

DRAGON

LOADING AND BRACING[Ⓛ] IN MILVAN CONTAINERS[⊕] OF GUIDED MISSILE AND LAUNCHER, SURFACE ATTACK, M222 OR PRACTICE, M223, PACKED ONE PER SHIPPING AND STORAGE CONTAINER, UNPALLETIZED AND PALLETIZED, AND PACKED 15 PER MULTIPACK PALLET UNIT, FOR SHIPMENT BY T/COFC CARRIER

Ⓛ LOADING AND BRACING SPECIFICATIONS SET FORTH WITHIN THIS DRAWING ARE APPLICABLE TO LOADS THAT ARE TO BE SHIPPED BY TRAILER/CONTAINER-ON-FLAT-CAR (T/COFC) RAIL CARRIER SERVICE. THESE SPECIFICATIONS MAY ALSO BE USED FOR LOADS THAT ARE TO BE MOVED BY MOTOR OR WATER OR AIR CARRIERS. SEE GENERAL NOTE "R" ON PAGE 2.

⊕ ONLY MILVAN CONTAINERS WHICH HAVE BEEN MODIFIED TO INCLUDE A MECHANICAL LOAD BRACING SYSTEM THAT SATISFIES THE REQUIREMENTS OF THE BUREAU OF EXPLOSIVES PAMPHLET 6C WILL BE USED FOR THE MOVEMENT OF AMMUNITION BY T/COFC SERVICE. CAUTION: OTHER REQUIREMENTS OF PAMPHLET 6C ALSO APPLY.

INDEX

<u>ITEM</u>	<u>PAGE(S)</u>
GENERAL NOTES, AND MATERIAL SPECIFICATIONS -----	2
CONTAINER, PALLET UNIT, AND MULTIPACK UNIT DETAILS -----	3
UNPALLETIZED LOAD -----	4-7
PALLETIZED LOAD -----	8, 9
MULTIPACK LOAD -----	10-12

THIS DRAWING, INCLUDING REVISION 5, SUPERSEDES DRAWING 19-48-5935-GM15DR1, DATED JUNE 1973, AND ALL REVISIONS THERETO, THROUGH NUMBER 3, DATED FEBRUARY 1979.

DO NOT SCALE

REVISIONS		DESIGNED BY	TYPED	CHECKED	TECHNICIAN	ENGINEER
5	OCT 89	RSN REV REV REV REV REV REV REV	FCB WRS WRS WRS WRS WRS WRS WRS	GES	RS4	
		<i>John Kraft</i>		<i>D. W. Horner</i>		
		<i>John L. Syrdy</i>		APPROVED BY ORDER OF COMMANDING GENERAL, U.S. ARMY MATERIEL COMMAND (AMC)		
				U.S. ARMY DEFENSE AMMUNITION CENTER AND SCHOOL		
				OCTOBER 1989		
		CLASS	DIVISION	DRAWING	FILE	
		19	48	5935	GM 15DR1	

