

APPROVED BY

BUREAU OF EXPLOSIVES

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DATE 9/25/71

LANCE

LOADING AND BRACING (TL & LTL) ON FLAT BED TRAILERS OF MAIN ASSEMBLAGE, XM5, PACKED IN THE XM599 CONTAINER

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REVISIONS			DRAFTSMAN <i>ASW/AM</i>	PROJ ENG <i>MWD/AM</i>	ASST. LIAISON <i>AM</i>
			CHECKER <i>RAK/AM</i>	ISSUE OFFICE <i>John Boyd</i>	APPROVED BY <i>M. Sigman</i>
	/		APPROVED <i>M. Sigman</i> U.S. ARMY MISSILE COMMAND APPROVED BY CHIEF OF CORPS/ARMBG GENERAL U. S. ARMY MATERIEL COMMAND <i>A. E. Elvinger</i> USAMC ARMBG CENTER U. S. ARMY MATERIEL COMMAND NOVEMBER 1971		
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DO NOT SCALE

GENERAL NOTES

- A. THIS DOCUMENT HAS BEEN PREPARED AND ISSUED IN ACCORDANCE WITH AMCR 740-13, AND AUGMENTS TM 743-200-1 (CHAPTER 5).
- B. LOADS AS SHOWN HEREIN ARE BASED ON FLAT BED AND DROP FRAME TRAILERS 8'-0" WIDE BY 40'-0" LONG HAVING WOOD OR WOOD AND METAL FLOORS. TRAILERS HAVING ALL METAL FLOORS WILL NOT BE USED FOR SHIPPING THIS ITEM.
- C. THE OUTLOADING PROCEDURES SPECIFIED HEREIN ARE APPLICABLE TO THE LANCE MAIN ASSEMBLAGE, XMS, WHEN PACKED IN THE XM599 CONTAINER. SUBSEQUENT REFERENCE TO CONTAINER HEREIN MEANS THE CONTAINER WITH MISSILE COMPONENTS.
- D. FOR DETAIL OF THE XM599 CONTAINER SEE DRAWING NO. E-10-161905.
CONTAINER DIMENSIONS ---- 161" LONG X 39" WIDE X 43" HIGH.
GROSS WEIGHT ----- 3,993 POUNDS (APPROX).
- E. THIS ITEM IS A DOT CLASS "B" EXPLOSIVE, WITH OR WITHOUT LIQUID PROPELLANTS, AND WILL BE SHIPPED UNDER DOT SPECIAL PERMIT NO. 3600. THESE PROCEDURES CAN ALSO BE UTILIZED FOR THE SHIPMENT OF THE CONTAINERS WHEN THEY ARE LOADED WITH AN ITEM OTHER THAN THE SPECIFIED MAIN ASSEMBLAGE, OR WHEN THEY ARE EMPTY. **NOTE:** 18" X 32" PLACARD BOARDS MUST BE PROVIDED AS REQUIRED BY LAW AND/OR REGULATION. **CAUTION:** PLACARD BOARDS AND BOARD MOUNTING BRACKETS MUST NOT BE NAILED TO THE LADING; THEY WILL BE NAILED TO THE CARRYING VEHICLE.
- F. **CAUTION:** LOADING OF THE DEPICTED ITEM IS RESTRICTED TO NOT MORE THAN TWO (2) LAYERS IN HEIGHT.
- G. SELECTION OF A VEHICLE TO BE USED TO TRANSPORT THE DESIGNATED ITEM MUST COMPLY WITH AR 55-355, CHAPTER 213, FOR EXPLOSIVES OR OTHER DANGEROUS ARTICLES, IN FULL.
- H. GROSS WEIGHT AND AXLE DISTRIBUTION OF WEIGHT FOR A LOAD WILL BE THE RESPONSIBILITY OF THE CARRIER. THE CARRIER WILL ADVISE THE SHIPPER OF THE APPLICABLE LOADING REQUIREMENTS, AND THE SHIPPER WILL LOAD ACCORDINGLY.
- J. **NOTICE:** A SHIPMENT WILL BE POSITIONED ON THE TRAILER CONSISTENT WITH STATE WEIGHT LAWS. THE NUMBER OF UNITS MAY BE ADJUSTED TO FIT THE QUANTITY TO BE SHIPPED; HOWEVER, THE APPROVED METHODS CONTAINED HEREIN MUST BE FOLLOWED AS CLOSELY AS POSSIBLE FOR BLOCKING, BRACING, AND STAYING OF THE DESIGNATED ITEMS.
- K. OTHER TYPES OF LADING ITEMS MAY BE LOADED ON THE TRAILERS WHICH ARE PARTIALLY LOADED WITH THE DESIGNATED ITEM, PROVIDING THE TOTAL LOAD IS COMPATIBLE, EXISTING DIRECTIVES ARE NOT VIOLATED, AND THE OTHER LADING ITEMS ARE BLOCKED AND BRACED TO EQUAL THE BLOCKING AND BRACING CRITERIA SPECIFIED HEREIN.
- L. IF THE CAPACITY OF THE MATERIALS HANDLING EQUIPMENT PERMITS, IT IS RECOMMENDED THAT CONTAINERS BE UNITIZED PRIOR TO PLACEMENT ABOARD THE TRAILER. SEE THE "UNITIZING AND HANDLING PROCEDURAL GUIDANCE" ON PAGE 3.
- M. LADING WILL NOT BE SECURED BY CHAINS AND/OR LOAD BINDERS IN LIEU OF SPECIFIED DUNNAGE.
- N. **CAUTION:** REGARDLESS OF THE TYPE OF TRAILER INVOLVED, ONLY THOSE TRAILERS HAVING TIE-DOWN STRAP ANCHORING FACILITIES WHICH PROVIDE HOLDING STRENGTH EQUAL TO OR GREATER THAN THE STRENGTH OF THE TIE-DOWN STRAPS, SHOULD BE USED. IF THE STRAP ANCHOR DEVICES ARE NOT EQUAL TO OR GREATER THAN THE STRENGTH OF THE TIE-DOWN STRAPS, THE STRAPS MAY BE APPLIED TO FORM A COMPLETE LOOP WHICH ENCOMPASSES BOTH THE LADING AND THE TRAILER FRAME AND/OR BED. **CAUTION:** AVOID TRAILER WHEELS, FIFTH WHEEL PLATE, CONTROLS AND OTHER APPURTENANCES. USE EDGE PROTECTORS ON ALL SHARP EDGES.
- O. WHEN ANY STRAP 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. **CAUTION:** EXERCISE CARE DURING TENSIONING TO PREVENT DAMAGE TO THE CONTAINERS.
- P. 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.

(GENERAL NOTES CONTINUED)

