BUREAU OF EXPLOSIVES

APPROVED BY

BUREAU OF EXPLOSIVES

A, F, CLASSICE K

MILITARY ASSISTANT

DATE

HONEST JOHN

LOADING AND BRACING (TL & LTL) ON FLAT BED TRAILERS OF THE WARHEAD ASSEMBLIES PACKED ONE PER WOODEN CONTAINER

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THIS DRAWING SUPERSEDES DRAWINGS
19-48-5131 GM 11A30, DATED 2 JANUARY 1957,
AND THE TWO REVISIONS THERE TO, DATED
2 APRIL 1959 AND 30 NOVEMBER 1960, AND
19-48-5567-GM11A66, DATED 10 JANUARY 1959

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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).
- THE LOADS AS SHOWN HEREIN ARE BASED ON FLAT BED AND DROP FRAME TRAILERS 8'-0" WIDE BY VARIOUS LENGTHS HAVING WOOD OR WOOD AND METAL FLOOR TRAILERS HAVING ALL METAL FLOORS WILL NOT BE USED FOR SHIPPING THESE ITEMS.
- THE OUTLOADING PROCEDURES SPECIFIED HEREIN ARE APPLICABLE TO THE HONEST JOHN WARHEAD ASSEMBLIES WHEN THEY ARE PACKAGED IN A PLYWOOD SHEATHED CONTAINER, LUMBER SHEATHED CONTAINER, AND THE XM473 CONTAINER. SUBSEQUENT REFERENCE TO CONTAINER HEREIN MEANS THE CONTAINER WITH WARHEAD ASSEMBLY.
- D. FOR DETAIL OF THE LUMBER SHEATHED CONTAINER SEE DRAWING NO. 8026346.

CONTAINER DIMENSIONS ------ 146" LONG X 49-5/8" WIDE X 56-1/2" HIGH. GROSS WEIGHT W/WARHEAD ----- 3,410 LBS (APPROX). W/O WARHEAD ----- 1,922 LBS (APPROX).

- E. FOR DETAIL OF THE PLYWOOD SHEATHED CONTAINER SEE DRAWING NO. 8100000. CONTAINER DIMENSIONS ----------- 144" LONG X 49-5/8" WIDE X 56-1/2" HIGH. GROSS WEIGHT W/WARHEAD -------- 3,102 LBS (APPROX). W/O WARHEAD ----- 1,602 LBS (APPROX)
- F. FOR DETAIL OF THE XM473 CONTAINER SEE DRAWING NO. 8824908 AND 8881082.

 CONTAINER DIMENSIONS -------140-1/4" LONG X 44-1/4" WIDE X 50-3/8" HIGH.

 GROSS WEIGHT W/WARHEAD --------2,898 LBS (APPROX).
- G. THESE ITEMS ARE CLASSIFIED AS EXPLOSIVES, THESE PROCEDURES CAN ALSO BE UTILIZED FOR THE SHIPMENT OF THE CONTAINERS WHEN THEY ARE LOADED WITH PRACTICE OR EMPTY WARHEAD ASSEMBLIES, EMPTY CONTAINERS, OR WHEN THEY ARE LOADED WITH AN ITEM OTHER THAN AS IDENTIFIED WITHIN THE DRAWING TITLE. 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.
- H. THE APPROVED BLOCKING, BRACING, AND STAYING METHODS FOR THE LOADS SPECIFIED HEREIN MUST BE FOLLOWED. THE NUMBER OF UNITS MAY BE ADJUSTED TO FIT THE SIZE OF THE VEHICLE TO BE LOADED OR THE QUANTITY TO BE SHIPPED. FOR A LOAD QUANTITY OTHER THAN SPECIFIED, THE APPROVED METHODS MUST BE FOLLOWED AS CLOSELY AS POSSIBLE.
- 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.
- OTHER TYPES OF LADING ITEMS MAY BE LOADED ON THE TRAILERS WHICH ARE PARTIALLY LOADED WITH THE DESIGNATED ITEMS, 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. SELECTION OF A VEHICLE TO BE USED TO TRANSPORT THE DESIGNATED ITEMS MUST COMPLY WITH AR 55-355, CHAPTER 213, FOR EXPLOSIVES OR OTHER DANGEROUS ARTICLES, IN FULL
- LADING WILL NOT BE SECURED BY CHAINS AND/OR LOAD BINDERS IN LIEU OF SPECIFIED DUNNAGE.
- <u>CAUTION:</u> REGARDLESS OF THE TYPE OF TRAILER INVOLVED, ONLY THOSE TRAILERS HAVING TIE-DOWN STRAP ANCHORING FACILITIES WHICH PROVIDE HOLDING THE STRENGTH EQUAL TO OR GREATER THAN THE STRENGTH OF THE HOLD-DOWN STRAPS, AND WHICH ALIGN NEAR THE INDICATED LOCATIONS FOR THE SPECIFIED HOLD-DOWN STRAPS SHOULD BE USED. IF TRAILER STRAP ANCHOR DEVICES ARE NOT PROPERTY POSITIONED TO RECEIVE TWO INCH (2") STRAPPING AS SHOWN, OR 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 ENCOM-PASSES BOTH THE LADING AND THE TRAILER FRAME AND/OR BED. <u>CAUTION</u>: 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. CAUTION: EXERCISE CARE DURING TENSIONING TO PREVENT DAMAGE TO
- IF THE CAPACITY OF THE AVAILABLE MATERIALS HANDLING EQUIPMENT (MHE) PERMITS, IT IS RECOMMENDED THAT CONTAINERS BE UNITIZED PRIOR TO PLACEMENT ABOARD THE TRAILER. IN SOME INSTANCES, CONTAINERS WILL ALREADY BE UNITIZED INTO STACKS WHEN OFFERED FOR LOADING. THESE UNITIZED STACKS SHOULD BE INSPECTED, AND AS REQUIRED, LOOSE UNITIZING STEEL STRAPPING MUST BE REPLACED.

(GENERAL NOTES CONTINUED AT RIGHT)

MATERIAL SPECIFICATIONS						
LUMBER::	SEE TM 743-200-1, DUNNAGE LUMBER, FED SPEC MM-L-751					
<u>NAILS</u> :	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 FOR 1-1/4" STRAPPING AND CLASS A, B, OR C FOR 2" STRAPPING. FED SPEC QQ-5-781 FOR FSN SEE SB 38-100.					
STRAP SEAL, ANTI-SKID PLATE, EDGE PROTECTOR, STAKE POCKET PROTECTOR,	FOK F5N 5EE 38 30-100.					
STRAP STAPLE:	COMMERCIAL GRADE.					

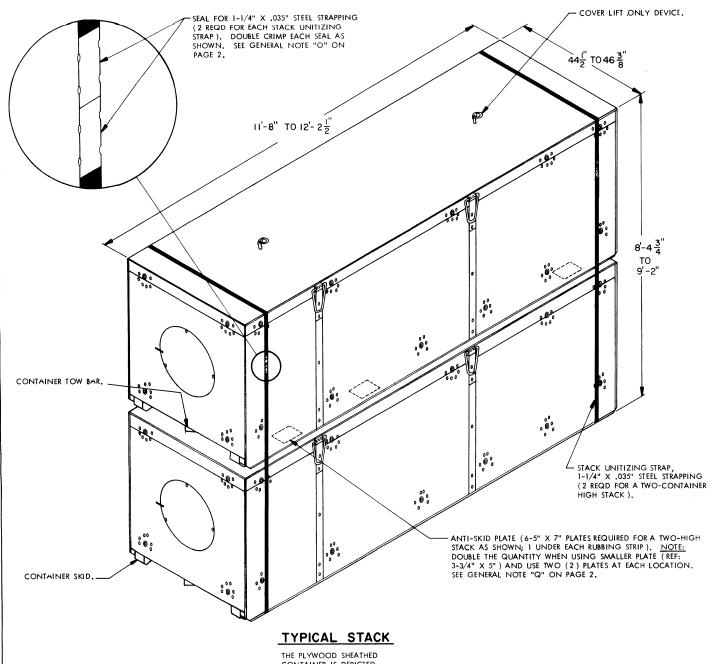
(GENERAL NOTES CONTINUED)