GENERAL NOTES

- A. THIS DOCUMENT HAS BEEN PREPARED AND ISSUED IN ACCORDANCE WITH AR 740-1, AND AUGMENTS TM 743-200-1 (CHAPTER 5).
- B. THE OUTLOADING PROCEDURES SPECIFIED HEREIN ARE APPLICABLE TO THE DRAGON GUIDED MISSILE AND LAUNCHER PACKED EITHER ONE EACH PER SHIPPING AND STORAGE CONTAINER OR FIFTEEN EACH PER MULTIPACK PALLET UNIT. SUBSEQUENT REFERENCE TO CONTAINER HEREIN MEANS THE CONTAINER WITH MISSILE COMPONENTS AND SUBSEQUENT REFERENCE TO MULTIPACK UNIT HEREIN MEANS MULTIPACK BOX PALLET WITH FIFTEEN MISSILE COMPONENTS.
- C. FOR DETAIL OF THE CONTAINER, SEE PACKAGING DATA SHEET NO. 10695149 OR 10695150 AND "CONTAINER" DETAIL ON PAGE 3.
- CONTAINER DIMENSIONS --- 48" LONG X 16" WIDE X 16" HIGH.
GROSS WEIGHT ----- 67 POUNDS (APPROX).
CUBE ----- 7.0 CUBIC FEET.
- D. FOR DETAIL OF THE PALLET UNIT, SEE U. S. ARMY DARCQM DRAWING NO. 19-48-5218-GM20DR1 AND "PALLET UNIT" DETAIL ON PAGE 3.
- PALLET UNIT DIMENSIONS --- 48" LONG X 6'-8" WIDE X 69" HIGH.
GROSS WEIGHT ----- 1,451 POUNDS (APPROX).
CUBE ----- 151.7 CUBIC FEET.
- E. FOR DETAIL OF THE MULTIPACK UNIT, SEE U. S. ARMY MISSILE COMMAND DRAWING NO. 13013762 AND "MULTIPACK UNIT" DETAIL ON PAGE 3.
- MULTIPACK UNIT DIMENSIONS --- 37-1/4" LONG X 49" WIDE X 66" HIGH.
GROSS WEIGHT ----- 658 POUNDS (APPROX).
CUBE ----- 69.7 CUBIC FEET.
- F. THIS ITEM 10695150 (M222) IS A DOT CLASS "A" EXPLOSIVE, AND A COAST GUARD CLASS X-C. ITEM 10695149 (M223) IS A DOT CLASS "B" EXPLOSIVE AND A COAST GUARD CLASS II-B. THE OUTLOADING PROCEDURES SPECIFIED HEREIN CAN ALSO BE UTILIZED FOR SHIPMENT OF THE DEPICTED CONTAINERS WHEN THEY ARE LOADED WITH AN ITEM WHICH IS IDENTIFIED DIFFERENTLY BY NOMENCLATURE THAN THE ITEM DESIGNATED WITHIN THE DRAWING TITLE.
- G. OTHER TYPES OF LADING ITEMS MAY BE LOADED IN THE MILVAN CONTAINERS 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.
- H. THE LOADS AS SHOWN ARE BASED ON A 20' LONG X 8' WIDE X 8' HIGH MILVAN CONTAINER WITH INSIDE DIMENSIONS OF 19'-4" LONG BY 72" WIDE BY 87" HIGH. THE LOADS ARE DESIGNED FOR TRAILER/CONTAINER-ON-FLAT-CAR SERVICE.
- J. THE SPECIFIED OUTLOADING PROCEDURES ARE FOR CONTAINERS EQUIPPED WITH SELF-CONTAINED MECHANICAL BRACING DEVICES AS DESCRIBED WITHIN BUREAU OF EXPLOSIVES PAMPHLET 6C. CROSS MEMBER ATTACHMENT FACILITIES WITHIN THESE CONTAINERS MUST PROVIDE FOR THE INSTALLATION OF LOAD BLOCKING CROSS MEMBERS AT THE HEIGHTS SPECIFIED. THE HEIGHT DIMENSIONS SPECIFIED WITHIN THIS DRAWING FOR THE INSTALLATION OF CROSS MEMBERS CONFORM WITH BUREAU OF EXPLOSIVES PAMPHLET 6C, WITH THE EXCEPTION THAT TWO (2) ADDITIONAL BELT RAILS HAVE BEEN SHOWN; ONE AT 72" AND ONE AT 83" HEIGHT FROM THE CONTAINER FLOOR. VOIDS LENGTHWISE WITHIN THE LOAD MUST BE HELD TO A MINIMUM. CROSS MEMBERS MUST BE PLACED AGAINST THE LADING AS TIGHTLY AS THE HOLE SPACING IN THE CROSS MEMBER ATTACHMENT FACILITY PERMITS. EACH CROSS MEMBER WILL BE INSTALLED WITH THE ENDS ATTACHED AS NEARLY AS POSSIBLE IN "MATED" POSITIONS (AT EQUAL HEIGHTS AND AT EQUAL DISTANCES FROM THE END OF THE CONTAINER). CROSS MEMBERS IN EMPTY CONTAINERS AND THOSE NOT USED IN LOADED CONTAINERS MUST BE FASTENED INTO BELT RAILS FOR SHIPMENT. COMPONENTS ASSIGNED TO EACH CONTAINER MUST REMAIN THEREWITH EVEN THOUGH UNUSED DURING SOME SHIPMENTS. SEE THE "FILL DETAIL C" ON PAGE 9 FOR THE DUNNAGING METHOD REQUIRED TO ELIMINATE AN EXCESSIVE LENGTHWISE VOID WITHIN A LOAD. SEE GENERAL NOTE "5".
- K. VOIDS BETWEEN THE LADING OR THE FILL MATERIAL AND CROSS MEMBERS MUST NOT EXCEED ONE-HALF INCH (1/2"). ADDITIONAL MATERIAL MAY BE ADDED TO THE CROSS MEMBER OR THINNER MATERIAL MAY BE USED TO ACHIEVE THE PROPER THICKNESS AS REQUIRED.
- L. DUNNAGE LUMBER SPECIFIED IS OF A NOMINAL SIZE. FOR EXAMPLE, 1" X 4" MATERIAL IS ACTUALLY 3/4" THICK BY 3-1/2" WIDE AND 2" X 6" MATERIAL IS ACTUALLY 1-1/2" THICK BY 5-1/2" WIDE.
- M. CAUTION: DO NOT NAIL DUNNAGE MATERIAL TO THE CONTAINER WALLS OR FLOOR. ALL NAILING WILL BE WITHIN THE DUNNAGE.
- N. A STAGGERED NAILING PATTERN WILL BE USED WHEREVER POSSIBLE WHEN NAILS ARE DRIVEN INTO JOINTS OF DUNNAGE ASSEMBLIES 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.
- O. PORTIONS OF THE CONTAINERS DEPICTED WITHIN THIS DRAWING, SUCH AS ONE OF THE SIDE WALLS, HAVE NOT BEEN SHOWN IN THE LOAD VIEWS FOR CLARITY PURPOSES.

(CONTINUED AT RIGHT)

MATERIAL SPECIFICATIONS

- LUMBER ----- : TM 743-200-1 (DUNNAGE LUMBER) AND FED SPEC MM-L-751.
- NAILS ----- : FED SPEC FF-N-105; COMMON.
- WIRE ----- : FED SPEC QQ-W-461.
- STRAPPING, STEEL ----- : FED SPEC QQ-S-781; TYPE I OR II, CLASS A OR B.
- SEAL, STRAP ----- : FED SPEC QQ-S-781; TYPE D, STYLE I, II, OR III, CLASS H.
- STAPLE, STRAP ----- : COMMERCIAL GRADE.

(GENERAL NOTES CONTINUED)