MATERIAL SPECIFICATIONS

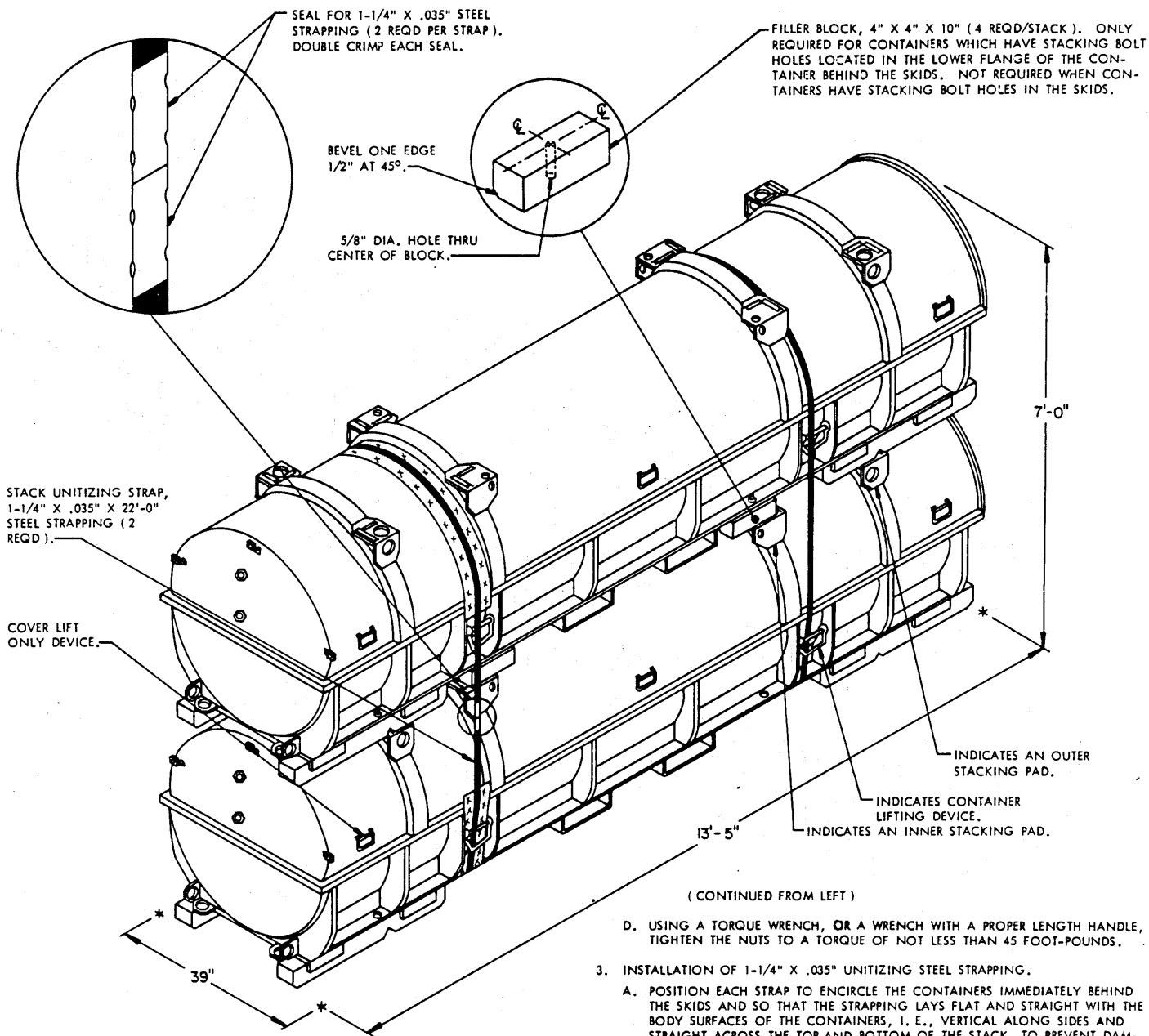
- LUMBER** ----- : SEE TM 743-200-1, DUNNAGE LUMBER; FED SPEC MM-L-751.
- NAILS** ----- : COMMON, CEMENT COATED OR CHEMICALLY ETCHED,
FED SPEC FF-N-105.
ALT: ANNULAR-RING TYPE NAIL OF THE SAME SIZE.
- STRAPPING, STEEL** ----- : TYPE I OR IV, CLASS A OR B, FED SPEC QQ-S-781.
FOR FSN SEE 58-38-100.
- STRAP SEAL, STAKE
POCKET PROTECTOR** ----- : COMMERCIAL GRADE.
- ANTI-CHAFING MATERIAL** : NEUTRAL BARRIER MATERIAL MIL-B-121 (OR EQUAL).

(CONTINUED FROM LEFT)

- Q. **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.
- R. FOR ADDITIONAL GUIDANCE, ATTENTION IS DIRECTED TO THE "UNITIZATION AND HANDLING PROCEDURES" ON PAGE 3 AND TO THE "SPECIAL NOTES" SECTION WHICH IS IMMEDIATELY ADJACENT TO A DEPICTED OUTLOADING METHOD.

(UNITIZING AND HANDLING PROCEDURAL GUIDANCE CONTINUED FROM PAGE 3)

- B. IF HANDLING IS ACCOMPLISHED WITH A FORKLIFT TRUCK, THE CONTAINERS SHOULD BE HANDLED FROM A SIDE POSITION AS MUCH AS POSSIBLE. CARE MUST BE EXERCISED WHEN INSERTING FORKS UNDER A CONTAINER, TO PREVENT DAMAGE TO THE CONTAINER BY THE FORK TINES OR THE FORKLIFT PACKAGE GUARD. FOR VERY SHORT "INCHING" SPEED MOVEMENTS, SUCH AS WILL BE EXPERIENCED DURING TRAILER LOADING, A TWO-HIGH CONTAINER STACK MAY BE HANDLED BY INSERTING THE FORKS OF A FORKLIFT TRUCK INTO THE FORK RECEPTACLES OF THE UPPER CONTAINER.
- C. IF ONE CONTAINER IS HANDLED BY SLINGING, THE SLING MAY BE ATTACHED TO THE LIFTING DEVICES ON THE CONTAINER. HOWEVER, IF A TWO-HIGH STACK IS HANDLED BY SLINGING, DO NOT ATTACH THE SLING TO SUCH LIFTING DEVICES ON THE CONTAINER. THE SLING USED MUST BE OF SUCH A DESIGN THAT LIFTING IS DONE ON THE BOTTOM OF THE LOWER CONTAINER.



STACK DETAIL

UNITIZING AND HANDLING PROCEDURAL GUIDANCE

1. STACKING CONTAINERS FOR UNITIZING.
 - A. THE UPPER CONTAINER SHOULD BE PLACED AS CLOSELY AS POSSIBLE IN VERTICAL ALIGNMENT WITH THE LOWER CONTAINER.
 - B. POSITION THE FORWARD END OF THE UPPER CONTAINER ABOVE THE FORWARD END OF THE LOWER CONTAINER.
 - C. THE CONTAINER INDEXING NOTCHES WITHIN THE SKID OF THE UPPER CONTAINER SHOULD BE FULLY SEATED OVER THE LOCATORS ON THE STACKING PADS OF THE LOWER CONTAINER.
2. APPLICATION OF CONTAINER STACKING BOLTS.
 - A. STACKING BOLTS ARE STORED ON THE SIDE OF EACH CONTAINER.
 - B. SOME CONTAINERS ARE PROVIDED WITH A BOLT HOLE IN EACH SKID FOR SECURING AN UPPER CONTAINER OF A STACK TO THE FOUR (4) OUTER STACKING PADS OF A LOWER CONTAINER. HOWEVER, IF CONTAINERS HAVE BOLT HOLES LOCATED IN THE LOWER FLANGE OF THE CONTAINER BEHIND THE SKIDS, A NOMINAL 4" X 4" X 10" LONG "FILLER BLOCK" MUST BE USED IN CONJUNCTION WITH EACH STACKING BOLT AND THE UPPER CONTAINER SECURED TO THE FOUR (4) INNER STACKING PADS OF A LOWER CONTAINER.
 - C. AFTER CONTAINERS ARE STACKED AND STACKING BOLTS, WITH "FILLER BLOCKS" IF APPLICABLE, ARE IN PLACE, INSTALL THE NUTS AND TIGHTEN WITH A RATCHET WRENCH AND AN APPROPRIATELY SIZED SOCKET UNTIL "SNUG."

(UNITIZING AND HANDLING PROCEDURAL GUIDANCE CONTINUED)