- Q. THE WORDS "ANTI-SKID PLATE" WILL BE STENCILED IN ONE INCH (1")
 HIGH LETTERS ON BOTH SIDES OF A CONTAINER JUST ABOVE THE LOCATIONS OF THESE PLATES.
- IF EDGE PROTECTORS FOR 2" STEEL STRAPPING ARE NOT COMMERCIALLY AVAILABLE, THEY MAY BE FORMED FROM 18 (MINIMUM) GAGE SHEET STEEL PIECES WHICH ARE 9" LONG BY 6" WIDE.
- NOTICE: A STAGGERED NAILING PATTERN WILL BE USED WHEN DUNNAGE IS NAILED TO THE FLOOR OF THE TRANSPORTING VEHICLE, OR WHEN DUNNAGE NATING 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 BE-SIDE A NAIL IN A LOWER PIECE.
- THE DUNNAGE LUMBER SPECIFIED THROUGHOUT THIS PROCEDURAL DRAWING IS OF A 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.
- 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 THE DEPICTED OUTLOADING METHODS.

REVISIONS

REVISION NO. 3, DATED 25 AUG 1969, CONSISTS OF:

- 1. ADDED: PROCEDURES FOR SHIPPING THE XM473 CONTAINER.
- 2. ADDED: PROCEDURES FOR DROP FRAME TRAILERS.
- 3. ADDED: UNITIZING AND HANDLING PROCEDURAL GUIDANCE.
- 4. DELETED: "CORPORAL GUIDED MISSILE" FROM THE DRAWING.
- ADDED: PROCEDURES FOR SHIPPING A TWELVE-UNIT LOAD ON A 40'-0" LONG TRAILER.
- 6. CHANGES NECESSARY TO UPDATE DRAWING FORMAT.



CONTAINER IS DEPICTED.

UNITIZING AND HANDLING PROCEDURAL GUIDANCE

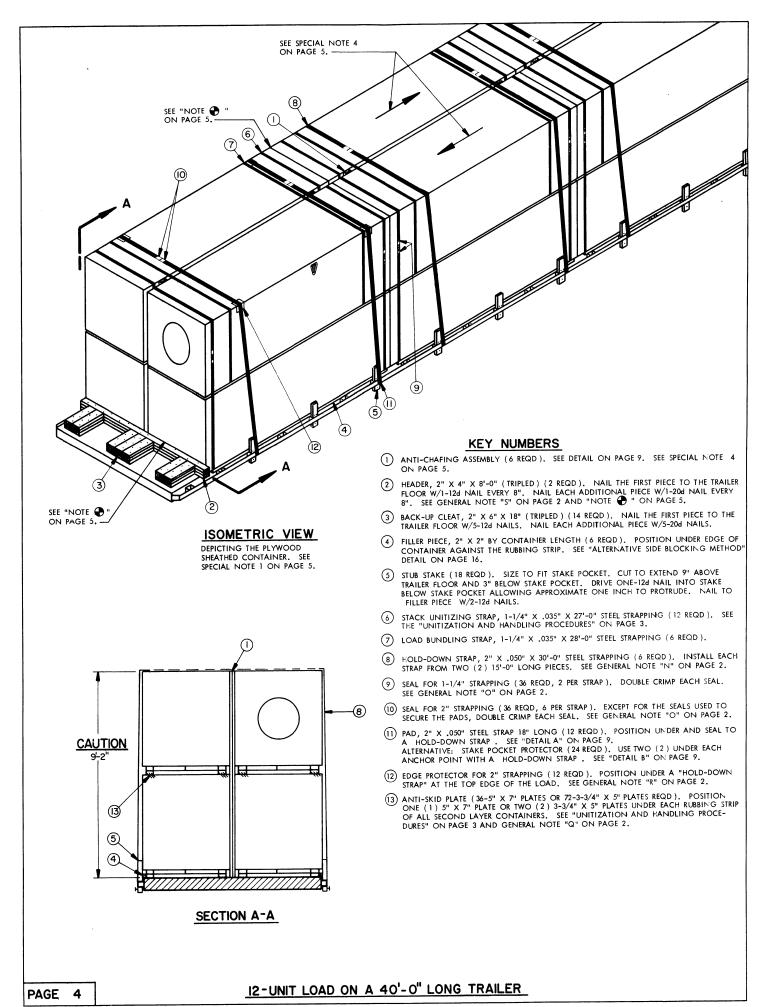
- 1. STACKING CONTAINERS FOR UNITIZING.
 - PLACE AN UPPER CONTAINER AS CLOSELY AS POSSIBLE IN VERTICAL ALIGNMENT WITH THE LOWER CONTAINER.
 - B. INSTALL ANTI-SKID PLATES BETWEEN LAYERS AS SHOWN.
 - C. POSITION THE FORWARD END OF AN UPPER CONTAINER ABOVE THE FORWARD END OF THE LOWER CONTAINER.
- 2. INSTALLING 1-1/4" X .035" STACK UNITIZING STEEL STRAPPING.
 - A. POSITION EACH OF THE UNITIZING STRAPS AROUND THE CONTAINERS AS SHOWN PLACE THE STRAPS NEAR THE EXTERIOR ENDS OF THE RUBBING STRIPS AND SO
 THAT THE STRAPPING LAYS FLAT AND STRAIGHT WITH THE BODY SURFACE OF THE
 CONTAINERS, I.E., VERTICAL ALONG SIDES AND STRAIGHT ACROSS THE TOP AND BOTTOM OF THE STACK.
 - THE STRAPPING WILL BE FIRMLY TENSIONED AND SO THAT EACH STRAP CRUSHES SLIGHTLY INTO THE UPPER AND LOWER EDGES OF THE STACK. EACH END-OVEREND LAP JOINT WILL BE SEALED WITH TWO BUTTED-TOGETHER SEALS WHICH WILL HAVE TWO PAIR OF CRIMPS EACH. EXCESS STRAPPING (STRAP ENDS) SHOULD BE CUT OFF OR BROKEN OFF NEAR THE JOINT SEALS.

(UNITIZING AND HANDLING PROCEDURAL GUIDANCE CONTINUED)

- 3. CONTAINER OR CONTAINER STACK HANDLING.
 - NOTES: (1) APPROVED MATERIALS HANDLING EQUIPMENT (FORKLIFT TRUCKS, CRANES, SLINGS, SPREADER BARS, ETC.) IS SPECIFIED ELSEWHERE THAN HEREIN.
 - (2) PRECAUTIONARY HANDLING TECHNIQUES NORMALLY EMPLOYED OR AS SPECIFIED FOR THE TYPE OF COMMODITY INVOLVED WILL BE USED FOR HANDLING THE DEPICTED CONTAINERS.
 - ONLY APPROVED AND APPROPRIATELY SIZED MATERIALS HANDLING EQUIPMENT WILL BE USED FOR HANDLING THE DEPICTED CONTAINERS.
 - IF HANDLING IS ACCOMPLISHED WITH A FORKLIFT TRUCK THE CONTAINERS SHOULD ONLY BE HANDLED FROM A SIDE POSITION, AND SHOULD ONLY BE HANDLED FROM A SIDE POSITION, AND WITH CARE BEING EXERCISED TO PREVENT DAMAGE TO THE CONTAINERS BY THE FORK TINES OR THE PACKAGE GUARD. FOR VERY SHORT "INCHING" SPEED MOVEMENTS, SUCH AS WILL BE EXPERIENCED DURING FLAT BED TRAILER LOADING, A TWO-HIGH CONTAINER STACK MAY BE HANDLED BY INSERTING THE FORKS OF A FORKLIFT TRUCK UNDER THE UPPER CONTAINER. THE ONE CONTAINER OR A STACK OF CONTAINERS IS HANDLED BY SLINGING, THE SLING MUST BE OF SUCH A DESIGN THAT LIFTING IS DONE ON THE BOTTOM OF THE BOTTOM CONTAINER. <u>CAUTION:</u> DO NOT ATTACH A SLING TO THE COVER LIFTING DEVICES TO LIFT A CONTAINER OR A CON-