- P. WHEN ANY STRAP IS SEALED AT AN END-OVER-END LAP JOINT, TWO (2) SEALS, BUTTED TOGETHER, WITH TWO (2) PAIR OF CRIMPS PER SEAL MUST BE USED TO SEAL THE JOINT. WHEN ANY STRAP IS INSTALLED AROUND A BELT RAIL OR CROSS MEMBER WITH A LAP-BACK-ON-SELF JOINT, ONE (1) SEAL WITH TWO (2) PAIR OF CRIMPS WILL BE USED.
- Q. MAXIMUM LOAD WEIGHT CRITERIA:
- BECAUSE OF THE LIGHT WEIGHT OF THE AMMUNITION, A LOAD WEIGHT WILL NEVER EXCEED ANY WEIGHT RESTRICTION CRITERIA.
- SEE THE SPECIAL NOTE SECTION OPPOSITE THE BASIC LOADS FOR INSTRUCTIONS WHICH MUST BE APPLIED IF A CONTAINER IS TO BE LOADED WITH LESS UNITS THAN SHOWN IN THE BASIC LOADS ON PAGES 4, 8, AND 10.
- R. SPECIAL T/COFC NOTES:
1. CAUTION: LOADED CONTAINERS MUST BE ON CHASSIS EQUIPPED WITH TWO BOGIE ASSEMBLIES WHEN BEING MOVED IN TOFC SERVICE; REGARDLESS OF LOAD WEIGHT WITHIN THE CONTAINER.
 2. LOAD LIMITS OF T/COFC RAIL CARS MUST NOT BE EXCEEDED, NOR WILL A CAR BE LOADED SO THAT THE TRUCK UNDER ONE END OF THE CAR CARRIES MORE THAN ONE-HALF OF THE LOAD LIMIT FOR THAT CAR.
 3. CHASSIS/CONTAINERS COUPLED INTO A 40-FOOT TRAILER CONFIGURATION MUST BE PLACED AT THE B-END OF A TOFC RAIL CAR. THE REAR END OF THE 40-FOOT UNIT WILL OVER-HANG THE END OF THE CAR IF IT IS PLACED AT THE A-END. TWENTY-FOOT AND 40-FOOT UNITS CAN BE LOADED ON THE SAME CAR.
 5. THE LOAD BLOCKING COMPONENT DESIGNATED AS "CROSS MEMBER" HEREIN, IS IDENTIFIED AS "BEAM ASSEMBLY" WITHIN TM 55-8115-200-24, DATED SEPTEMBER 1972. THE BEAM ASSEMBLY IS FURTHER IDENTIFIED AS NSN 8115-00-165-6623 (FORMERLY FSN 8115-165-6623).
 - T. CONVERSION TO METRIC EQUIVALENTS: DIMENSIONS WITHIN THIS DOCUMENT ARE EXPRESSED IN INCHES, AND WEIGHTS ARE EXPRESSED IN POUNDS. WHEN NECESSARY, THE METRIC EQUIVALENTS MAY BE COMPUTED ON THE BASIS OF ONE INCH EQUALS 25.4MM, AND ONE POUND EQUALS 0.454KG.
 - U. POWER DRIVEN STAPLES MAY BE USED AS ALTERNATIVE FASTENERS FOR NAILS WHEN CONSTRUCTING DUNNAGE ASSEMBLIES WHICH ARE TO BE USED IN THE DELINEATED MILVAN LOADS SHOWN THROUGHOUT THIS DRAWING. THE STAPLES TO BE USED MUST BE EQUAL IN LENGTH TO THE SPECIFIED NAIL SIZE AND MUST BE SUBSTITUTED ON A ONE STAPLE FOR ONE NAIL BASIS. STAPLES WHICH ARE 2" OR LESS IN LENGTH SHOULD BE IN ACCORDANCE WITH FEDERAL SPECIFICATION FF-N-105 AS NEARLY AS PRACTICABLE. STAPLES WHICH ARE LONGER THAN 2" WILL BE A COMMERCIAL GRADE, OF A QUALITY EQUIVALENT TO THOSE MANUFACTURED BY SENCU PRODUCTS INCORPORATED.

REVISIONS

REVISION NO. 1, DATED OCTOBER 1973, CONSISTS OF:

1. CHANGING CONTAINER CONFIGURATION AND WEIGHT.

REVISION NO. 2, DATED MAY 1974, CONSISTS OF:

1. REMOVING THE TOMMING (HOLD-DOWNS) FROM THE TOP OF THE PALLETIZED LOADS ONLY.

REVISION NO. 3, DATED JANUARY 1979, CONSISTS OF:

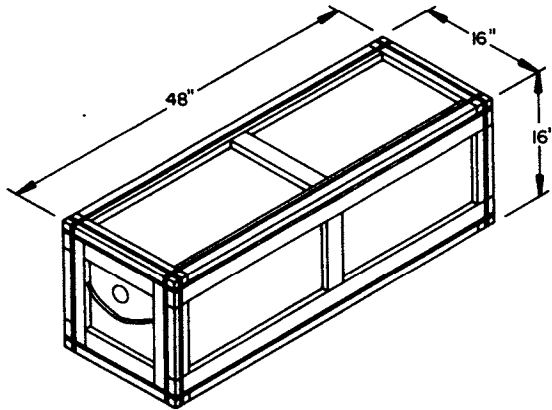
1. ADDING PROCEDURES FOR THE FIFTEEN MISSILE MULTIPACK UNIT.
2. CHANGING PROCEDURES TO CONFORM TO CURRENT STANDARDS.

REVISION NO. 4, DATED DECEMBER 1983, CONSISTS OF:

1. UPDATING PALLET UNIT CONFIGURATION AND WEIGHT.
2. CHANGING AND UPDATING UNPALLETIZED CONTAINER LOAD.
3. UPDATING DRAWING TO CONFORM TO CURRENT STANDARDS AND 1. AND 2. ABOVE.

REVISION NO. 5, DATED OCTOBER 1989, CONSISTS OF:

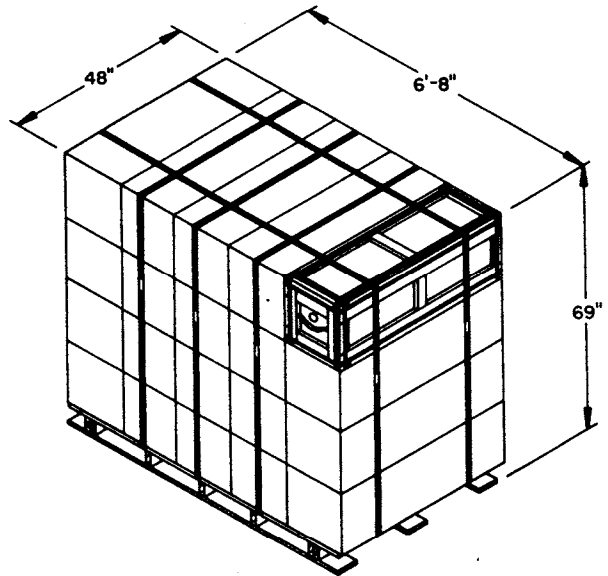
1. CHANGING LENGTH OF ITEM CONTAINER AND UPDATING UNPALLETIZED CONTAINER LOAD.