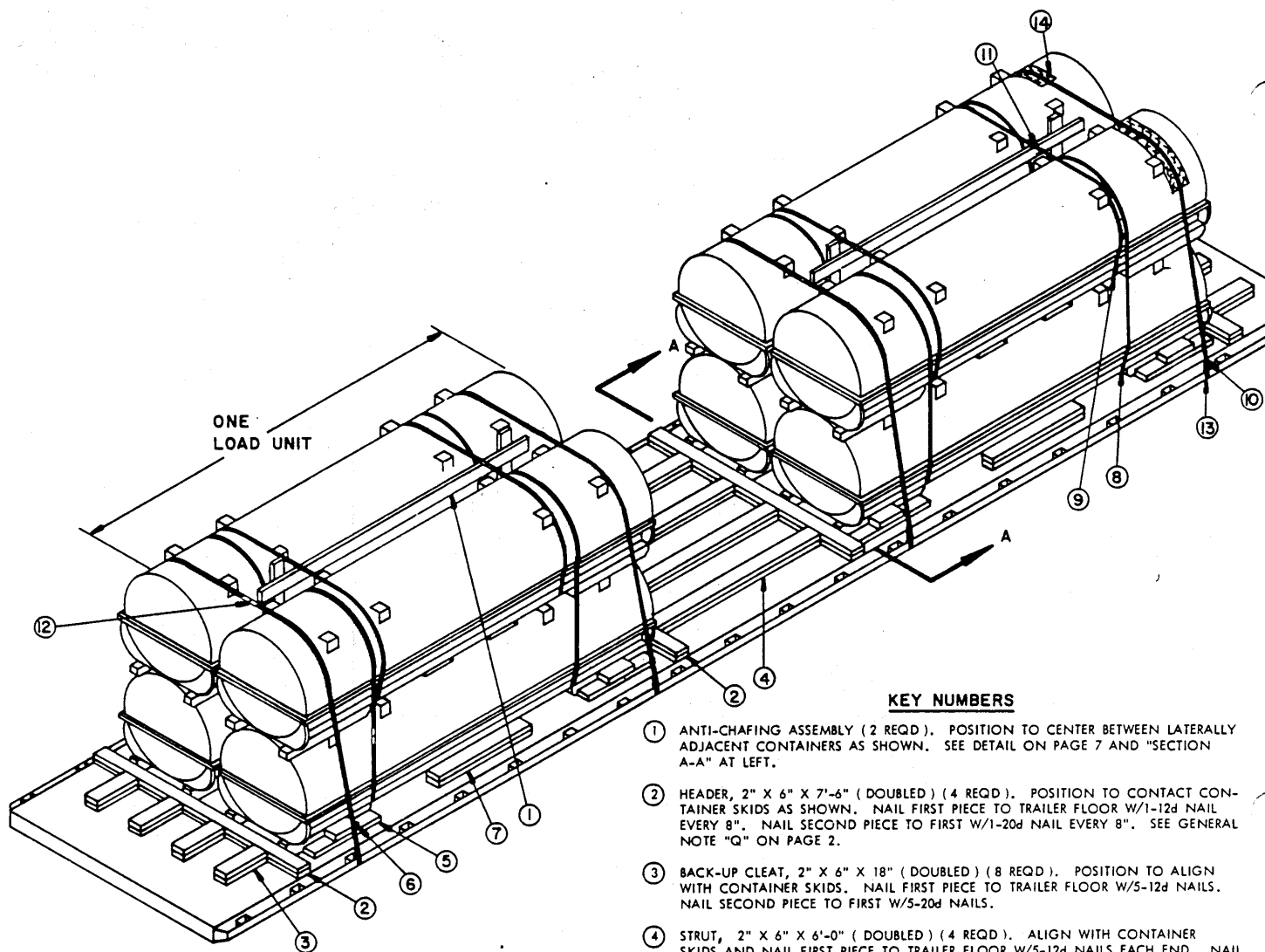
- (CONTINUED FROM LEFT)
- D. USING A TORQUE WRENCH, OR A WRENCH WITH A PROPER LENGTH HANDLE, TIGHTEN THE NUTS TO A TORQUE OF NOT LESS THAN 45 FOOT-POUNDS.
3. INSTALLATION OF 1-1/4" X .035" UNITIZING STEEL STRAPPING.
 - A. POSITION EACH STRAP TO ENCIRCLE THE CONTAINERS IMMEDIATELY BEHIND THE SKIDS AND SO THAT THE STRAPPING LAYS FLAT AND STRAIGHT WITH THE BODY SURFACES OF THE CONTAINERS, I. E., VERTICAL ALONG SIDES AND STRAIGHT ACROSS THE TOP AND BOTTOM OF THE STACK. TO PREVENT DAMAGING THE LIFTING DEVICES OF THE LOWER CONTAINER, EACH STRAP MUST PASS BETWEEN THE CONTAINER BODY AND THE LIFTING DEVICE ON EACH SIDE OF THE LOWER CONTAINER.
 - B. PLACE ANTI-CHAFING NEUTRAL BARRIER MATERIAL UNDER STRAPPING AT ALL POINTS OF CONTACT WITH CONTAINERS.
 - C. STRAPPING WILL BE FIRMLY TENSIONED, AND EACH END-OVER-END LAP JOINT WILL BE SEALED WITH TWO DOUBLE CRIMPED STRAP SEALS AS SHOWN. SEE GENERAL NOTE "O" ON PAGE 2. THE LAP JOINTS WILL BE MADE ALONG THE SIDE OF THE STACK SO THAT THE SEALS WILL NOT BE IN CONTACT WITH THE CONTAINERS. EXCESS STRAPPING (STRAP ENDS) SHOULD BE CUT OFF OR BROKEN OFF NEAR THE JOINT SEALS.
 4. CONTAINER OR CONTAINER STACK HANDLING.

NOTES: (1) APPROVED MATERIALS HANDLING EQUIPMENT (MHE) IS SPECIFIED IN OTHER DOCUMENTS. MHE IS INTENDED TO MEAN EQUIPMENT SUCH AS FORKLIFT TRUCKS, CRANES, HAND TRUCKS, DOLLIES, ROLLER ASSEMBLIES, SLINGS AND SPREADER BARS.

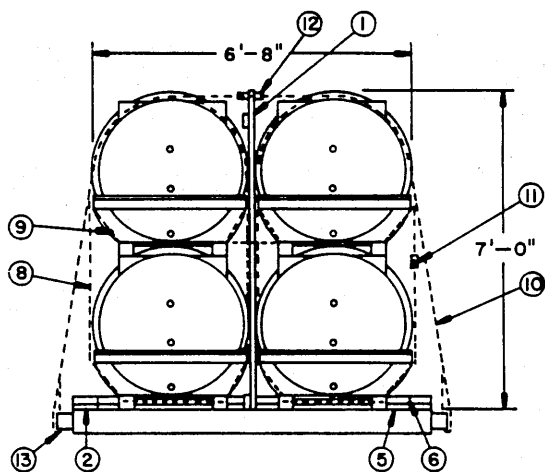
(2) PRECAUTIONARY HANDLING TECHNIQUES NORMALLY EMPLOYED OR AS SPECIFIED FOR THE TYPE OF COMMODITY INVOLVED WILL BE OBSERVED.

 - A. ONLY APPROVED AND APPROPRIATELY SIZED MATERIALS HANDLING EQUIPMENT WILL BE USED FOR HANDLING THE DEPICTED CONTAINERS.

(CONTINUED ON PAGE 2)



