADE 2 ), OR C, FED SPEC QQ-5-781.
THIMBLE; STAKE POCKET PROTECTOR:	COMMERCIAL GRADE.
SEAL, STRAP :	TYPE D, STYLE I, II, OR IV, CLASS H, FED SPEC QQ-S-781.

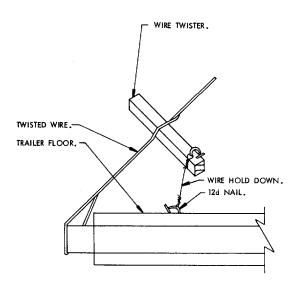
### SPECIAL PROVISIONS:

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 DUNNAGING MATERIALS, PROVIDING THE FOLLOWING CONDITIONS ARE MET:

- ONLY CHAINS AND LOAD BINDERS OF GOOD QUALITY SHOULD BE USED. <u>CAUTION</u>: EXTREME CARE MUST BE USED IN TENSIONING CHAINS TO PREVENT DAMAGE TO THE LADING OR DEFORMATION OF LADING TIE DOWN FACILITIES.
- ONE (1) LINE OF 1/4" CHAIN, MAY BE SUBSTITUTED FOR EACH WIRE TIEDOWN OR STEEL WIRE ROPE TIE DOWN MARKED (7). CHAINS SHALL BE INSTALLED AT THE SAME LOCATIONS SHOWN FOR WIRE TIE DOWNS AND IN THE SAME MANNER AS DIRECTED IN GENERAL NOTE "H".
- 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 RE-JECTION OF A CHAIN OR LOAD BINDER. CHAINS MUST NOT BE TWISTED DURING INSTALLATION.
- THE TENSIONING DEVICE OF EACH LOAD BINDER MUST BE SAFETY-WIRE TIED TO PREVENT ACCIDENTAL OPENING OR LOOSENING IN TRANSIT.
- 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.
- \* WITH CANNON IN LOWERED POSITION. SEE PAGE 6 FOR INFORMATION RELATIVE TO LADING HEIGHT WHEN THE CANNON IS IN THE RAISED POSITION (ALTERNATIVE LOADING AND BRACING PROCEDURES).

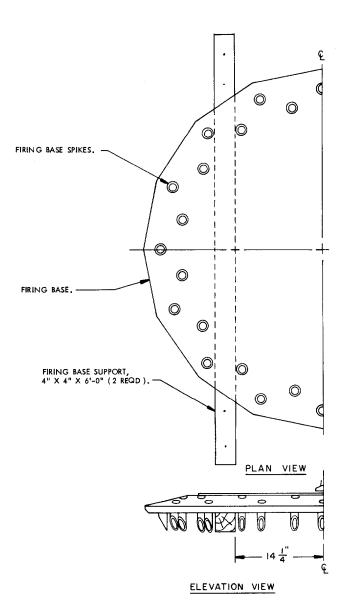


CHOCK BLOCK



# WIRE TWISTER SECUREMENT

DRIVE ONE 12d NAIL INTO THE LOW END OF THE WIRE TWISTER AND ONE 12d NAIL INTO THE TRAILER FLOOR. WRAP ONE END OF THE WIRE HOLD DOWN AROUND THE NAIL ON THE WIRE TWISTER THEN WRAP THE OTHER END AROUND THE NAIL IN THE TRAILER FLOOR. BEND BOTH PARTIALLY DRIVEN NAILS OVER UNTIL NAIL HEADS CONTACT TWISTER OR FLOOR.

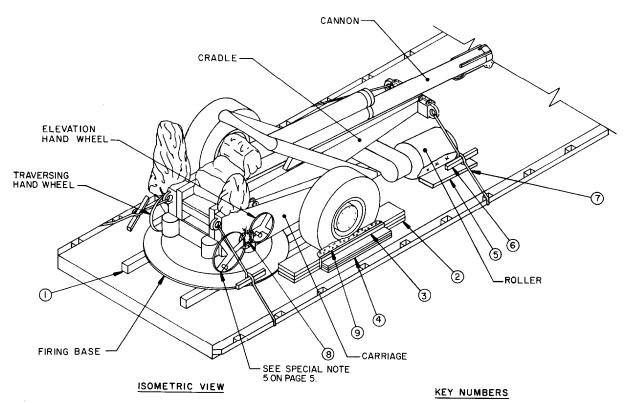


PARTIAL VIEW OF FIRING BASE

SEE SPECIAL NOTE 2 ON PAGE 5.