CONTAINER

CONTAINER DATA

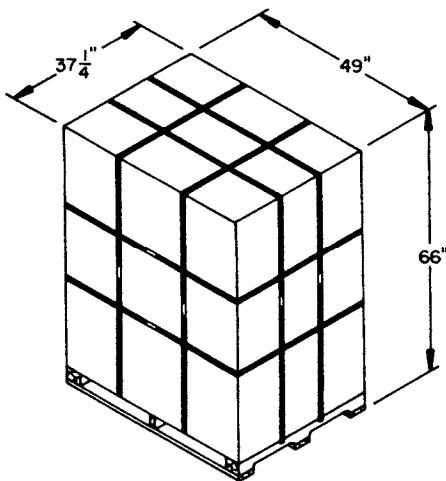
GROSS WEIGHT ----- 67 POUNDS (APPROX)
 CUBE ----- 7.0 CUBIC FEET



*** PALLET UNIT**

PALLET UNIT DATA

NUMBER OF CONTAINERS ----- TWENTY (20)
 GROSS WEIGHT ----- 1,431 POUNDS (APPROX)
 CUBE ----- 151.7 CUBIC FEET

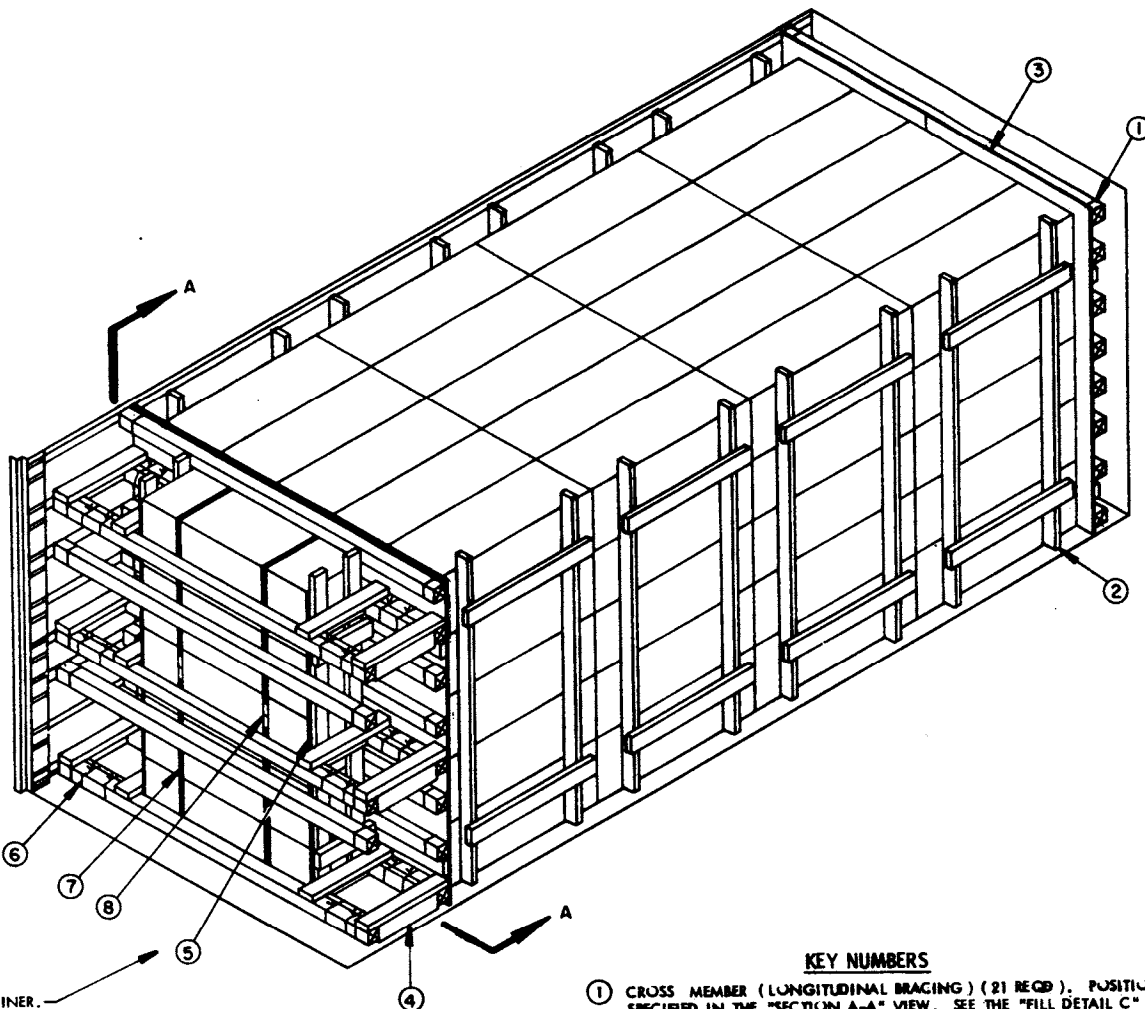


MULTIPACK UNIT

MULTIPACK UNIT DATA

NUMBER OF MISSILES ----- FIFTEEN (15)
 UNIT WEIGHT ----- 658 POUNDS (APPROX)
 CUBE ----- 69.7 CUBIC FEET

* THE PALLET UNIT DEPICTED ABOVE IS THAT WHICH IS DELINEATED WITHIN REVISION 2 TO US ARMY DARCUM DRAWING 19-48-5218-GM20DR1. ALTHOUGH THE BLOCKING AND BRACING PROCEDURES CONTAINED WITHIN THIS DRAWING ARE DESIGNED FOR USE WITH THE ABOVE DEPICTED PALLET UNIT, THEY CAN ALSO BE APPLIED TO PALLET UNITS WHICH WERE BUILT IN ACCORDANCE TO REVISION 1 TO DRAWING 19-48-5218-GM20DR1.



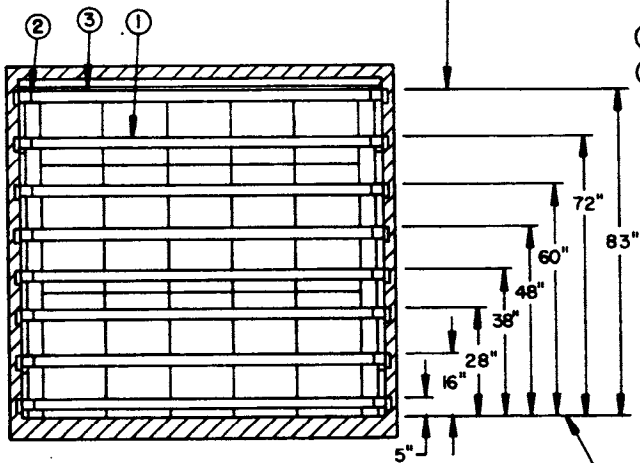
REAR OF CONTAINER.