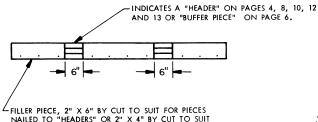
(CONTINUED AT THE RIGHT)

UNITIZATION AND HANDLING PROCEDURES



SPECIAL NOTES

- 1. A 12-UNIT LOAD OF THE PLYWOOD SHEATHED CONTAINER IS SHOWN ON A 40'-0" LONG BY 8'-0" WIDE FLAT BED TRAILER. IF A 12-UNIT LOAD O IF A 12-UNIT LOAD OF 146" LONG CONTAINERS IS SHIPPED, SPECIAL REAR BLOCKING PROVISIONS AS SHOWN BELOW APPLY. NOTE: THE AVAILABLE LOADING SURFACE OF THE TRAILER BED MUST MEASURE AT LEAST 39'-7" FOR THE DEPICTED LOADING PROCEDURES TO BE A SHORTER TRAILER CANNOT BE USED FOR THE SHIPMENT OF A
- 2. A TRAILER HAVING ROUNDED CORNERS AT THE FORWARD END MAY BE USED AS LONG AS THE ROUNDED PORTION DOES NOT INTERFERE WITH POSITIONING THE CONTAINERS, OR THE PLACEMENT AND NAILING OF THE DUNNAGE.
- 3. THE DEPICTED LOAD CONFIGURATION MAY BE ADJUSTED TO SATISFY THE QUANTITY OF ITEMS TO BE SHIPPED BY REFERRING TO PAGES 14 AND 15 FOR A NINE OR A ELEVEN UNIT LOAD. WHEN OUTLOADING A TEN UNIT LOAD, OMIT THE SECOND YER OF THE CENTER STACK AND USE PROCEDURES DEPICTED ON PAGE 13 FOR STRAPPING REQUIREMENTS.
- FORWARD ENDS OF LATERALLY ADJACENT CONTAINERS SHOULD BE ALTERNATED TO PROVIDE CLEARANCE FOR CONTAINER HARDWARE, IF APPLICABLE.
- 5. WHEN SHIPPING EMPTY CONTAINERS THE FOLLOWING IS APPLICABLE:
 - A. DELETE THREE (3) 2" X 6" X 18" BACK-UP CLEATS FROM EACH END OF THE TRAILER.
 - B. DELETE THE ANTI-SKID PLATES.



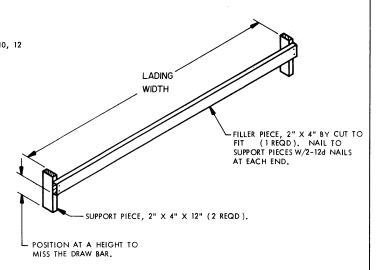
FILLER PIECE, 2" X 6" BY CUT TO SUIT FOR PIECES NAILED TO "HEADERS" OR 2" X 4" BY CUT TO SUIT FOR PIECES NAILED TO "BUFFER PIECES" (3 REQD). NAIL TO "HEADER" OR "BUFFER PIECE" W/124 NAILS.

SPECIAL DUNNAGE A

DETAIL ABOVE DEPICTS "FILLER" MATERIAL TO BE INSTALLED TO KEEP TOW BARS FROM CONTACTING A "HEADER" OR "BUFFER PIECE" IF THE TOW BAR EXTENDS BEYOND THE LENGTH OF THE CONTAINER BODY. SEE "NOTE THE ABOVE.

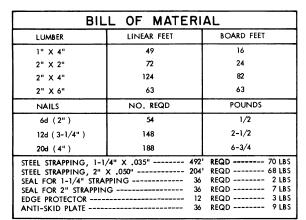
NOTE 🕀

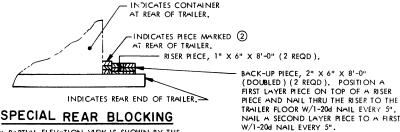
IF THE CONTAINERS BEING OFFERED FOR LOADING ARE EQUIPPED WITH A TOW BAR THAT PROTRUDES BEYOND THE LENGTH OF THE CONTAINER BODY, PROVISIONS MUST BE MADE SO THAT A TOW BAR OF A CON-TAINER DOES NOT CONTACT THE DUNNAGE ON THE TRAILER OR A TOW BAR OF A LONGITUDINALLY ADJACENT CONTAINER. "SPECIAL DUNNAGE A" BLOCKING SHOWN BELOW DEPICTS THE METHOD FOR KEEPING A TOW BAR FROM CONTACTING A "HEADER" OR "BUFFER "SPECIAL DUNNAGE PIECE" OF SPECIFIED LOAD BLOCKING DUNNAGE. BLOCKING SHOWN BELOW DEPICTS A METHOD FOR KEEPING TOW BARS OF LONGITUDINALLY ADJACENT CONTAINERS FROM CONTACTING.



SPECIAL DUNNAGE B

DETAIL ABOVE DEPICTS AN ASSEMBLY TO BE INSTALLED BETWEEN LOAD UNITS TO KEEP THE TOW BARS OF LONGITUDINALLY ADJA-CENT CONTAINERS FROM CONTACTING IF THEY EXTEND BEYOND THE LENGTH OF THE CONTAINER BODY. SEE "NOTE * " ABOVE.





A PARTIAL ELEVATION VIEW IS SHOWN BY THE DETAIL ABOVE. THE SPECIAL REAR BLOCKING PROVISIONS WHICH ARE SHOWN MUST BE APPLIED WHEN SHIPPING A 12-UNIT LOAD OF THE 146" LONG CONTAINERS ON A 40'-0" LONG TRAILER, TO FACILITATE INSTALLATION OF ENOUGH FLOOR-LINE BLOCKING. THE SPECIAL DUNNAGE SPECIFIED AS RISER PIECES AND BACK-UP PIECES WILL BE USED AT THE REAR OF A LOAD IN LIEU OF SEVEN (7 BACK-UP PIECES MARKED 3