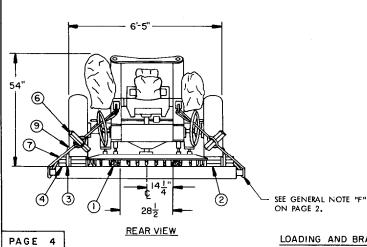
DETAILS

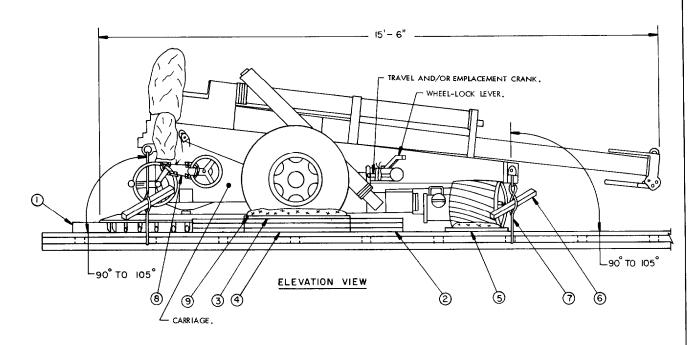
PAGE 3



- HRING BASE SUPPORT, 4" X 4" X 6'-0" (2 REQD), NAIL TO THE TRAILER FLOOR W/2-40d NAILS AT EACH END. SEE THE "PARTIAL VIEW OF FIRING BASE" DETAIL ON PAGE 3 AND SPECIAL NOTE 2 ON PAGE 5.
- (2) CHOCK BLOCK (4 REQD), SEE THE DETAIL ON PAGE 3. 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 "K" ON PAGE 2.
- (3) RUBBING STRIP, 2" X 6" X 36" (2 REQD). POSITION ON EDGE AND NAIL TO A LOWER PIECE MARKED (4) W/5-12d NAILS.
- (4) SIDE BLOCKING, 2" X 4" X 36" (TRIPLED) (2 REQD). NAIL THE FIRST PIECE TO THE TRAILER FLOOR W/5-12d NAILS. NAIL EACH ADDITIONAL PIECE IN A LIKE MANNER.
- (5) ROLLER RETAINER, 2" X 8" X 24" (2 REQD). POSITION AGAINST THE ROLLER AND NAIL TO THE TRAILER FLOOR W/3-12d NAILS.
- WIRE TWISTER, 2" X 2" BY A LENGTH TO SUIT (4 REQD). SEE THE "WIRE TWISTER SECUREMENT" DETAIL ON PAGE 3.
- (7) TWELVE (12) STRANDS OF NO. 8 GAGE BLACK ANNEALED WIRE (4 REQD). INSTALL WIRE TO APPROXIMATE ANGLE SHOWN. PASS THROUGH A LADING TIE-DOWN DEVICE AND A TRAILER TIE-DOWN FACILITY TO FORM A COMPLETE LOOP. TWIST TAUT WITH PIECE MARKED (3). SEE GENERAL NOTES "F", "H", AND "J" ON PAGE 2. SEE THE "SPECIAL PROVISIONS" ON PAGE 2 AND SPECIAL NOTES 5 AND 6 ON PAGE 5.
- (B) WIRE, NO, 14 GAGE, SOFT ANNEALED ( AS REQUIRED ). WIRE TIE THE TRAVEL AND/OR EMPLACEMENT CRANK WITH THREE WRAPS AROUND THE CRANK AND THE CRANK HOUSING, TWIST ENDS TOGETHER, WIRE TIE THE TRAVERSING HAND WHEEL TO THE ELEVATION HANDWHEEL BY WRAPPING WIRE AROUND THE SPOKES TO KEEP WHEELS FROM TURNING. CAUTION: DO NOT OVER TENSION WIRE AND DAMAGE RUBBERIZED COATING ON HAND WHEELS.

WATER PROOF PAPER OR BURLAP OF A SUFFICIENT SIZE TO POSITION UNDER AND EXTEND 2" ABOVE PIECES MARKED ③ AND ⑤. ALSO, POSITION UNDER OR AROUND WIRE AT ALL POINTS OF CONTACT WITH THE HAND WHEELS.