ISOMETRIC VIEW

KEY NUMBERS

- ① CROSS MEMBER (LONGITUDINAL BRACING) (21 REQD). POSITION AT THE HEIGHTS SPECIFIED IN THE "SECTION A-A" VIEW. SEE THE "FILL DETAIL C" ON PAGE 9 AND GENERAL NOTE "K" ON PAGE 2.
- ② SIDE FILL (8 REQD). SEE THE "SIDE FILL" DETAIL AND "SIDE FILL SECUREMENT" DETAIL ON PAGE 5.
- ③ LOAD BEARING GATE (2 REQD). SEE THE DETAIL ON PAGE 7.
- ④ SPACER ASSEMBLY (6 REQD). SEE THE "SPACER ASSEMBLY" DETAIL ON PAGE 5.
- ⑤ RETAINER GATE (2 REQD). SEE THE DETAIL ON PAGE 6.
- ⑥ TIE WIRE, NO. 14 GAGE WIRE 18" LONG (24 REQD, 4 PER SPACER ASSEMBLY). INSTALL TO FORM A COMPLETE LOOP AROUND THE SPACER ASSEMBLY AND CROSS MEMBER, BRING THE ENDS TOGETHER AND TWIST TAUT. SECURE TO THE SPACER ASSEMBLY WITH A PARTIALLY DRIVEN 10d NAIL BENT OVER THE WIRE, OR WITH A STRAP STAPLE.
- ⑦ UNITIZING STRAP, 1-1/4" X .035" OR .031" X 18'-0" LONG STEEL STRAPPING (2 REQD).
- ⑧ SEAL FOR 1-1/4" STRAPPING (4 REQD, 2 PER STRAP). SEE GENERAL NOTE "P" ON PAGE 2.

INDICATES THE TOP SURFACE OF A CROSS MEMBER. PLUS OR MINUS 2" IS PERMITTED.



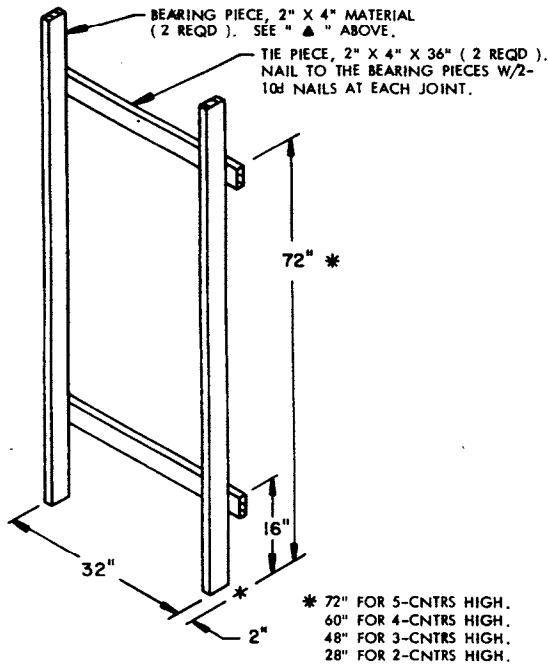
SECTION A-A

(THE REAR LOAD BEARING GATE HAS BEEN OMITTED FOR CLARITY PURPOSES.)

INDICATES CONTAINER FLOOR.

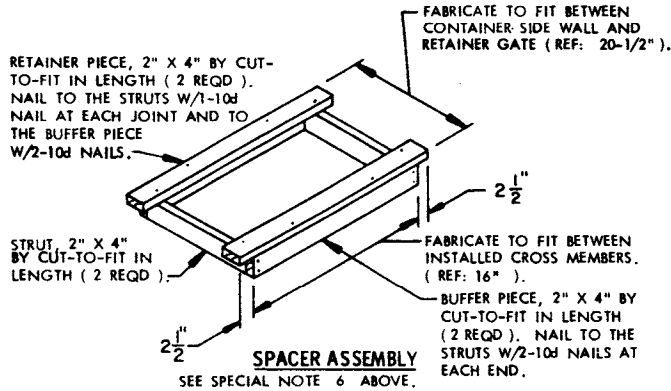
UNPALLETIZED LOAD

▲
 7'-0" FOR 5-CNTRS HIGH.
 64" FOR 4-CNTRS HIGH.
 48" FOR 3-CNTRS HIGH.
 32" FOR 2-CNTRS HIGH.



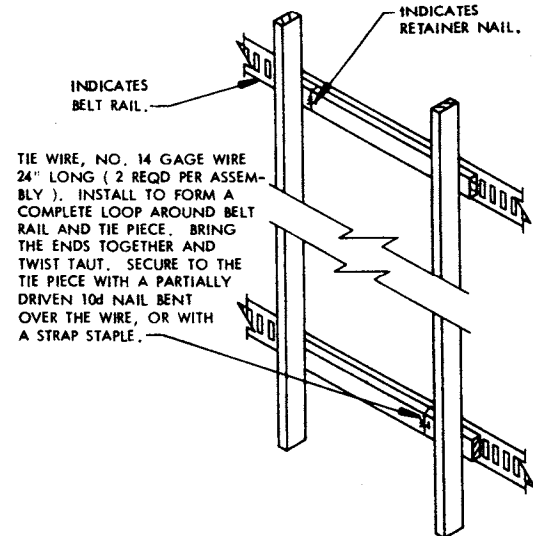
SIDE FILL

SEE SPECIAL NOTE 7 TO THE RIGHT.