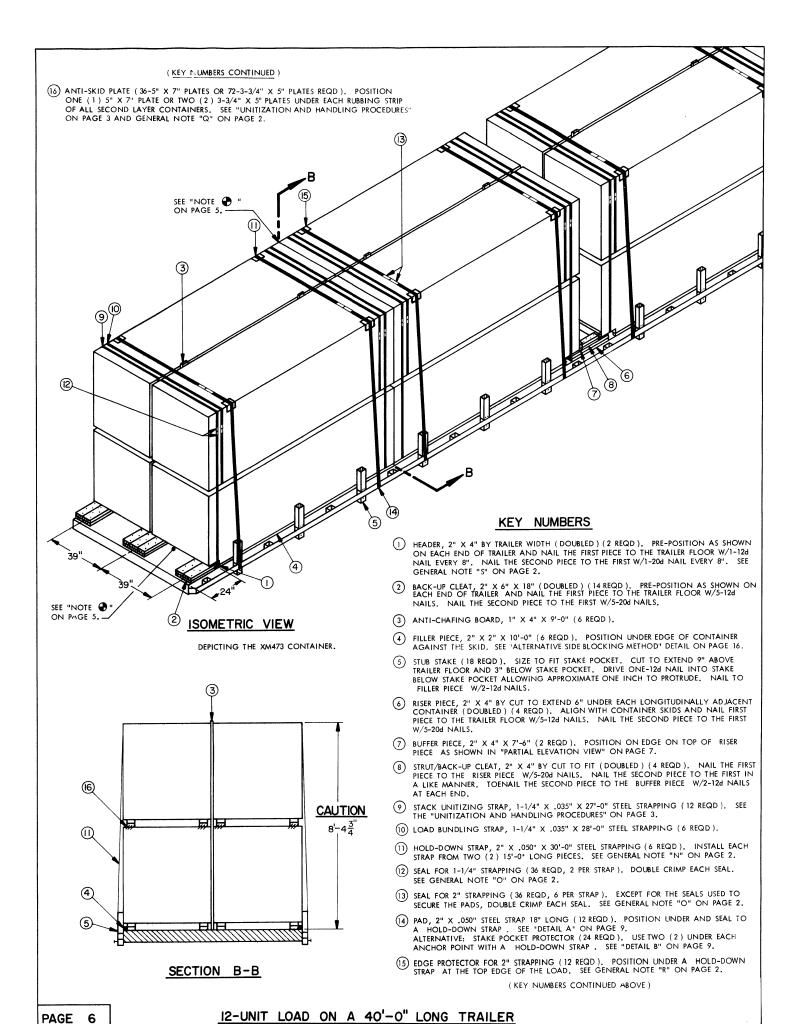
DUNNAGE -

WITHIN THE BASIC LOAD DEPICTED ON ITEM

LOAD AS QUANTITY WEIGHT (APPROX) CONTAINER (W/WARHEAD)---- 12 -----37,224 LBS TOTAL WEIGHT ----- 37,856 LBS *

* MAXIMUM WEIGHT

12-UNIT LOAD ON A 40'-0" LONG TRAILER

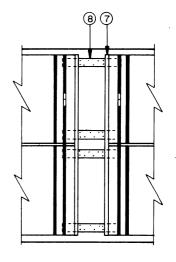


12 DIGIT LOAD ON A 40 -0 LONG TRAILET

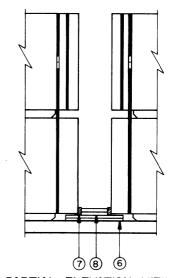
SPECIAL NOTES

- 1. A 12-UNIT LOAD OF THE XM473 CONTAINER IS SHOWN ON A 40'-0" LONG BY 8'-0" WIDE FLAT BED TRAILER. NOTE: THE AVAILABLE LOADING SURFACE OF THE TRAILER BED MUST MEASURE AT LEAST 39'-0" FOR THE DEPICTED LOADING PROCEDURES TO BE APPLICABLE. A SHORTER TRAILER CANNOT BE USED FOR THE SHIPMENT OF A 12-UNIT LOAD.
- A TRAILER HAVING ROUNDED CORNERS AT THE FORWARD END MAY BE USED AS LONG AS THE ROUNDED PORTION DOES NOT INTERFERE WITH POSITIONING THE CONTAINERS, OR THE PLACEMENT AND NAILING OF THE DUNNAGE.
- 3. THE DEPICTED LOAD CONFIGURATION MAY BE ADJUSTED TO SATISFY THE QUANTITY OF ITEMS TO BE SHIPPED BY REFERRING TO PAGES 14 AND 15 FOR A NINE OR A ELEVEN UNIT LOAD. WHEN OUTLOADING A TEN UNIT LOAD, OMIT THE SECOND LAYER OF THE CENTER STACK AND USE PROCEDURES AS DEPICTED ON PAGE 13 FOR STRAPPING REQUIREMENTS.
- 4. FOR THE SHIPMENT OF EMPTY CONTAINERS THE FOLLOWING IS APPLICABLE:
 - A. DELETE THREE (3) 2" X 6" X 18" BACK-UP CLEATS FROM EACH END OF THE TRAILER.
 - B. DELETE THE ANTI-SKID PLATES.

BILL	OF MATERI	AL
LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	54	18
2" X 2"	60	20
2" X 4"	118	78
2" X 6"	52	52
NAILS	NO. REQD	POUNDS
12d (3-1/4")	182	3
20d (4")	152	5-1/2
STEEL STRAPPING, 2 SEAL FOR 1-1/4" ST SEAL FOR 2" STRAPPI EDGE PROTECTOR	-1/4" X .035" 2" X .050" RAPPING	- 198' REQD 66 LBS - 36 REQD 2 LBS - 36 REQD 7 LBS - 12 REQD 3 LBS



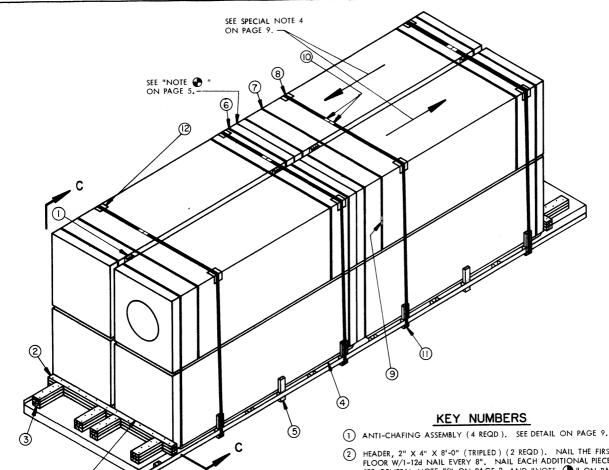
PARTIAL PLAN VIEW
DEPICTING THE CENTER BLOCKING.



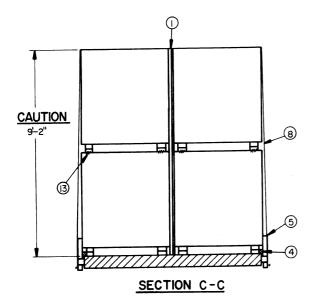
PARTIAL ELEVATION VIEW
DEPICTING THE CENTER BLOCKING.

LOAD AS SHOWN

ITEM	QUANTITY	WE	IGHT	(APPROX)
	12 34	4,776	LBS	
DUNNAGE		586	LBS	
	TOTAL WEIGHT 3.	5,362	LBS	



DEPICTING THE LUMBER OR PLYWOOD SHEATHED CONTAINER.