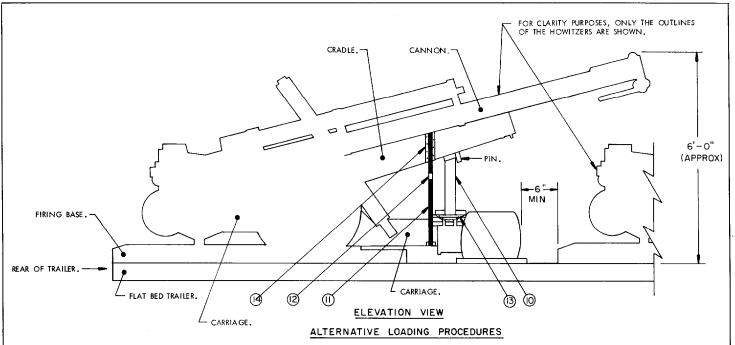


#### SPECIAL NOTES:

- 1. CENTER THE HOWITZER ON THE WIDTH OF THE TRAILER AS SHOWN.
- 2. AFTER THE HOWITZER IS PROPERLY LOCATED ON THE TRAILER, RELEASE THE WHEELLOCK LEVER AND CRANK THE WHEELS UP, THUS LOWERING THE CARRIAGE TO REST ON THE FIRING BASE AND ROLLERS. BEFORE THE FIRING BASE IS COMPLETELY LOWERED, POSITION THE 4" X 4" FIRING BASE SUPPORT PIECES INTO POSITION AS SHOWN ON PAGES 3 AND 4. THE FIRING BASE CAN BE ROTATED SO THAT 4" X 4" BASE SUPPORT PIECES ARE PARALLEL TO THE SIDES OF THE TRAILER.
- 3. THE CANNON MUST BE LOWERED UNTIL THE CRADLE RESTS ON THE CARRIAGE.
- ADJUST THE WHEELS SO THE TIRES ARE IN SOLID CONTACT WITH THE TRAILER FLOOR.
- 5. IT WILL BE NECESSARY TO POSITION THE REAR TIE DOWNS FROM THE TIE DOWN DEVICE ON THE HOWITZER THROUGH THE TRAVERSING HANDWHEELS, TO THE TRAILER TIE DOWN FACILITY. THE HAND WHEEL SHOULD BE TURNED TO AVOID WHEEL SPOKE/WIRE CONTACT. IF THE TRAILER TIE DOWN FACILITY IS LOCATED IN SUCH A MANNER THAT THE HANDWHEEL WILL INTERFERE WITH THE WIRE TIE DOWN, THE WIRE TIE DOWNS MAY BE POSITIONED TO PASS BEHIND THE HANDWHEEL BUT MUST MAINTAIN THE 90° TO 105° ANGLE. SEE GENERAL NOTE "H" ON PAGE 2.
- 6. IF STEEL WIRE ROPE IS USED IN LIEU OF TWISTED WIRE TIE DOWNS, SEE THE "CABLE JOINT" DETAIL ON PAGE 8.
- 7. FOR MAXIMUM QUANTITY OF HOWITZERS ON A 40'-0" LONG TRAILER, SEE THE "ALTERNATIVE LOADING PROCEDURES" ON PAGES 6 AND 7.

LUMBER	LINEAR FEET	BOARD FEET
2" X 2"	6	2
2" X 4"	18	12
2" X 6"	6	6
2" X 8"	27	36
4" X 4"	12	16
NAILS	NO. REQD	POUNDS
12d (3-1/4")	60	1
20d (4")	32	1-1/-
40d (5")	8	1/.