SPECIAL NOTES:

1. THE LOAD AS SHOWN ON PAGE 4 DEPICTS A 105-CONTAINER LOAD IN A MILVAN CONTAINER.
2. IF A MILVAN CONTAINER IS TO BE LOADED WITH LESS CONTAINERS THAN SHOWN IN THE LOAD VIEW ON PAGE 4, A "FILLER" ASSEMBLY MAY BE USED TO FILL THE VOID IN A LOAD FOR AN OMITTED CONTAINER. THE FILLER MUST BE USED IN THE TOP LAYER ONLY, AND NEAR THE CENTER OF THE LOAD, IF POSSIBLE. IF A FILLER ASSEMBLY MUST BE USED ADJACENT TO A CROSS MEMBER, CARE SHOULD BE EXERCISED TO INSURE THAT THE CROSS MEMBER CONTACTS THE STRUT OF THE FILLER.
3. IF A MILVAN CONTAINER IS TO BE LOADED WITH LESS CONTAINERS, THEY CAN ALSO BE ELIMINATED FROM THE REAR OR THE TOP OF THE LOAD.
4. SEE THE "ALTERNATIVE LOADING PATTERN" AND THE "ALTERNATIVE HOLD-DOWN METHOD" DETAILS ON PAGES 6 AND 7 FOR SHIPPING PARTIAL BAYS.
5. SPECIFICATIONS FOR THE "BASIC LOAD", FOR THE "ALTERNATIVE LOADING PATTERN", AND FOR THE "ALTERNATIVE HOLD-DOWN METHOD" SHOWN ON PAGES 6 AND 7 WILL BE APPLIED SEPARATELY OR IN COMBINATION TO BLOCK AND BRACE OTHER THAN 110-CONTAINER LOADS.
6. THE SPACER ASSEMBLY NEED NOT BE FABRICATED FOR A DRIVE FIT. THE ASSEMBLY SHOULD BE FABRICATED SO THAT IT CAN BE EASILY INSTALLED. HOWEVER, IT MUST FIT TIGHT ENOUGH SO AS TO NOT ALLOW MORE THAN ONE-HALF INCH (1/2") VOID ACROSS THE WIDTH OF A BRACED LOAD.
7. THE SIDE FILL ASSEMBLY MUST ALSO BE ADJUSTED SO AS TO NOT ALLOW MORE THAN ONE-HALF INCH (1/2") VOID ACROSS THE WIDTH OF A BRACED LOAD. THE WIDTH AND/OR THE THICKNESS OF THE BEARING PIECES AND/OR TIE PIECES SHOULD BE ADJUSTED AS REQUIRED.



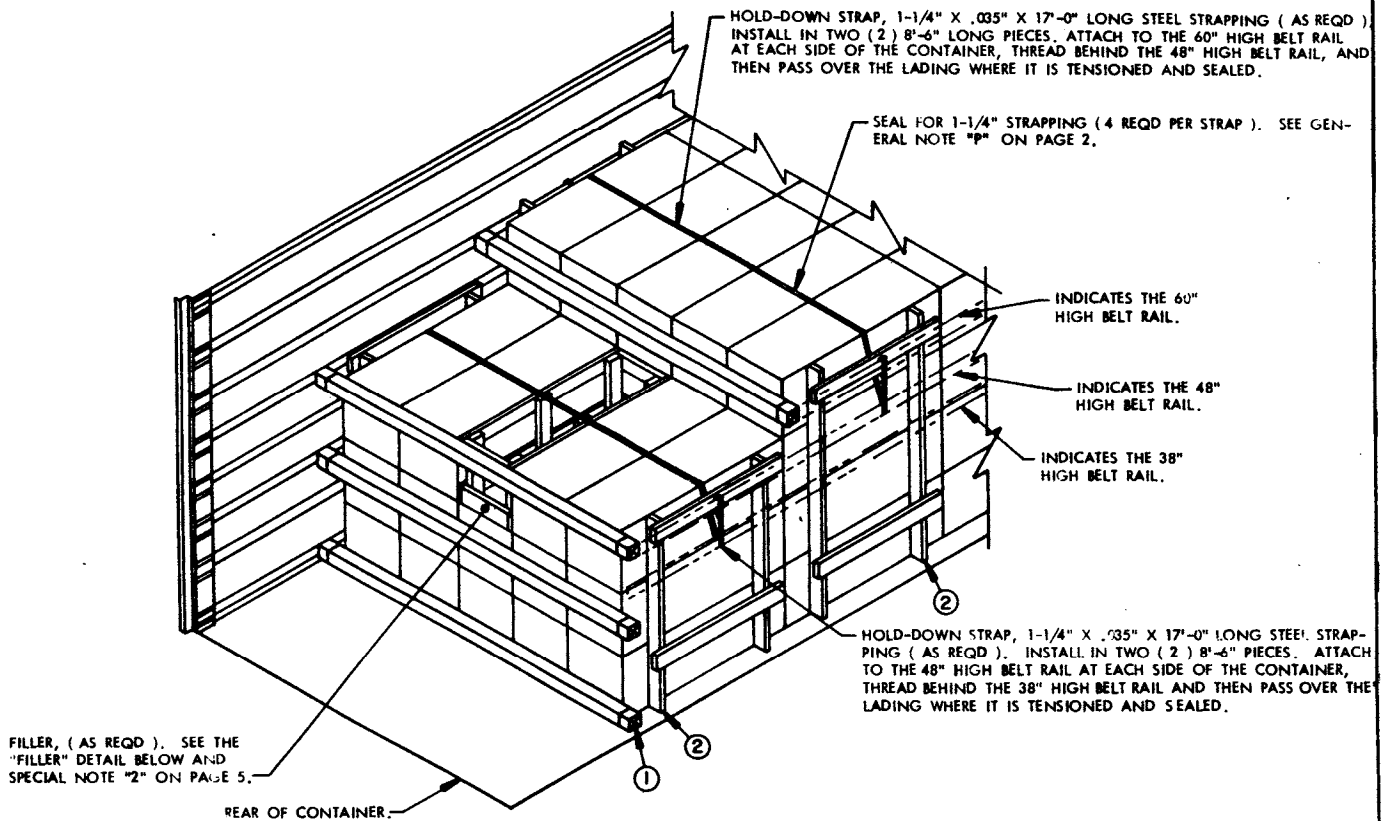
SIDE FILL SECUREMENT

BILL OF MATERIAL		
LUMBER	LINEAR FEET	BOARD FEET
2" X 4"	278	186
NAILS	NO. REQD	POUNDS
10d (3")	260	4
PLYWOOD, 1/2"	105 SQ FT REQD	144-1/2 LBS
STEEL STRAPPING, 1-1/4"	36' REQD	5-1/4 LBS
SEAL FOR 1-1/4" STRAP	4 REQD	NIL
NO. 14 GAGE WIRE	68' REQD	1-1/4 LBS
CROSS MEMBER		21 REQD