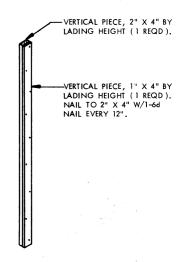
- HEADER, 2" \times 4" \times 8'-0" (TRIPLED) (2 REQD). NAIL THE FIRST PIECE TO THE TRAILER FLOOR W/1-12d NAIL EVERY 8". NAIL EACH ADDITIONAL PIECE W/1-20d NAIL EVERY 8". SEE GENERAL NOTE "S" ON PAGE 2 AND "NOTE \bigcirc " ON PAGE 5.
- 4 FILLER PIECE, 2" X 2" BY CONTAINER LENGTH (4 REQD). POSITION UNDER EDGE OF CONTAINER AGAINST THE RUBBING STRIP. SEE ALTERNATIVE SIDE BLOCKING METHOD" DETAIL ON PAGE 16.
- SIZE TO FIT STAKE POCKET. CUT TO EXTEND 9" ABOVE THE (5) STUB STAKE (12 REQD). SIZE TO FIT STAKE POCKET. CUT TO EXTEND 9" ABOVE THE TRAILER FLOOR AND 3" BELOW THE STAKE POCKET. DRIVE ONE-12d NAIL INTO STAKE BELOW STAKE POCKET ALLOWING APPROXIMATE ONE INCH TO PROTRUDE. NAIL TO FILLER PIECE W/2-12d.
- 6 STACK UNITIZING STRAP, 1-1/4" X .035" X 27'-0" STEEL STRAPPING (8 REQD). SEE THE "UNITIZATION AND HANDLING PROCEDURES" ON PAGE 3.
- 7 LOAD BUNDLING STRAP, 1-1/4" X .035" X 28'-0" STEEL STRAPPING (4 REQD).
- (B) HOLD-DOWN STRAP, 2" X .050" X 30'-0" STEEL STRAPPING (4 REQD). INSTALL EAC STRAP FROM TWO (2) 15'-0' LONG PIECES. SEE GENERAL NOTE "N" ON PAGE 2.
- 9 SEAL FOR 1-1/4" STRAPPING (24 REQD, 2 PER STRAP). DOUBLE CRIMP EACH SEAL. SEE GENERAL NOTE "O" ON PAGE 2.
- $\stackrel{\textstyle \frown}{0}$ SEAL FOR 2" STRAPPING (24 REQD, 6 PER STRAP). EXCEPT FOR THE SEALS USED TO SECURE THE PADS, DOUBLE CRIMP EACH SEAL. SEE GENERAL NOTE "O" ON PAGE 2.
- (1) PAD, 2" X .050" STEEL STRAP 18" LONG (8 REQD). POSITION UNDER AND SEAL TO A HOLD-DOWN STRAP. SEE "DETAIL A" ON PAGE 9.
 ALTERNATIVE: STAKE POCKET PROTECTOR (16 REQD). USE TWO (2) UNDER EACH ANCHOR POINT WITH A HOLD-DOWN STRAP. SEE "DETAIL B" ON PAGE 9.
- (2) EDGE PROTECTOR FOR 2" STRAPPING (8 REQD). POSITION UNDER A HOLD-DOWN STRAP AT THE TOP EDGE OF THE LOAD. SEE GENERAL NOTE "R" ON PAGE 2.
- 13 ANTI-SKID PLATE (24-5" X 7" PLATES OR 48-3-3/4" X 5" PLATES REQD). POSITION ONE (1) 5" X 7" PLATE OR TWO (2) 3-3/4" X 5" PLATES UNDER EACH RUBBING STRIP OF ALL SECOND LAYER CONTAINERS. SEE "UNITIZATION AND HANDLING PROCEDURES" ON PAGE 3 AND GENERAL NOTE "Q" ON PAGE 2.

SEE "NOTE 🕣 '

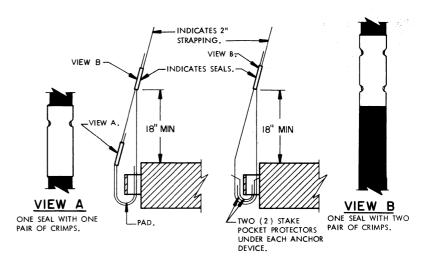
ON PAGE 5.

SPECIAL NOTES

- 1. AN 8-UNIT LOAD OF PLYWOOD OR LUMBER SHEATHED CONTAINERS IS SHOWN ON A 30'-0" LONG BY 8'-0" WIDE FLAT BED TRAILER HAVING A NAILABLE FLOOR.
- A TRAILER HAVING ROUNDED CORNERS AT THE FORWARD END MAY BE USED AS LONG AS THE ROUNDED PORTION DOES NOT INTERFERE WITH POSITIONING THE CONTAINERS, OR THE PLACEMENT AND NAILING OF THE DUNNAGE.
- 3. THE DEPICTED LOAD CONFIGURATION MAY BE ADJUSTED TO SATISFY THE QUANTITY OF ITEMS TO BE SHIPPED BY REFERRING TO PAGES 14 AND 15 FOR A FIVE OR A SEVEN UNIT LOAD. WHEN OUTLOADING A SIX UNIT LOAD, OMIT THE SECOND LAYER OF ONE LOAD STACK AND USE PROCEDURES AS DEPICTED ON PAGE 13.
- 4. FORWARD ENDS OF LATERALLY ADJACENT CONTAINERS SHOULD BE ALTERNATED TO PROVIDE CLEARANCE FOR CONTAINER HARDWARE, IF APPLICABLE.
- 5. THE DEPICTED LOAD IS ALSO APPLICABLE WHEN SHIPPING EIGHT EMPTY CONTAINERS. DELETE THE ANTI-SKID PLATES.



ANTI - CHAFING ASSEMBLY A



DETAIL A

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

DETAIL B

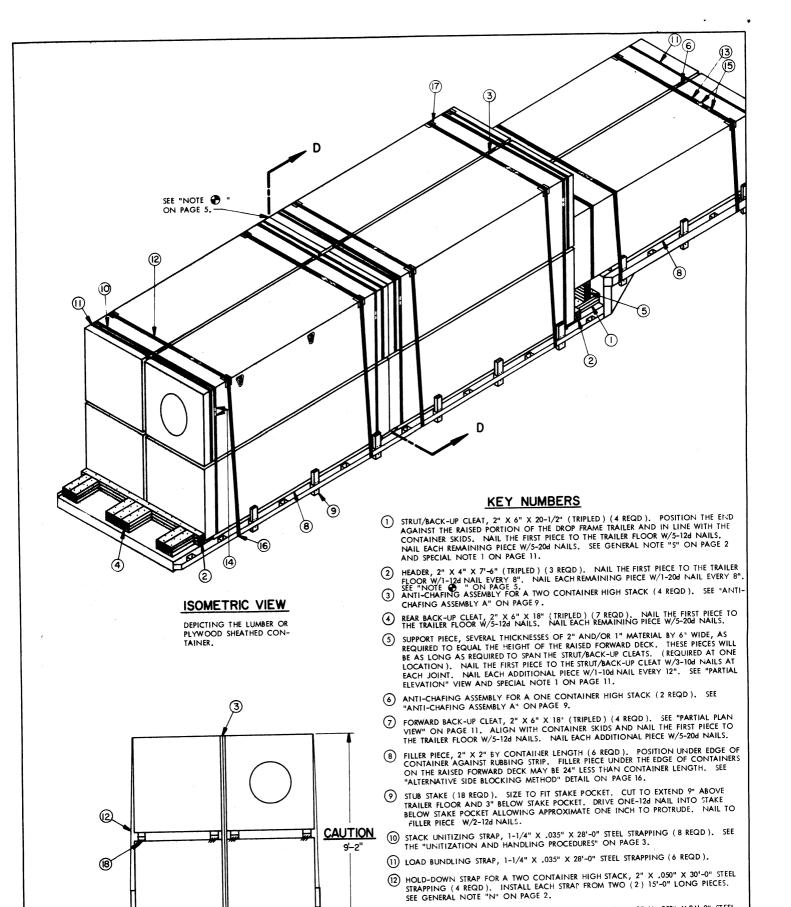
METHOD OF INSTALLING 2" STRAPPING AND STAKE POC-KET PROTECTORS (ALT PAD).

BILL OF MATERIAL					
LUMBER LINEAR FEET BOARD FEET					
1" X 4"	33	11			
2" X 2"	48	16			
2" X 4"	99	66			
2" X 6"	36	36			
NAILS	NO, REQD	POUNDS			
6d (2")	36	1/4			
12d (3-1/4")	100	1-3/4			
20d (4")	128	5			

STEEL STRAPPING, 1-1/4" X .035"3	28'	REQD	 47	LBS
STEEL STRAPPING, 2" X .050"1	361	REQD	 46	LBS
SEAL FOR 1-1/4" STRAPPING				LBS
SEAL FOR 2" STRAPPING	24	REQD	 5	LBS
EDGE PROTECTORS	8	REQD	 2	LBS
ANTI-SKID PLATES	24	REQD	 6	LBS

LOAD AS SHOWN

8-UNIT LOAD ON A 30'-0" LONG TRAILER



HOLD-DOWN STRAP FOR A ONE CONTAIL ER HIGH: TTACK, 2^n X .050" X 24^i -0" STEEL STRAPPING (2 REQD). INSTALL EACH STRAP FROM TWO (2) 12^i -0" LONG PIECES. SEE GENERAL NOTE "N" ON PAGE 2.

SEAL FOR 1-1/4" STRAPPING (28 REQD, 2 PER STRAP). DOUBLE CRIMP EACH SEAL.