ISOMETRIC VIEW



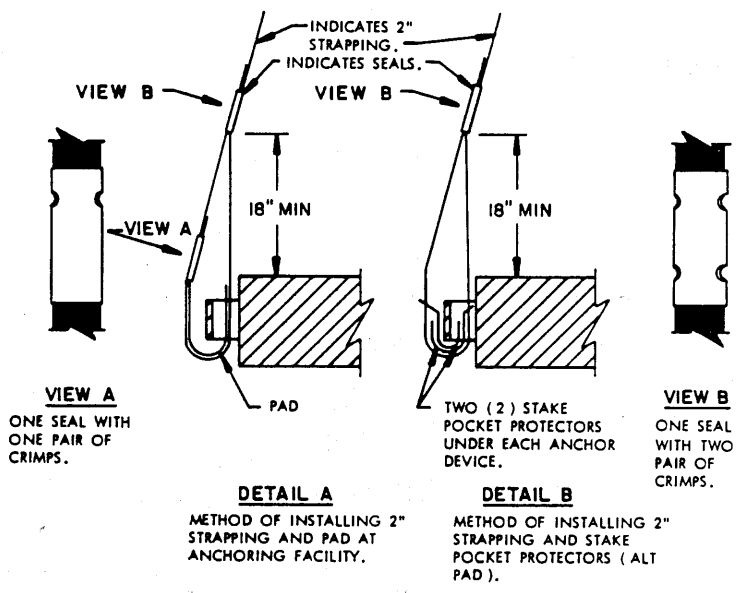
SECTION A-A

KEY NUMBERS

- ① ANTI-CHAFING ASSEMBLY (2 REQD). POSITION TO CENTER BETWEEN LATERALLY ADJACENT CONTAINERS AS SHOWN. SEE DETAIL ON PAGE 7 AND "SECTION A-A" AT LEFT.
- ② HEADER, 2" X 6" X 7'-6" (DOUBLED) (4 REQD). POSITION TO CONTACT CONTAINER SKIDS AS SHOWN. NAIL FIRST PIECE TO TRAILER FLOOR W/1-12d NAIL EVERY 8". NAIL SECOND PIECE TO FIRST W/1-20d NAIL EVERY 8". SEE GENERAL NOTE "Q" ON PAGE 2.
- ③ BACK-UP CLEAT, 2" X 6" X 18" (DOUBLED) (8 REQD). POSITION TO ALIGN WITH CONTAINER SKIDS. NAIL FIRST PIECE TO TRAILER FLOOR W/5-12d NAILS. NAIL SECOND PIECE TO FIRST W/5-20d NAILS.
- ④ STRUT, 2" X 6" X 6'-0" (DOUBLED) (4 REQD). ALIGN WITH CONTAINER SKIDS AND NAIL FIRST PIECE TO TRAILER FLOOR W/5-12d NAILS EACH END. NAIL SECOND PIECE TO FIRST W/5-20d NAILS EACH END.
- ⑤ SIDE BLOCKING, 2" X 6" X 30" (8 REQD). CENTER ON CONTAINER SKID AND NAIL TO TRAILER FLOOR W/8-12d NAILS.
- ⑥ SIDE BLOCKING, 2" X 6" X 12" (8 REQD). CENTER ON CONTAINER SKID AND NAIL TO PIECE MARKED ⑤ W/3-12d NAILS.
- ⑦ SIDE BLOCKING, 2" X 6" X 42" (DOUBLED) (4 REQD). CENTER ON FORK LIFT OPENINGS AND NAIL FIRST PIECE TO TRAILER FLOOR W/10-12d NAILS. NAIL SECOND PIECE TO FIRST IN A LIKE MANNER.
- ⑧ STACK UNITIZING STRAP, 1-1/4" X .035" X 22'-0" STEEL STRAPPING (8 REQD, 2 PER STACK). SEE THE "UNITIZATION AND HANDLING PROCEDURES" ON PAGE 3.
- ⑨ LOAD BUNDLING STRAP, 1-1/4" X .035" X 24'-0" STEEL STRAPPING (4 REQD, 2 PER LOAD UNIT). INSTALL TO ENCIRCLE TOP LAYER CONTAINERS AND TO PASS BETWEEN CONTAINER BODY AND LIFTING DEVICE OF EACH CONTAINER. SEAL WITH TWO (2) SEALS. SEE SPECIAL NOTE 3 ON PAGE 5 AND GENERAL NOTE "O" ON PAGE 2.
- ⑩ HOLD-DOWN STRAP, 2" X .050" X 30'-0" STEEL STRAPPING (4 REQD, 2 PER LOAD UNIT). INSTALL EACH STRAP FROM TWO (2) 15'-0" LONG PIECES. SEE GENERAL NOTE "N" ON PAGE 2.
- ⑪ SEAL FOR 1-1/4" STRAPPING (24 REQD, 2 PER STRAP). DOUBLE CRIMP EACH SEAL.
- ⑫ SEAL FOR 2" STRAPPING (24 REQD, 6 PER STRAP). EXCEPT FOR THE SEALS USED TO SECURE THE PADS, DOUBLE CRIMP EACH SEAL.
- ⑬ PAD, 2" X .050" STEEL STRAP 18" LONG (8 REQD). POSITION UNDER ANCHORING FACILITY AND SEAL TO A HOLD-DOWN STRAP. SEE "DETAIL A" ON PAGE 5. ALT: STAKE POCKET PROTECTOR (16 REQD). USE TWO (2) UNDER EACH ANCHORING FACILITY WITH A HOLD-DOWN STRAP. SEE "DETAIL B" ON PAGE 5.
- ⑭ ANTI-CHAFING, NEUTRAL BARRIER MATERIAL (AS REQD). PLACE UNDER STRAPS AT ALL POINTS OF CONTACT WITH CONTAINERS.

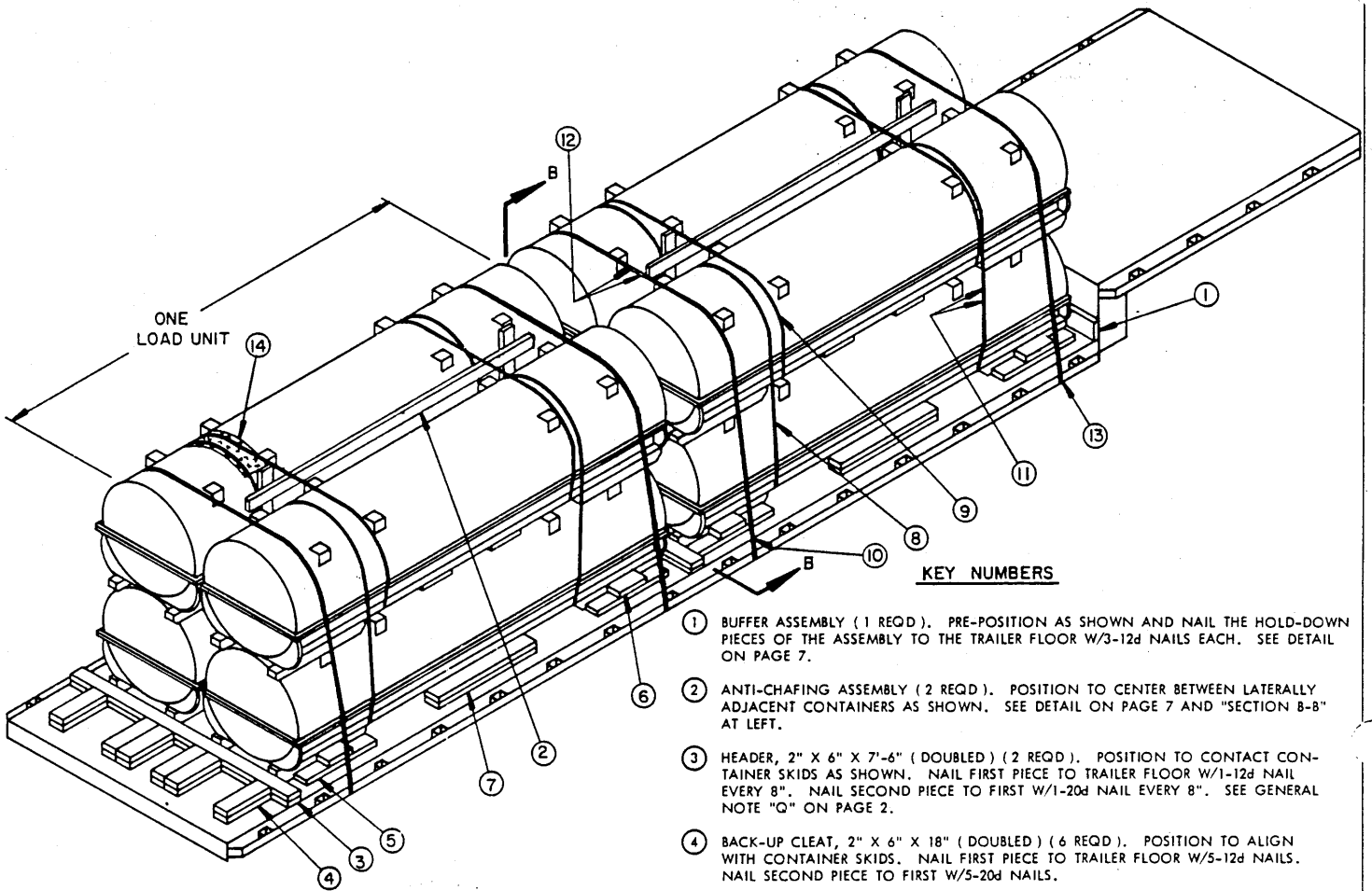
SPECIAL NOTES:

1. AN 8-UNIT LOAD IS SHOWN ON A 40'-0" LONG BY 8'-0" WIDE FLAT BED TRAILER. A SHORTER TRAILER MAY BE USED FOR SHIPMENT OF THE DEPICTED LOAD. HOWEVER, THE NAILABLE SURFACE OF THE TRAILER BED MUST MEASURE AT LEAST 33'-4" LONG, AND THE STRUTS, PIECES MARKED ④, MUST NOT BE LESS THAN 18" LONG, WITH NAILING A MINIMUM OF THAT SPECIFIED FOR BACK-UP CLEATS, PIECES MARKED ③.
2. THE DEPICTED LOAD CONFIGURATION MAY BE ADJUSTED TO SATISFY THE QUANTITY OF ITEMS TO BE SHIPPED. A 7-UNIT LOAD MAY BE SHIPPED BY APPLYING THE "SPECIAL PROVISIONS FOR A SEVEN-UNIT LOAD" SPECIFIED ON PAGES 8 AND 9.
3. CAUTION: LOAD BUNDLING STRAPS, PIECES MARKED ⑥, MUST BE INSTALLED WITH CARE SO AS NOT TO HAVE AN EDGE-TO-EDGE CONTACT WITH THE STACK UNITIZING STRAPS, PIECES MARKED ⑧.