LOAD AS SHOWN

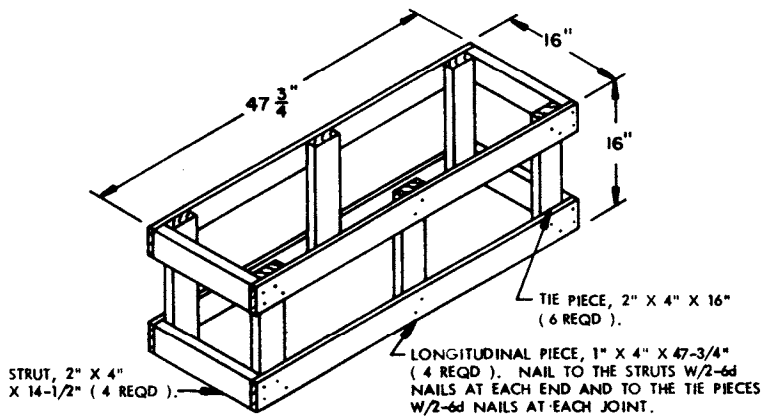
ITEM	QUANTITY	WEIGHT (APPROX)
MISILE		
CONTAINER	105	7,035 LBS
DUNNAGE		527 LBS
CONTAINER		5,700 LBS

TOTAL GROSS WEIGHT --- 13,262 LBS



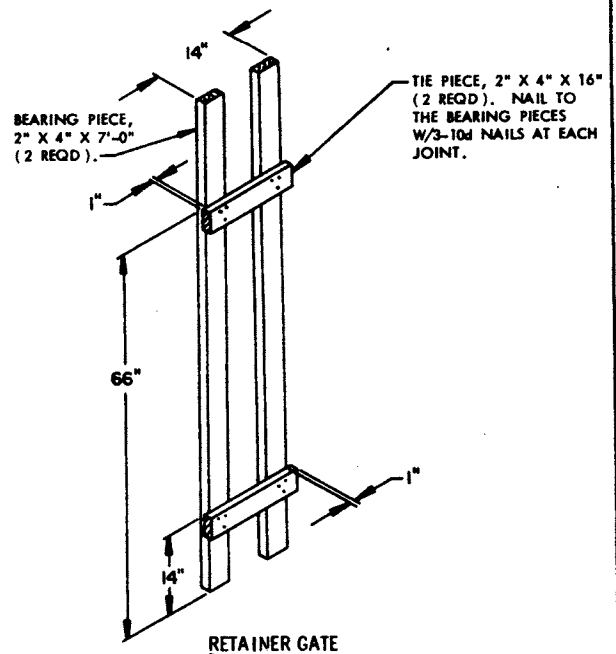
ALTERNATIVE LOADING PATTERN

THE DETAIL ABOVE SPECIFIES A BLOCKING METHOD TO BE USED IN A "REDUCED-
LOAD" CONTAINER LOAD. THIS METHOD DEPICTS SPECIFICATIONS FOR A
BLOCKING PROCEDURE FOR A 3 AND 4 CONTAINER HIGH LOAD BAY.

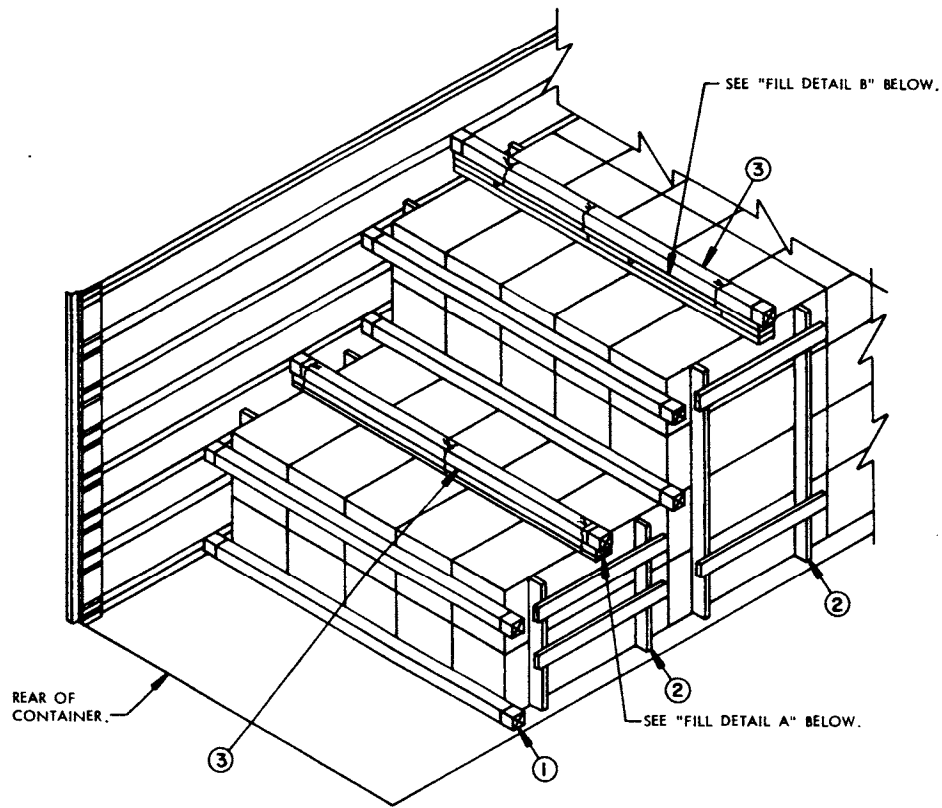


FILLER

SEE SPECIAL NOTE "2" ON PAGE 5.