SEAL FOR 2" STRAPPING (36 REQD, 6 PER STRAP). EXCEPT FOR THE SEALS USED TO SECURE THE PADS DOUBLE CRIMP EACH SEAL. SEE GENERAL NOTE "O" ON PAGE 2.

SEE GENERAL NOTE "O" ON PAGE 2.

PAGE 10

SECTION D-D

(KEY NUMBERS CONTINUED ON PAGE 11)

10-UNIT LOAD ON A 40'-0" LONG DROP FRAME TRAILER

(8)

(KEY NUMBERS CONTINUED FROM PAGE 10)

- (16) PAD, 2" X .050" STEEL STRAP 18" LONG (12 REQD) POSITION HEIDER AND SEAL FOR A HOLD-DOWN STRAP SEE "DETAIL A" ON PAGE 9

 ALTERNATIVE: STAKE POCKET PROTECTOR (24 REQD), USE TWO (2) UNDER EACH ANCHOR POINT WITH A POLD-DOWN STRAP, SEE "DETAIL B" ON PAGE 9. USE TWO (2) UNDER EACH
- (7) EDGE PROTECTOR FOR 2" STRAPPING (12 REQD.), POSITION UNDER A HOLD-STRAP AT THE TOP EDGE OF THE LOAD. SEE GENERAL HOTE "P" ON PAGE 2. POSITION UNDER A HOLD-DOWN
- (18) ANTI-SKID PLATE (24-5" X 7" PLATES OR 48-3-3/4" X 5" PLATES REQD). POSITION ONE (1) 5" X 7" PLATE OR TWO (2) 3-3/4" X 5" PLATES LINDER FACH RUBBING STRIP OF ALL SECOND LAYER CONTAINERS. SEE "UNITIZATION AND HANDLING PROCEDURES" ON PAGE 3 AND GENERAL NOTE "Q" ON PAGE 2

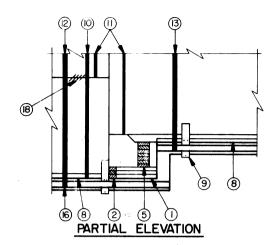
SPECIAL NOTES

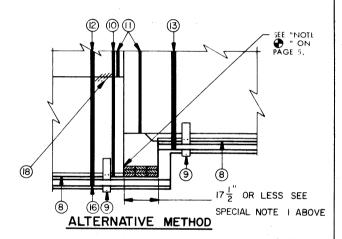
- 1. A 10-UNIT LOAD OF THE PLYWOOD OR LUMBER SHIATHED CODEAINER IS SHOWN ON A 40'-0" LONG BY 8'-0" WIDE DROP FRAME TRAILER HAVING A NAILABLE FLOOR. THE FORWARD DECK DIPICTED IS 12'-0" LONG, ELEVATED 12" ABOVE THE REAR FLOOR. AS THE HEIGHT OF THE FORWARD DECK VARIES, THE HEIGHT OF THE SUPPORT PIECE, PIECE MARKED (). MUST VARY PROPORTIONALLY. THE LENGTH OF THE ELEVATED FORWARD DECK CAN VARY FROM 12'-0" TO 13'-11" AND THE LENGTH OF THE REAR PLATFORM CAN THEN VARY FROM 28'-0" TO 26'-1" PROPORTIONATLY. THE LENGTH OF STRUT/BACK-UP CLEATS WILL VARY ACCORDINGLY. WHEN THE VOID BETWEEN THE TWO-HIGH CONTAINER STACKS AND THE ELEVATED FORWARD DECK IS 17-1/2" OR LESS USE SOLID FILL MATERIAL NAILED TO THE TRAILER AS DEPICTED IN THE "ATTERNATIVE METHOD" VIEW AT THE RIGHT AND NAIL THE SAME AS THE THEADER, PIECE MARKED (2). DELETE THE SUPPORT PIECE, PIECE MARKED (5). WHEN OUTLOADING A 40'-0" TRAILER, WITH A 13'-11" ELISED FORWARD DECK, THE TWO HIGH CONTAINER STACK MAY BE POSITIONED DIRELTLY AGAINST THE RAISED PORTION OF THE TRAILER.
- 2. THE DEPICTED LOAD CONFIGURATION MAY BE ADJUSTED TO SATISFY THE QUANTITY OF ITEMS TO BE SHIPPED BY REFERRING TO PAGES 14 AND 15 FOR AN ODD NUMBER OF CONTAINERS.
- FORWARD ENDS OF LATERALLY ADJACENT CONTAINERS SHOULD BE ALTERNATED TO PROVIDE CLEARANCE FOR CONTAINER HARDWARE, IF APPLICABLE.
- THE DEPICTED LOAD IS ALSO APPLICABLE WHEN SHIPPING TEN EMPTY CONTAINERS. DELETE THE ANTI-SKID PLATES.
- WHEN OUTLOADING TEN XM473 CONTAINERS A COMBINATION OF PROCEDURES DEPICTED ON PAGES 6 AND 10 WILL BE REQUIRED.
 - DELETE THE REAR HEADER AND BACK-UP CLEATS SHOWN ON PAGE 10 AND USE REAR BLOCKING, PRE-POSITION, AS DEPICTED ON PAGE 6.
 - B. DELETE STRUE/BACK-UP CLEAT, PIECE MARKED (1), AND HEADER, PIECE MARKED (2), AND USE CENTER BLOCKING, PIECES MARKED (6), (7), AND (8), DEPICTED ON PAGES 6 AND 7. ONE END OF THE CENTER BLOCKING WILL BE POSITIONED DIRECTLY AGAINST THE ELEVATED FRONT DECK WALL.
 - C. DELETE THE FORWARD BACK-UP CLEAT, PIECE MARKED (7), AND HEADER, PIECE MARKED (2), AND USE PRE-POSITIONED HEADER AND BACK-UP CLEATS AS DEPICTED ON PAGE 6
 - D. THE REMAINING BLOCKLY WILL BE AS TREACTED ON PAGES TO AND IT.

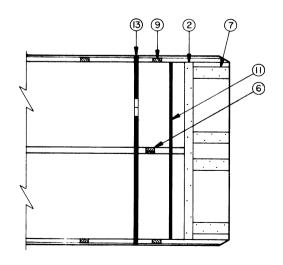
BILL OF MATERIAL							
LUMBER	LINEAR FEET		BOARD FEET				
1" X 4"	40		13				
1" X 6"	8		4				
2" X 2"	144		48				
2" X 4"	67		44				
2" X 6"	100 100		100				
NAILS	NO, REQD		POUNDS				
ód (2")	44		1/4				
12d (3-1/4")	212	3-1/2					
20d (4")	222		8				
STEEL STRAPPING, 1-1, STEEL STRAPPING, 2" ; SEAL FOR 1-1/4" STRAI SEAL FOR 2" STRAPPIN EDGE PROTECTOR ANTI-SKID PLATE	X .050" PPING G	188' 28 36	REQD 63 LBS REQD 1-1/4 LBS REQD 7 LBS REQD 3 LBS				

LOAD AS SHOWN

ITEM	QUANTITY	WEIGHT	(APPROX)
	(W/WARHEAD) 10 3-		
	TOTAL WEIGHT 3	4,770 LBS	-



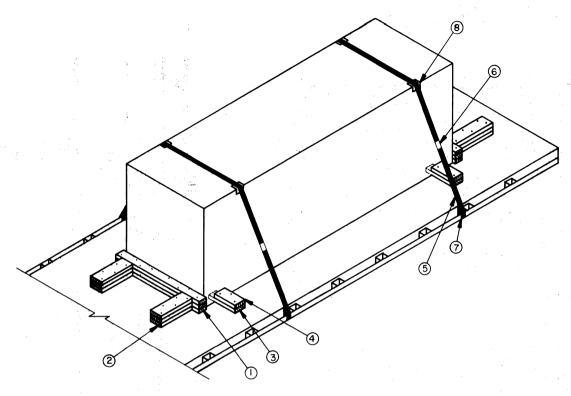




PARTIAL PLAN VIEW

DEPICTING LOCATION OF FORWARD BLOCKING.