# LOAD AS SHOWN



#### SPECIAL NOTES:

- 1. FOR MAXIMUM QUANTITY OF THREE (3) HOWITZERS ON A 40'-0" LONG TRAILER THE HOWITZERS MUST BE POSITIONED AS SHOWN ABOVE WITH THE CANNON ON THE REAR TWO HOWITZERS ELEVATED AND OVERLAPPING THE BREACH OF THE FORWARD HOWITZER. NOTE: THE REAR HOWITZER MUST BE POSITIONED WITH THE REAR OF THE FIRING BASE IN LINE WITH THE REAR END OF THE TRAILER.
- 2. CENTER A HOWITZER ON THE WIDTH OF THE TRAILER AS SHOWN.
- 3. AFTER THE HOWITZER IS PROPERLY LOCATED ON THE TRAILER, RELEASE THE WHEEL-LOCK LEVER AND CRANK THE WHEELS UP, THUS LOWERING THE CARRIAGE TO REST ON THE FIRING BASE AND ROLLERS. BEFORE THE FIRING BASE IS COMPLETELY LOWERED, POSITION THE 4" X 4" FIRING BASE SUPPORT PIECES INTO POSITION AS SHOWN ON PAGES 3 AND 4. THE FIRING BASE CAN BE ROTATED SO THAT 4" X 4" BASE SUPPORT PIECES ARE PARALLEL TO THE SIDES OF THE TRAILER.
- 4. ADJUST THE WHEELS SO THE TIRES ARE IN SOLID CONTACT WITH THE TRAILER FLOOR.
- 5. IT WILL BE NECESSARY TO POSITION THE REAR TIE DOWNS FROM THE TIE DOWN DEVICE ON THE HOWITZER THROUGH THE TRAVERSING HANDWHEELS, TO THE TRAILER TIE DOWN FACILITY. THE HAND WHEEL SHOULD BE TURNED TO AVOID WHEEL SPOKE/WIRE CONTACT. IF THE TRAILER TIE DOWN FACILITY IS LOCATED IN SUCH A MANNER THAT THE HANDWHEEL WILL INTERFERE WITH THE WIRE TIE DOWN, THE WIRE TIE DOWNS MAY BE POSITIONED TO PASS BEHIND THE HANDWHEEL BUT MUST MAINTAIN THE 90° TO 105° ANGLE. SEE GENERAL NOTE "H" ON PAGE 2.
- 6. IF STEEL WIRE ROPE IS USED IN LIEU OF TWISTED WIRE TIE DOWNS, SEE THE "CABLE JOINT" DETAIL ON PAGE 8.
- 7. NOTE: PIECES MARKED (1) THROUGH (1) MUST BE POSITIONED PRIOR TO POSITIONING OF PIECES MARKED (3), (7), AND (8) AS SHOWN ON PAGES 4 AND 5.
  - A. CONSTRUCT THE CANNON SUPPORT ASSEMBLY. SEE KEY NUMBER (1) ON THIS PAGE.
  - B. ELEVATE THE CANNON AND POSITION THE CANNON SUPPORT ASSEMBLY WITH THE TOP PIECE JUST BEHIND THE PIN AND THE BRACE SUPPORT PIECES RESTING ON THE CARRIAGE.
  - C. LOWER THE CANNON ON TO THE TOP PIECE OF THE CANNON SUPPORT ASSEMBLY MAKING SURE THE BRACE IS IN A VERTICAL POSITION.
  - D. WIRE TIE THE CANNON SUPPORT ASSEMBLY TO THE CARRIAGE. SEE THE "WIRE RETAINER" DETAIL ON PAGE 7.
  - E. POSITION THE RETAINER STRAP. SEE KEY NUMBERS (1) AND (2) ON THIS PAGE.
- 8. THE FIRING BASE SUPPORT PIECES, POSITIONED UNDER THE FIRING BASE OF THE REARMOST HOWITZER, MUST NOT EXTEND BEYOND THE REAR END OF THE TRAILER.

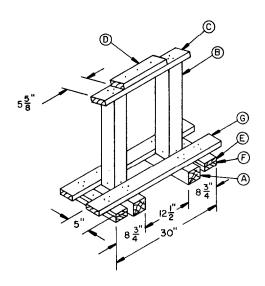
#### SPECIAL NOTES ( CONTINUED ):

9. EACH LADING UNIT WILL BE SECURED WITH BLOCKING AND TIEDOWN MATERIALS AS SPECIFIED ON PAGES 4 AND 5. HOWEVER, THE MATERIAL IDENTIFIED IN KEY NUMBERS

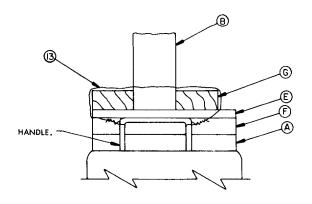
① THRU ③ WILL BE INSTALLED IN THAT ORDER; THEN THE MATERIAL SPECIFIED IN KEY NUMBERS ③ THRU ④ BELOW WILL BE INSTALLED, AND THEN THE REMAINING MATERIAL SPECIFIED IN KEY NUMBERS ④ THRU ② WILL BE INSTALLED. SEE SPECIAL NOTE 7 ON THIS PAGE.