BILL OF MATERIAL		
LUMBER	LINEAR FEET	BOARD FEET
2" X 4"	68	46
2" X 6"	188	188
NAILS	NO. REQD	POUNDS
10d (3")	24	1/2
12d (3-1/4")	292	5
20d (4")	124	4-1/2
STEEL STRAPPING, 1-1/4" X .035"	272' REQD	39 LBS
STEEL STRAPPING, 2" X .050"	132' REQD	44 LBS
SEAL FOR 1-1/4" STRAPPING	24 REQD	1-1/4 LBS
SEAL FOR 2" STRAPPING	24 REQD	5 LBS
ANTI-CHAFING MATERIAL	AS REQD	NIL

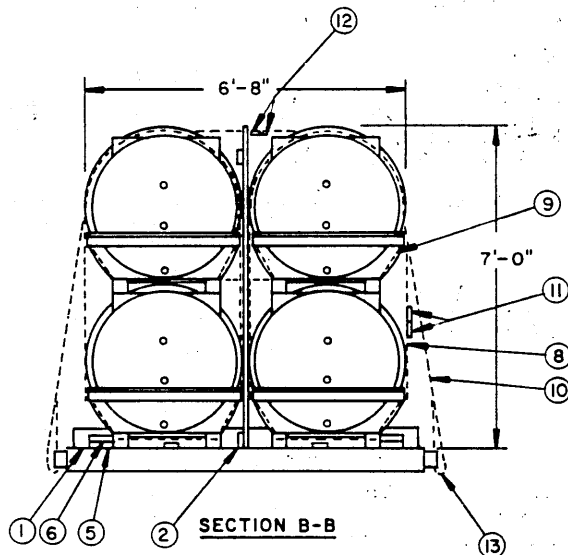
LOAD AS SHOWN		
ITEM	QUANTITY	WEIGHT (APPROX)
XMS99 CONTAINER	8	31,944 LBS
DUNNAGE		685 LBS
TOTAL WEIGHT		32,629 LBS



ISOMETRIC VIEW

KEY NUMBERS

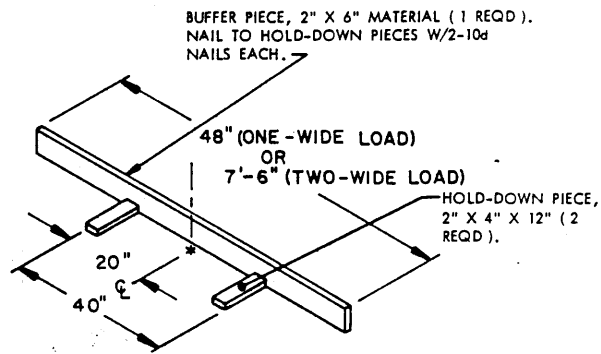
- ① BUFFER ASSEMBLY (1 REQD.). PRE-POSITION AS SHOWN AND NAIL THE HOLD-DOWN PIECES OF THE ASSEMBLY TO THE TRAILER FLOOR W/3-12d NAILS EACH. SEE DETAIL ON PAGE 7.
- ② ANTI-CHAFING ASSEMBLY (2 REQD.). POSITION TO CENTER BETWEEN LATERALLY ADJACENT CONTAINERS AS SHOWN. SEE DETAIL ON PAGE 7 AND "SECTION B-B" AT LEFT.
- ③ HEADER, 2" X 6" X 7'-6" (DOUBLED) (2 REQD.). POSITION TO CONTACT CONTAINER SKIDS AS SHOWN. NAIL FIRST PIECE TO TRAILER FLOOR W/1-12d NAIL EVERY 8". NAIL SECOND PIECE TO FIRST W/1-20d NAIL EVERY 8". SEE GENERAL NOTE "Q" ON PAGE 2.
- ④ BACK-UP CLEAT, 2" X 6" X 18" (DOUBLED) (6 REQD.). POSITION TO ALIGN WITH CONTAINER SKIDS. NAIL FIRST PIECE TO TRAILER FLOOR W/5-12d NAILS. NAIL SECOND PIECE TO FIRST W/5-20d NAILS.
- ⑤ SIDE BLOCKING, 2" X 6" X 30" (8 REQD.). CENTER ON CONTAINER SKID AND NAIL TO TRAILER FLOOR W/8-12d NAILS.
- ⑥ SIDE BLOCKING, 2" X 6" X 12" (8 REQD.). CENTER ON CONTAINER SKID AND NAIL TO PIECE MARKED ⑤ W/3-12d NAILS.
- ⑦ SIDE BLOCKING, 2" X 6" X 42" (DOUBLED) (4 REQD.). CENTER ON FORK LIFT OPENINGS AND NAIL FIRST PIECE TO TRAILER FLOOR W/10-12d NAILS. NAIL SECOND PIECE TO FIRST IN A LIKE MANNER.
- ⑧ STACK UNITIZING STRAP, 1-1/4" X .035" X 22'-0" STEEL STRAPPING (8 REQD., 2 PER STACK). SEE THE "UNITIZATION AND HANDLING PROCEDURES" ON PAGE 3.
- ⑨ LOAD BUNDLING STRAP, 1-1/4" X .035" X 24'-0" STEEL STRAPPING (4 REQD., 2 PER LOAD UNIT). INSTALL TO ENCIRCLE TOP LAYER CONTAINERS AND TO PASS BETWEEN CONTAINER BODY AND LIFTING DEVICE OF EACH CONTAINER. SEAL WITH TWO (2) SEALS. SEE SPECIAL NOTE 3 ON PAGE 7 AND GENERAL NOTE "O" ON PAGE 2.
- ⑩ HOLD-DOWN STRAP, 2" X .050" X 30'-0" STEEL STRAPPING (4 REQD., 2 PER LOAD UNIT). INSTALL EACH STRAP FROM TWO (2) 15'-0" LONG PIECES. SEE GENERAL NOTE "N" ON PAGE 2.
- ⑪ SEAL FOR 1-1/4" STRAPPING (24 REQD., 2 PER STRAP). DOUBLE CRIMP EACH SEAL.
- ⑫ SEAL FOR 2" STRAPPING (24 REQD., 6 PER STRAP). EXCEPT FOR THE SEALS USED TO SECURE THE PADS, DOUBLE CRIMP EACH SEAL.
- ⑬ PAD, 2" X .050" STEEL STRAP 18" LONG (8 REQD.). POSITION UNDER ANCHORING FACILITY AND SEAL TO A HOLD-DOWN STRAP. SEE "DETAIL A" ON PAGE 5. ALT: STAKE POCKET PROTECTOR (16 REQD.). USE TWO (2) UNDER EACH ANCHORING FACILITY WITH A HOLD-DOWN STRAP. SEE "DETAIL B" ON PAGE 5.
- ⑭ ANTI-CHAFING, NEUTRAL BARRIER MATERIAL (AS REQD.). PLACE UNDER STRAPS AT ALL POINTS OF CONTACT WITH CONTAINERS.



SECTION B-B

SPECIAL NOTES:

1. AN 8-UNIT LOAD IS SHOWN ON A 40'-0" LONG BY 8'-0" WIDE DROP FRAME TRAILER WITH A REAR DECK LENGTH OF 30'-0". A SHORTER TRAILER MAY BE USED. HOWEVER, THE LENGTH OF THE REAR DECK MUST BE AT LEAST 30'-0" LONG FOR SHIPMENT OF THE DEPICTED LOAD.
2. THE DEPICTED LOAD CONFIGURATION MAY BE ADJUSTED TO SATISFY THE QUANTITY OF ITEMS TO BE SHIPPED. A 7-UNIT LOAD MAY BE SHIPPED BY APPLYING THE "SPECIAL PROVISIONS FOR A SEVEN-UNIT LOAD" SPECIFIED ON PAGES 8 AND 9.
3. **CAUTION:** LOAD BUNDLING STRAPS, PIECES MARKED (9); MUST BE INSTALLED WITH CARE SO AS NOT TO HAVE AN EDGE-TO-EDGE CONTACT WITH THE STACK UNITIZING STRAPS, PIECES MARKED (8).