IO-UNIT LOAD ON A 40'-0" LONG DROP FRAME TRAILER

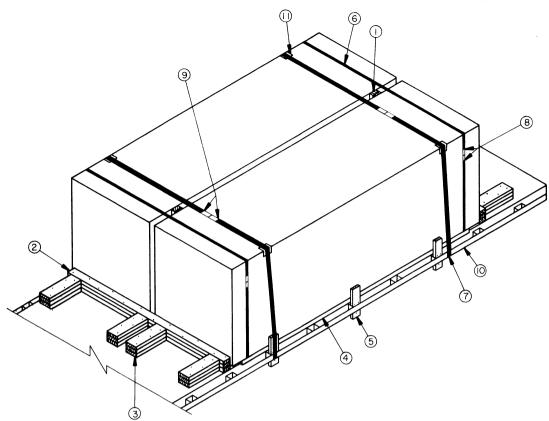


SPECIAL NOTES

- THE TYPICAL LTL, 1-UNIT LOAD IS BASED ON A 8'-0" WIDE FLAT BED TRAILER HAV-ING A NAILABLE FLOOR. THE CONTAINER DEPICTED IS THE PLYWOOD OR LUMBER SHEATHED CONTAINER. WHEN SHIPPING A 1-UNIT LTL LOAD OF THE XM473 CON-TAINER SEE "SPECIAL BLOCKING FOR THE XM473 CONTAINER" DETAIL ON PAGE 16. DECREASE THE LENGTH OF THE HEADER AND QUANTITY OF BACK-UP CLEATS AS APPLICABLE.
- 2. TWO (2) BACK-UP CLEATS, SHOWN AS PIECES MARKED (2), ARE ADEQUATE FOR RETAINING A MAXIMUM LTL LOAD OF NOT GREATER THAN 10,000 POUNDS.

KEY NUMBERS

- 2 BACK-UP CLEAT, 2" X 6" X 18" (TRIPLED) (4 REQD). NAIL THE FIRST PIECE TO THE TRAILER FLOOR W/5-12d NAILS. NAIL EACH ADDITIONAL PIECE W/5-20d NAILS.
- $\ \, 3)$ SIDE BLOCKING, 2" X 6" X 15" (4 REQD). NAIL TO THE TRAILER FLOOR W/3-12d NAILS.
- $\begin{tabular}{lll} \hline & SIDE BLOCKING, 2" X 6" X 12" (4 REQD). & NAIL TO THE 15" SIDE BLOCKING PIECE W/3-12d NAILS. \\ \hline \\ \hline \\ \hline \end{tabular}$
- (5) HOLD-DOWN STRAP, 2" X .050" X 23'-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 THROUGH AN ANCHOR DEVICE ON THE OPPOSITE SIDE OF THE TRAILER, AND BRING IT BACK UP ABOVE THE ANCHOR DEVICE WHERE IT CAN BE TENSIONED AND SEALED. SEE GENERAL NOTE "N" ON PAGE 2.
- 6 SEAL FOR 2" STRAPPING (8 REQD, 4 PER STRAP). EXCEPT FOR THE SEALS USED TO SECURE THE PADS, DOUBLE CRIMP EACH SEAL. SEE GENERAL NOTE "O" ON PAGE 2.
- 7) PAD, 2" X .050" STEEL STRAP 18" LONG (4 REQD). POSITION UNDER AND SEAL TO A HOLD-DOWN STRAP . SEE "DETAIL A" ON PAGE 9.
 ALTERNATIVE: STAKE POCKET PROTECTOR (8 REQD). USE TWO (2) UNDER EACH ANCHOR POINT WITH A HOLD-DOWN STRAP . SEE "DETAIL B" ON PAGE 9.
- B EDGE PROTECTOR FOR 2" STRAPPING (4 REQD). POSITION UNDER A HOLD-DOWN STRAP AT THE TOP EDGE OF THE LOAD, SEE GENERAL NOTE "R" ON PAGE 2.



SPECIAL NOTES

- THE TYPICAL LTL. 2-UNIT LOAD IS BASED ON A 8'-0" WIDE FLAT BED TRAILER HAVING A NAILABLE FLOOR. THE CONTAINER DEPICTED IS THE PLYWOOD OR LUMBER SHEATHED CONTAINER. WHEN SHIPPING A 2-UNIT LTL LOAD OF THE XM473 CONTAINER SEE "SPECIAL BLOCKING FOR THE XM473 CONTAINER" DETAIL
- 2. FOUR (4) BACK-UP CLEATS, SHOWN AS PIECES MARKED (3), ARE ADEQUATE FOR RETAINING A MAXIMUM LTL LOAD OF NOT GREATER THAN 20,000 POUNDS.
- WHEN OUTLOADING THE XM473 CONTAINER THE THICKNESS OF THE "ANTI-CHAFING ASSEMBLY" MAY BE DECREASED TO THE THICKNESS REQUIRED TO PROVIDE CLEARANCE BETWEEN THE HARDWARE OF LATERALLY ADJACENT CONTAINERS.

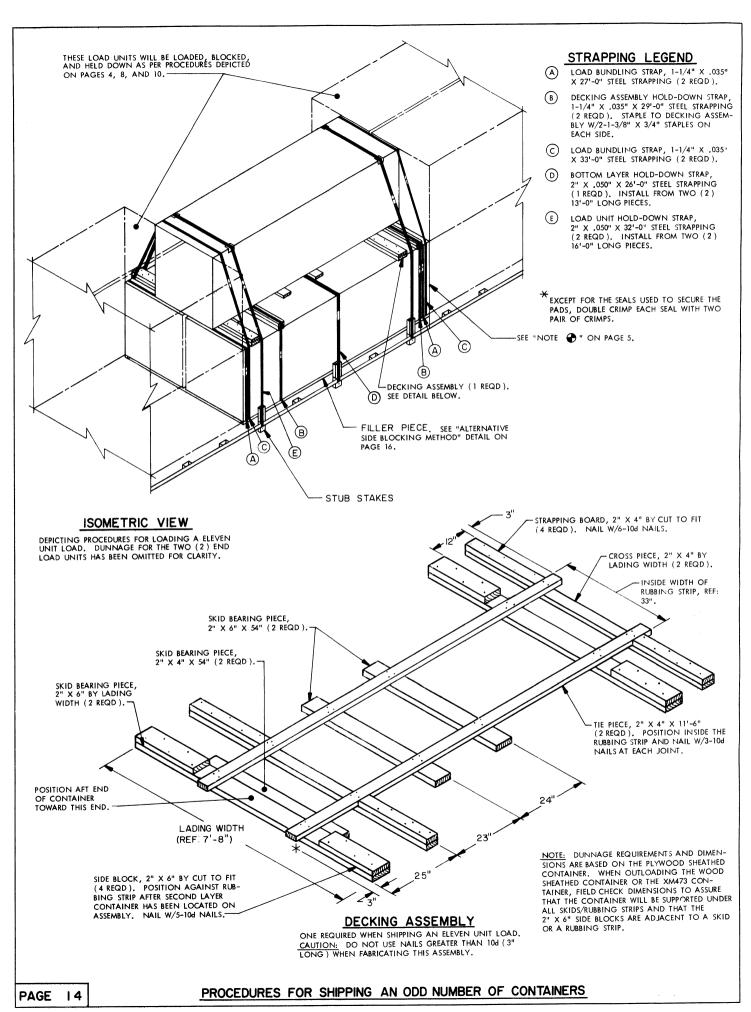
 ALSO, THE WIDTH OF THE FILLER PIECE WILL HAVE TO BE INCREASED TO PROVIDE
 A SNUG FIT BETWEEN THE CONTAINER'S RUBBING STRIP AND THE STUB STAKES.