# KEY NUMBERS (SEE SPECIAL NOTE 9 ABOVE )

- (1) CANNON SUPPORT ASSEMBLY (1 REQD). SEE THE DETAIL ON PAGE 7 AND SPECIAL NOTE 7 ON THIS PAGE. WIRE TIE AS SHOWN IN THE "WIRE RETAINER" DETAIL ON PAGE 7.
- (1) RETAINER STRAP, 1-1/4" X .035" OR .031" X 10'-0" LONG STEEL STRAPPING (1 REQD). THREAD OVER THE CRADLE, PASSING UNDER THE CANNON AND BETWEEN THE CRADLE AND ACCESSORY BOX. THREAD STRAP UNDER THE ROUND PART OF THE CARRIAGE, RIGHT BEHIND THE CANNON SUPPORT ASSEMBLY, SEAL WITH ONE SEAL.
- (12) SEAL FOR 1-1/4" STEEL STRAPPING ( 1 REQD ). DOUBLE CRIMP THE SEAL.
- (3) WIRE, NO. 14 GAGE, SOFT ANNEALED (AS REQUIRED), WIRE TIE THE CANNON SUPPORT ASSEMBLY IN PLACE. SEE THE "WIRE RETAINER" DETAIL ON PAGE 7.
- (4) WATER PROOF PAPER OR BURLAP OF A SUFFICIENT SIZE TO POSITION UNDER THE RETAINER STRAP AT ALL POINTS OF CONTACT WITH THE HOWITZER.



CANNON SUPPORT ASSEMBLY

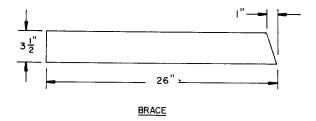


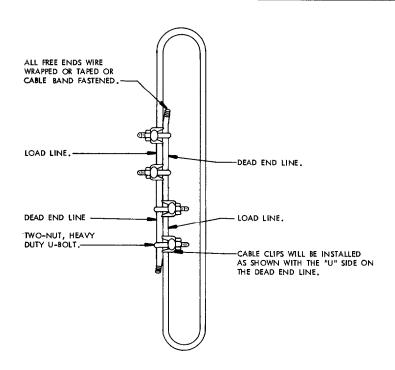
# WIRE RETAINER

THREAD ONE END OF THE WIRE THROUGH THE HANDLE AND TWIST TIGHT. BRING THE WIRE OVER THE TOP OF THE TIE PIECES, BACK THROUGH THE HANDLE, AND TWIST TIGHT.

### KEY LETTERS

- (A) BRACE SUPPORT, 4" X 4" X 12" (2 REQD). POSITION AS SHOWN.
- BRACE, 4" X 4" X 26" (2 REQD). SEE THE "BRACE" DETAIL ON THIS PAGE FOR BEVEL CUT. POSITION AS SHOWN IN "CANNON SUPPORT ASSEMBLY" DETAIL AND TOENAIL TO THE BRACE SUPPORT W/4-16d NAILS (ONE EACH SIDE).
- C TOP PIECE, 2" X 4" X 26" (-1 REQD.). NAIL TO THE BRACES WITH 3-124 NAILS AT EACH JOINT.
- D SPACER, 2" X 4" X 12-3/4" (1 REQD). POSITION AS SHOWN AND NAIL TO THE TOP PIECE W/3-10d NAILS.
- (E) SIDE BLOCKING, 1" X 4" X 12 (2 REQD). NAIL TO PIECE MARKED (F) W/3-6d NAILS.
- F SIDE BLOCKING, 2" X 4" X 12" (2 REQD).
- (3) TIE PIECE, 2" X 4" X 36" (2 REQD). POSITION AGAINST THE BRACE AND NAIL TO THE BRACE SUPPORT PIECES W/3-104 NAILS AT EACH JOINT. NAIL TO THE LAMINATED SIDE BLOCKING PIECES W/3-104 NAILS AT EACH JOINT.





### CABLE JOINT

PROPER TIGHTENING OF THE WIRE ROPE CLIP NUTS CAN BE ACCOMPLISHED BY UTILIZING A PROPER SIZED TORQUE WRENCH. AFTER THE NUTS HAVE BEEN INITIALLY TIGHTENED, THE "U" SIDE OF EACH CLIP MUST BE STRUCK SEVERAL TIMES WITH A HAMMER TO INSURE PROPER SEATING INTO THE DEAD END LINE. FINAL TORQUE WILL BE ACQUIRED BY REPEATEDLY AND ALTERNATELY TIGHTENING EACH CLIP NUT. NOTICE: IF CABLE IS USED FOR TIEDOWNS, THIMBLES MUST BE USED AT THE TRAILER TIE-DOWN FACILITY AND THE LADING TIEDOWN DEVICE. SECURE EACH THIMBLE TO THE CABLE WITH ONE CLIP.