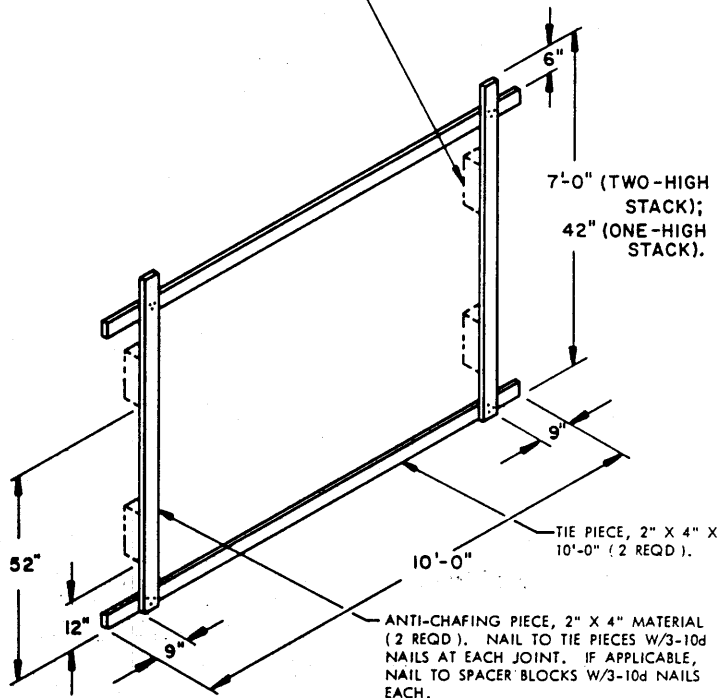


BUFFER ASSEMBLY

NOTE:

SPACER BLOCKS ARE ONLY REQUIRED WHEN CONTAINERS ARE BEING HANDLED AND LOADED WITH SLING EQUIPMENT.

SPACER BLOCK, 4" X 4" X 12" (4 REQD FOR A TWO-HIGH STACK; 2 REQD FOR A ONE-HIGH STACK). SEE "NOTE" AT LEFT.

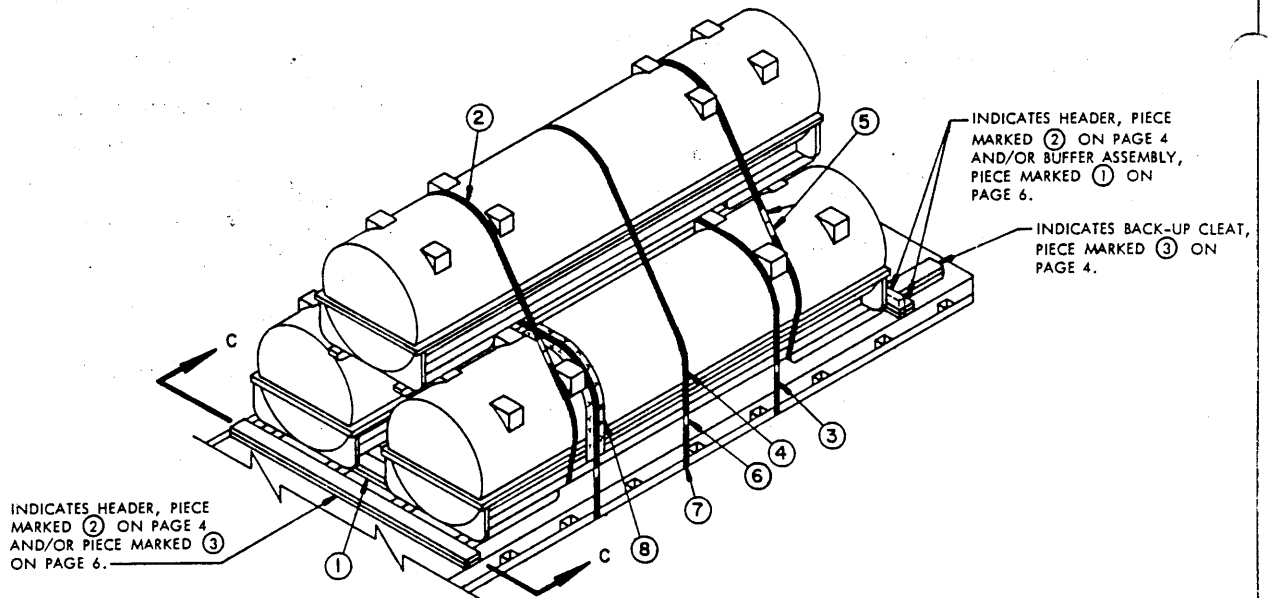


ANTI-CHAFING ASSEMBLY

BILL OF MATERIAL		
LUMBER	LINEAR FEET	BOARD FEET
2" X 4"	70	47
2" X 6"	112	112
NAILS	NO. REQD	POUNDS
10d (3")	28	1/2
12d (3-1/4")	226	3-3/4
20d (4")	52	2
STEEL STRAPPING, 1-1/4" X .035"	272' REQD	39 LBS
STEEL STRAPPING, 2" X .050"	132' REQD	44 LBS
SEAL FOR 1-1/4" STRAPPING	24 REQD	1-1/4 LBS
SEAL FOR 2" STRAPPING	24 REQD	5 LBS
ANTI-CHAFING MATERIAL	AS REQD	NIL

LOAD AS SHOWN

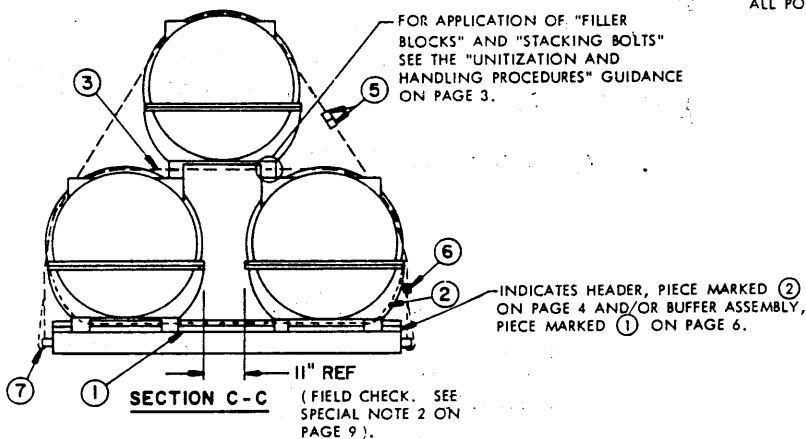
ITEM	QUANTITY	WEIGHT (APPROX)
XMS99 CONTAINER	8	31,944 LBS
DUNNAGE		495 LBS
TOTAL WEIGHT		32,439 LBS