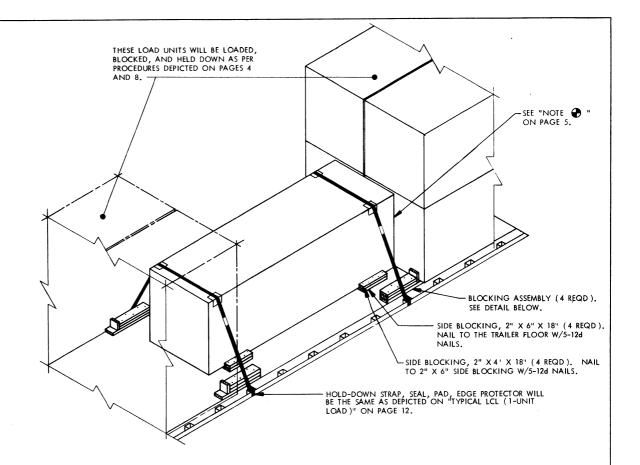
 THIS MAY BE ACCOMPLISHED BY RIPPING A WIDER PIECE OF DUNNAGE, OR BY 'NOTCHING" OUT A WIDER PIECE OF DUNNAGE TO PROVIDE CLEARANCE FOR THE STUB STAKES.

KEY NUMBERS

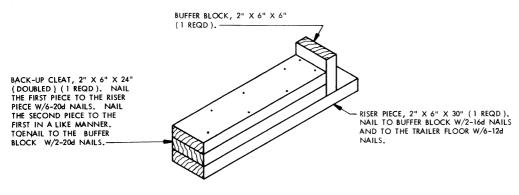
- (1) ANTI-CHAFING ASSEMBLY FOR A ONE-HIGH CONTAINER STACK (2 REQD). SEE "ANTI-CHAFING ASSEMBLY A" ON PAGE 9 AND SPECIAL NOTE 3 BELOW.
- 2 HEADER, 2" X 4" X 8'-0" (TRIPLED) (2 REQD), NAIL THE FIRST PIECE TO THE TRAILER FLOOR W/1-12d NAIL EVERY 8", NAIL EACH ADDITIONAL PIECE W/1-20d NAIL EVERY 8", SEE GENERAL NOTE "5" ON PAGE 2 AND "NOTE ♣" ON PAGE 5.

 3 BACK-UP CLEAT, 2" X 6" X 18" (TRIPLED) (8 REQD), NAIL THE FIRST PIECE TO THE TRAILER FLOOR W/E 12d NAIL 5 NAIL FEED ADDITIONAL
- PIECE TO THE TRAILER FLOOR W/5-12d NAILS. NAIL EACH ADDITIONAL
- 4 FILLER PIECE, 2" X 2" BY CONTAINER LENGTH (2 REQD). POSITION UNDER EDGE OF CONTAINER AGAINST RUBBING STRIP. SEE SPECIAL NOTE 3 AT LEFT. SEE "ALTERNATIVE SIDE BLOCKING METHOD" DETAIL ON PAGE 16
- 5 STUB STAKE (6 REQD). SIZE TO FIT STAKE POCKET. CUT TO EXTEND 9" ABOVE THE TRAILER FLOOR AND 3" BELOW STAKE POCKET. DRIVE ONE-12d NAIL INTO STAKE BELOW STAKE POCKET ALLOWING APPROXI-MATE ONE INCH TO PROTRUDE. NAIL TO FILLER PIECE W/2-12d NAILS.
- 6 LOAD BUNDLING STRAP, 1-1/4" X .035" X 28'-0" STEEL STRAPPING (2 REQD).
- HOLD-DOWN STRAP, 2" X .050" X 26'-0" STEEL STRAPPING (2 REQD). INSTALL EACH STRAP FROM TWO (2) 13'-0" LONG PIECES. SEE GENERAL NOTE "N" ON PAGE 2.
- SEAL FOR 1-1/4" STRAPPING (4 REQD, 2 PER STRAP). DOUBLE CRIMP EACH SEAL. SEE GENERAL NOTE "O" ON PAGE 2.
- 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 "O" ON PAGE 2.
- (0) PAD, 2" X .050" STEEL STRAP 18" LONG (4 REQD). POSITION UNDER AND SEAL TO A HOLD-DOWN STRAP. SEE "DETAIL A" ON PAGE 9.
 ALTERNATIVE: STAKE POCKET PROTECTOR (8 REQD). USE TWO (2) UNDER EACH ANCHOR POINT WITH A HOLD-DOWN STRAP . SEE "DETAIL B" ON PAGE 9.
- (1) EDGE PROTECTOR FOR 2" STRAPPING (4 REQD). POSITION UNDER A HOLD-DOWN STRAP AT THE TOP EDGE OF THE LOAD. SEE GENERAL NOTE "R" ON PAGE 2.



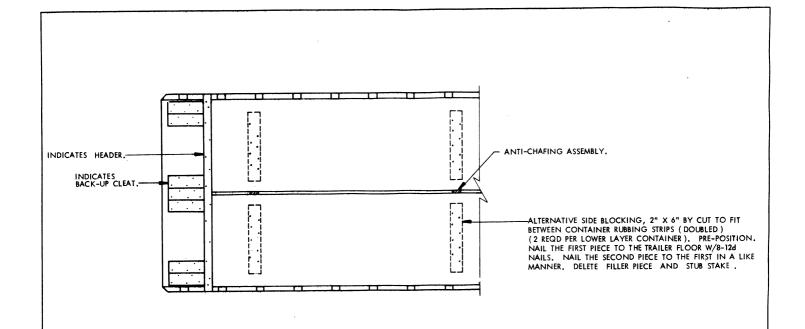


DEPICTING PROCEDURES FOR LOADING A NINE (9)-UNIT LOAD. DUNNAGE FOR THE TWO (2) END LOAD UNITS HAS BEEN OMITTED FOR CLARITY.



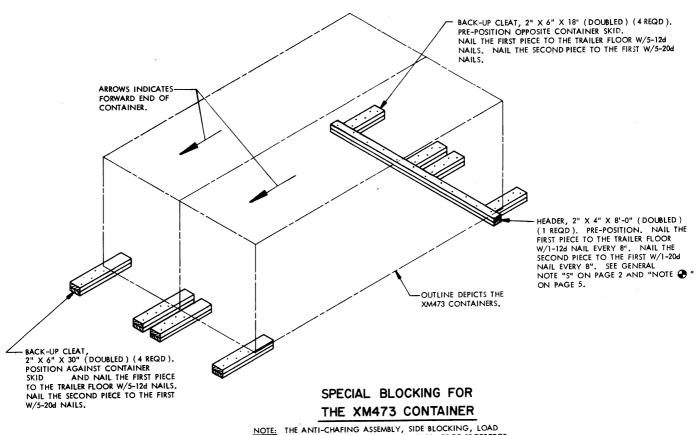
BLOCKING ASSEMBLY

FOUR REQUIRED WHEN LOADING A NINE (9) UNIT LOAD AS DEPICTED ABOVE.



ALTERNATIVE SIDE BLOCKING METHOD

PRE-POSITIONED SIDE BLOCKING MAY BE USED IN LIEU OF FILLER PIECE AND STUB STAKES .



NOTE: THE ANTI-CHAFING ASSEMBLY, SIDE BLOCKING, LOAD BUNDLING STRAP, HOLD-DOWN STRAP, EDGE PROTECTOR, AND PAD REQUIREMENT WILL BE AS NOTED IN "KEY NUMBERS" ON PAGE 13. THIS METHOD MAY ALSO BE USED WHEN SHIPPING A 1-UNIT LTL LOAD, BY DECREASING THE LENGTH OF THE HEADER AND THE NUMBER OF PACKING LEATS. SEED TO BAGE 12 SEED CHAPS PECULIF. BACK-UP CLEATS, REFER TO PAGE 12 FOR OTHER REQUIRE-

DETAILS