ISOMETRIC VIEW

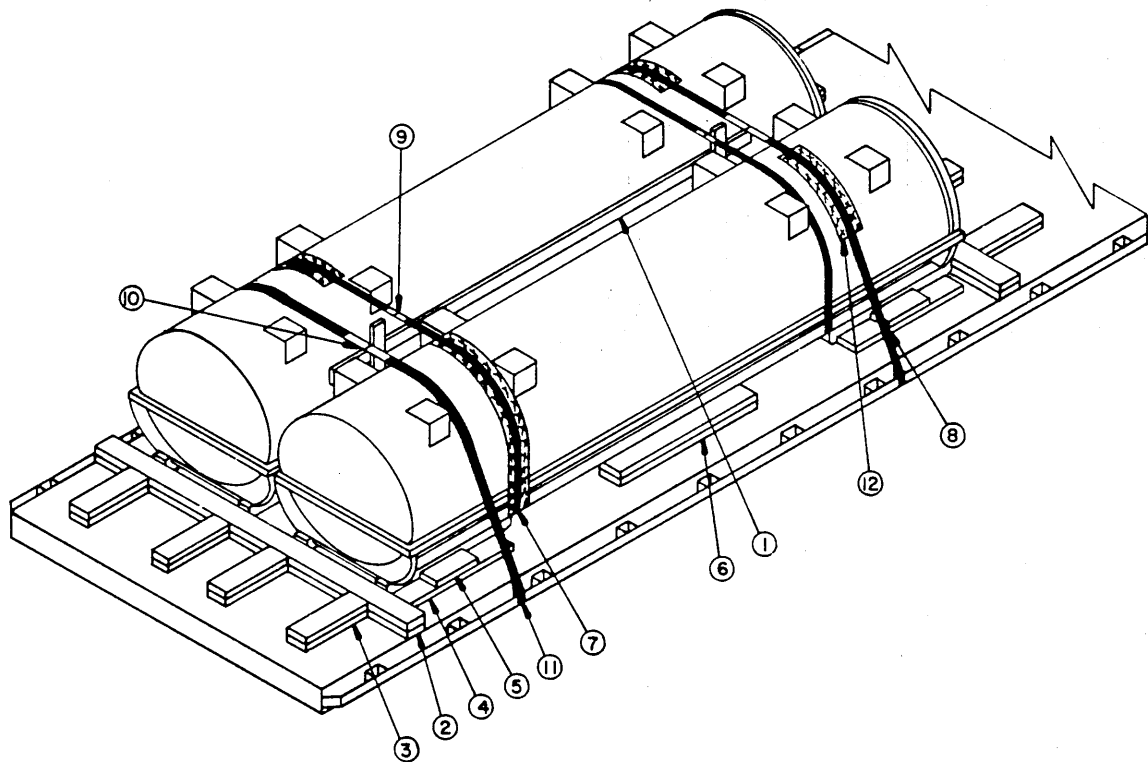
KEY NUMBERS

- ① SIDE BLOCKING, 2" X 6" BY CUT TO FIT BETWEEN SKIDS OF ADJACENT CONTAINERS (REF: 23"; FIELD CHECK) (DOUBLED) (4 REQD). POSITION TWO (2) SIDE BY SIDE AND TO CENTER ON LATERALLY ADJACENT SKIDS. NAIL THE FIRST PIECE TO TRAILER FLOOR W/5-12d NAILS. NAIL SECOND PIECE TO FIRST IN A LIKE MANNER. SEE "SECTION C-C" BELOW, SPECIAL NOTE 2 ON PAGE 9 AND GENERAL NOTE "Q" ON PAGE 2.
- ② LOAD BUNDLING STRAP, 1-1/4" X .035" X 28'-0" STEEL STRAPPING (2 REQD). INSTALL TO ENCIRCLE ALL CONTAINERS AND TO PASS BETWEEN CONTAINER BODY AND LIFTING DEVICE OF EACH LOWER CONTAINER. SEAL WITH TWO (2) SEALS. SEE GENERAL NOTE "O" ON PAGE 2.
- ③ HOLD-DOWN STRAP, 2" X .050" X 24'-0" STEEL STRAPPING (2 REQD). INSTALL EACH STRAP FROM ONE PIECE OF STRAPPING; ANCHOR IT ON ONE SIDE OF THE TRAILER, RUN IT OVER THE FIRST LAYER CONTAINERS, PASS IT THRU AN ANCHORING DEVICE ON THE OPPOSITE SIDE OF THE TRAILER, AND BRING IT BACK ABOVE THE ANCHOR DEVICE WHERE IT CAN BE TENSIONED AND SEALED. SEE GENERAL NOTE "N" ON PAGE 2.
- ④ HOLD-DOWN STRAP, 2" X .050" X 28'-0" STEEL STRAPPING (1 REQD). INSTALL FROM ONE PIECE OF STRAPPING; ANCHOR IT ON ONE SIDE OF THE TRAILER, RUN IT OVER THE LOAD, PASS IT THRU AN ANCHORING DEVICE ON THE OPPOSITE SIDE OF THE TRAILER, AND BRING IT BACK ABOVE THE ANCHOR DEVICE WHERE IT CAN BE TENSIONED AND SEALED.
- ⑤ SEAL FOR 1-1/4" STRAPPING (4 REQD, 2/STRAP). DOUBLE CRIMP EACH SEAL.
- ⑥ SEAL FOR 2" STRAPPING (12 REQD, 4/STRAP). EXCEPT FOR THE SEALS USED TO SECURE THE PADS, DOUBLE CRIMP EACH SEAL.
- ⑦ PAD, 2" X .050" STEEL STRAP 18" LONG (6 REQD). POSITION UNDER ANCHORING FACILITY AND SEAL TO A HOLD-DOWN STRAP. SEE "DETAIL A" ON PAGE 5. ALT: STAKE POCKET PROTECTOR (12 REQD). USE TWO (2) UNDER EACH ANCHORING FACILITY WITH A HOLD-DOWN STRAP. SEE "DETAIL B" ON PAGE 5.
- ⑧ ANTI-CHAFING, NEUTRAL BARRIER MATERIAL (AS REQD). PLACE UNDER STRAPS AT ALL POINTS OF CONTACT WITH CONTAINERS.



SPECIAL NOTES:

1. A 3-CONTAINER LOAD UNIT IS SHOWN ON AN 8'-0" WIDE TRAILER. THIS LOAD UNIT MAY BE SUBSTITUTED FOR A 4-CONTAINER LOAD UNIT AT THE FORWARD END OF THE LOAD DEPICTED ON PAGE 4 AND/OR PAGE 6, TO PROVIDE FOR THE SHIPMENT OF A 7-UNIT LOAD.
2. WHEN LOADING A 3-CONTAINER LOAD UNIT ON A TRAILER, POSITION THE TWO LOWER CONTAINERS TO CENTER LATERALLY ON THE TRAILER WITH A SPACE PROVIDED BETWEEN CONTAINERS (REF: 11") OR BETWEEN ADJACENT SKIDS (REF: 23"). EXACT SPACING REQUIREMENTS FOR THE LOWER CONTAINERS SHOULD BE FIELD CHECKED TO ASSURE THAT THE STACKING BOLT HOLES IN THE STACKING PADS OF THE LOWER CONTAINERS WILL BE IN VERTICAL ALIGNMENT WITH THE BOLT HOLES OF THE UPPER CONTAINER. IF A FORK LIFT IS BEING USED TO LOAD CONTAINERS, FORK EXTENSIONS MAY BE REQUIRED FOR PLACEMENT OF THE UPPER CONTAINER IN THE LOAD UNIT. NOTE: SOME CONTAINERS WILL REQUIRE USE OF "FILLER BLOCKS" IN CONJUNCTION WITH STACKING BOLTS FOR STACKING OF CONTAINERS. FOR APPLICATION OF STACKING BOLTS AND OTHER GUIDANCE, SEE THE "UNITIZATION AND HANDLING PROCEDURES" ON PAGE 3.
3. SIDE BLOCKING AND STRAPPING FOR THE 3-CONTAINER LOAD UNIT WILL BE AS SPECIFIED ON PAGE 8. ALL LONGITUDINAL BLOCKING FOR THE TOTAL LOAD, AND ALL SIDE BLOCKING AND STRAPPING FOR THE 4-CONTAINER LOAD UNIT WILL BE AS SPECIFIED ON PAGE 4 OR 6, AS APPLICABLE TO THE TYPE OF TRAILER BEING LOADED.



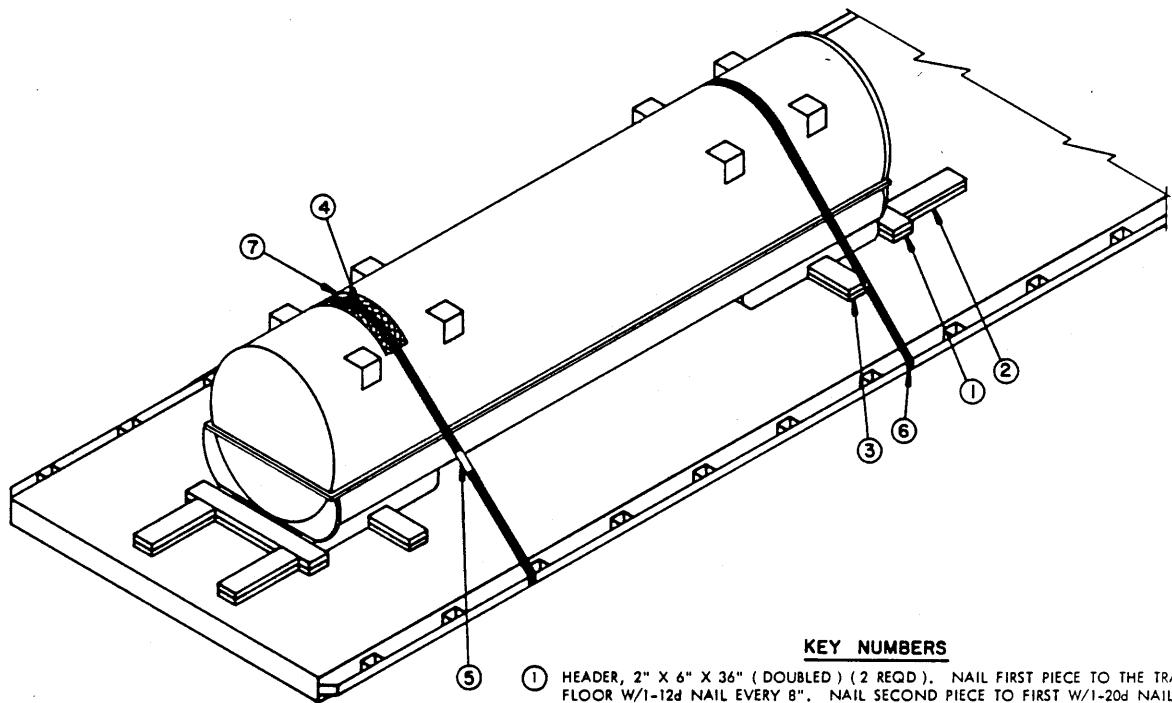
ISOMETRIC VIEW

SPECIAL NOTES:

1. THE TYPICAL LTL, 2-UNIT LOAD IS DEPICTED ON AN 8'-0" WIDE FLAT BED TRAILER HAVING A NAILABLE FLOOR.
2. FOUR (4) BACK-UP CLEATS, SHOWN AS PIECES MARKED ③, ARE ADEQUATE FOR RETAINING A MAXIMUM LTL LOAD OF 24,000 POUNDS.
3. FOR THE SHIPMENT OF A 3-UNIT ONE-HIGH LOAD, OMIT THE TWO (2) CENTER BACK-UP CLEATS MARKED ③ FROM THE FORWARD END OF THE LOAD SHOWN AND POSITION THE THIRD CONTAINER TO CENTER ON THE FORWARD HEADER MARKED ②. BLOCK THE SINGLE UNIT AS DEPICTED ON PAGE 11.

KEY NUMBERS

- ① ANTI-CHAFING ASSEMBLY (1 REQD). SEE THE "ANTI-CHAFING ASSEMBLY" DETAIL FOR ONE-HIGH LOAD ON PAGE 7.
- ② HEADER, 2" X 6" X 7'-6" (DOUBLED) (2 REQD). NAIL THE FIRST PIECE TO THE TRAILER FLOOR W/1-12d NAIL EVERY 8". NAIL SECOND PIECE TO THE FIRST W/1-20d NAIL EVERY 8". SEE GENERAL NOTE "Q" ON PAGE 2.
- ③ BACK-UP CLEAT, 2" X 6" X 18" (DOUBLED) (8 REQD). ALIGN WITH CONTAINER SKID AND NAIL FIRST PIECE TO THE TRAILER FLOOR W/5-12d NAILS. NAIL SECOND PIECE TO FIRST W/5-20d NAILS.
- ④ SIDE BLOCKING, 2" X 6" X 30" (4 REQD). CENTER ON SKID AND NAIL TO TRAILER FLOOR W/8-12d NAILS.
- ⑤ SIDE BLOCKING, 2" X 6" X 12" (4 REQD). CENTER ON SKID AND NAIL TO PIECE MARKED ④ W/3-12d NAILS.
- ⑥ SIDE BLOCKING, 2" X 6" X 42" (DOUBLED) (2 REQD). CENTER ON FORK LIFT OPENINGS AND NAIL FIRST PIECE TO TRAILER FLOOR W/10-12d NAILS. NAIL SECOND PIECE TO THE FIRST IN A LIKE MANNER.
- ⑦ LOAD BUNDLING STRAP, 1-1/4" X .035" X 24'-0" STEEL STRAPPING (2 REQD). INSTALL TO PASS BETWEEN CONTAINER AND LIFTING DEVICES OF EACH CONTAINER AND TO ENCIRCLE THE LOAD UNIT AS SHOWN. SEAL WITH TWO (2) SEALS. SEE GENERAL NOTE "O" ON PAGE 2.
- ⑧ HOLD-DOWN STRAP, 2" X .050" X 22'-0" STEEL STRAPPING (2 REQD). INSTALL EACH STRAP FROM TWO (2) 11'-0" LONG PIECES. SEE GENERAL NOTE "N" ON PAGE 2.
- ⑨ SEAL FOR 1-1/4" STRAPPING (4 REQD, 2/STRAP). DOUBLE CRIMP EACH SEAL.
- ⑩ SEAL FOR 2" STRAPPING (12 REQD, 6/STRAP). EXCEPT FOR THE SEALS USED TO SECURE THE PADS, DOUBLE CRIMP EACH SEAL.
- ⑪ PAD, 2" X .050" STEEL STRAP 18" LONG (4 REQD). POSITION UNDER ANCHORING FACILITY AND SEAL TO A HOLD-DOWN STRAP. SEE "DETAIL A" ON PAGE 5. ALT: STAKE POCKET PROTECTOR (8 REQD). USE TWO (2) UNDER EACH ANCHORING FACILITY WITH A HOLD-DOWN STRAP. SEE "DETAIL B" ON PAGE 5.
- ⑫ ANTI-CHAFING, NEUTRAL BARRIER MATERIAL (AS REQD). PLACE UNDER STRAPS AT ALL POINTS OF CONTACT WITH CONTAINERS.



ISOMETRIC VIEW

SPECIAL NOTES:

1. THE TYPICAL LTL 1-UNIT LOAD IS BASED ON AN 8'-0" WIDE FLAT BED TRAILER HAVING A NAILABLE FLOOR.
2. TWO (2) BACK-UP CLEATS, SHOWN AS PIECES MARKED ② ARE ADEQUATE FOR RETAINING A MAXIMUM LTL LOAD OF 12,000 POUNDS.

KEY NUMBERS

- ① HEADER, 2" X 6" X 36" (DOUBLED) (2 REQD). NAIL FIRST PIECE TO THE TRAILER FLOOR W/1-12d NAIL EVERY 8". NAIL SECOND PIECE TO FIRST W/1-20d NAIL EVERY 8". SEE GENERAL NOTE "O" ON PAGE 2.
- ② BACK-UP CLEAT, 2" X 6" X 18" (DOUBLED) (4 REQD). ALIGN WITH CONTAINER SKID AND NAIL FIRST PIECE TO TRAILER FLOOR W/5-12d NAILS. NAIL SECOND PIECE TO FIRST W/5-20d NAILS.
- ③ SIDE BLOCKING, 2" X 6" X 12" (DOUBLED) (4 REQD). CENTER ON CONTAINER SKID AS SHOWN AND NAIL FIRST PIECE TO TRAILER FLOOR W/3-12d NAILS. NAIL SECOND PIECE TO FIRST IN A LIKE MANNER.
- ④ HOLD-DOWN STRAP, 2" X .050" X 20'-0" STEEL STRAPPING (2 REQD). INSTALL EACH STRAP FROM ONE PIECE OF STRAPPING; ANCHOR IT ON ONE SIDE OF THE TRAILER, RUN IT OVER THE LOAD, PASS IT THRU AN ANCHORING DEVICE ON THE OPPOSITE SIDE OF THE TRAILER, AND BRING IT BACK ABOVE THE ANCHOR DEVICE WHERE IT CAN BE TENSIONED AND SEALED. SEE GENERAL NOTE "N" ON PAGE 2.
- ⑤ SEAL FOR 2" STRAPPING (8 REQD, 4/STRAP). EXCEPT FOR SEALS USED TO SECURE THE PADS, DOUBLE CRIMP EACH SEAL.
- ⑥ PAD, 2" X .050" STEEL STRAP 18" LONG (4 REQD). POSITION UNDER ANCHORING FACILITY AND SEAL TO A HOLD-DOWN STRAP. SEE "DETAIL A" ON PAGE 5. ALT: STAKE POCKET PROTECTOR (8 REQD). USE TWO (2) UNDER EACH ANCHORING FACILITY WITH A HOLD-DOWN STRAP. SEE "DETAIL B" ON PAGE 5.
- ⑦ ANTI-CHAFING, NEUTRAL BARRIER MATERIAL (AS REQD). PLACE UNDER STRAPS AT ALL POINTS OF CONTACT WITH CONTAINER.