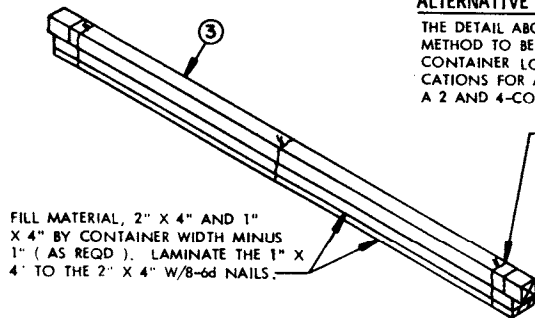


UNPALLETIZED LOAD



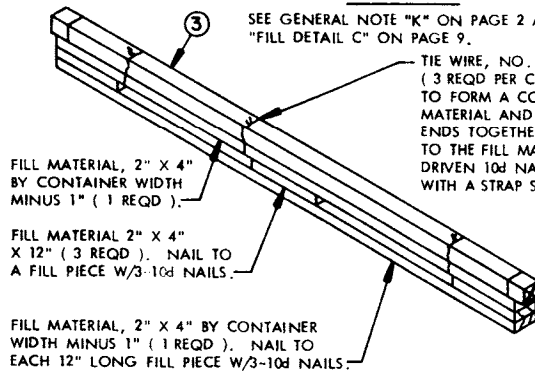
ALTERNATIVE HOLD-DOWN METHOD

THE DETAIL ABOVE SPECIFIES A HOLD-DOWN METHOD TO BE USED IN A "REDUCED-LOAD" CONTAINER LOAD. THIS METHOD DEPICTS SPECIFICATIONS FOR A HOLD-DOWN PROCEDURE FOR A 2 AND 4-CONTAINER HIGH LOAD BAY.



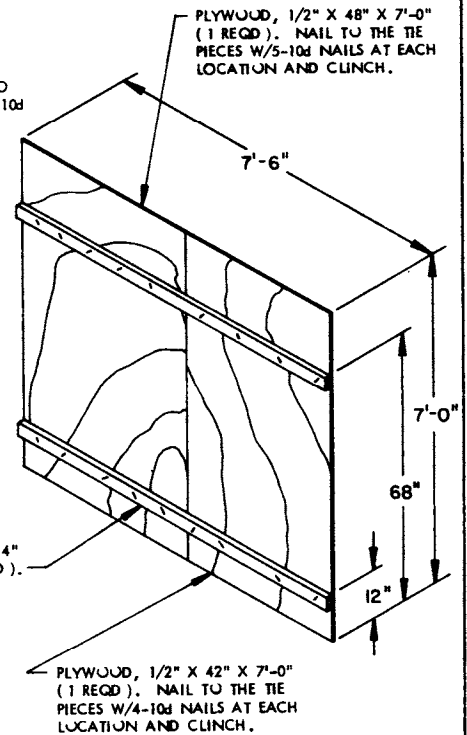
FILL DETAIL A

SEE GENERAL NOTE "K" ON PAGE 2 AND "FILL DETAIL C" ON PAGE 9.



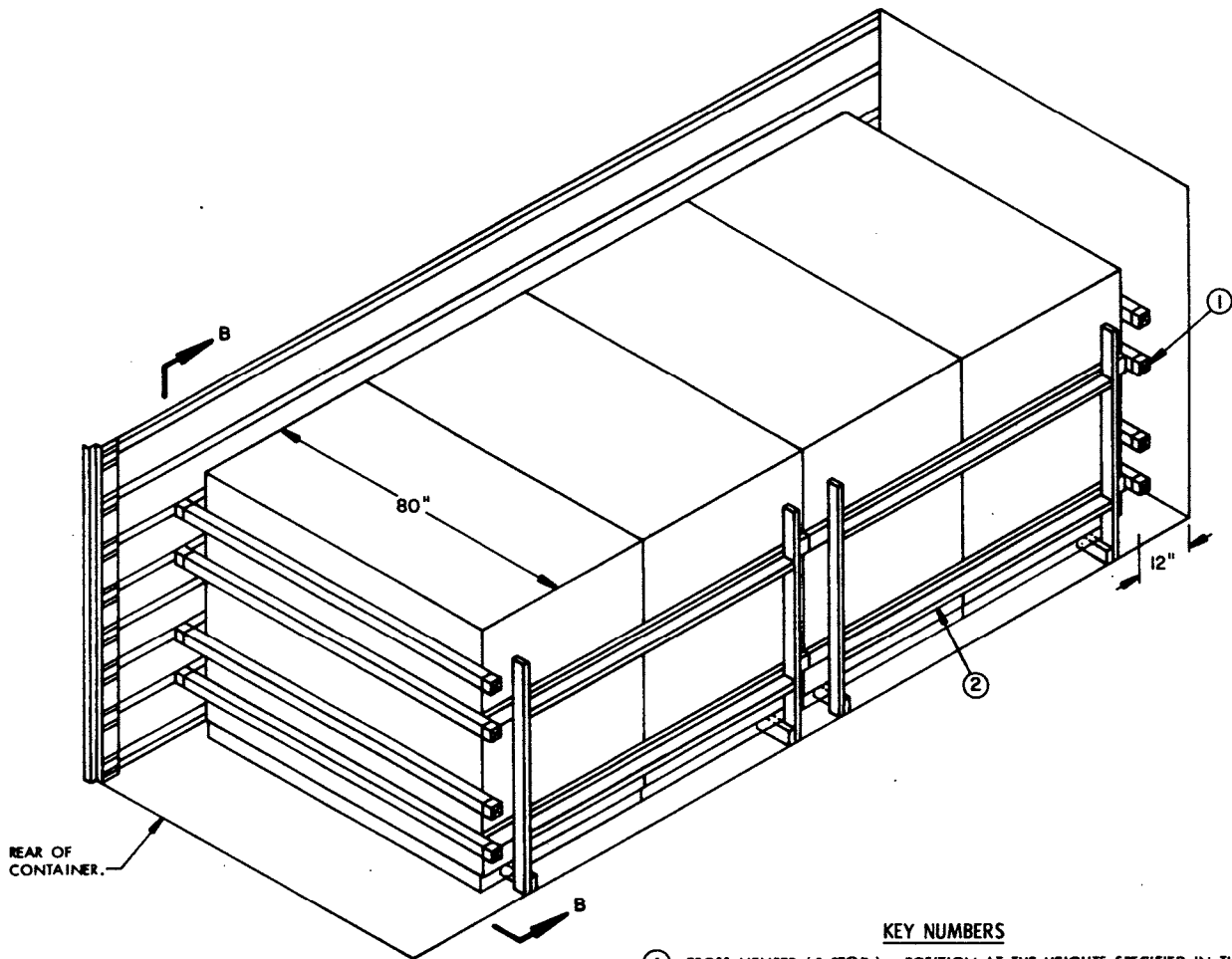
FILL DETAIL B

SEE GENERAL NOTE "K" ON PAGE 2 AND "FILL DETAIL C" ON PAGE 9.



LOAD BEARING GATE

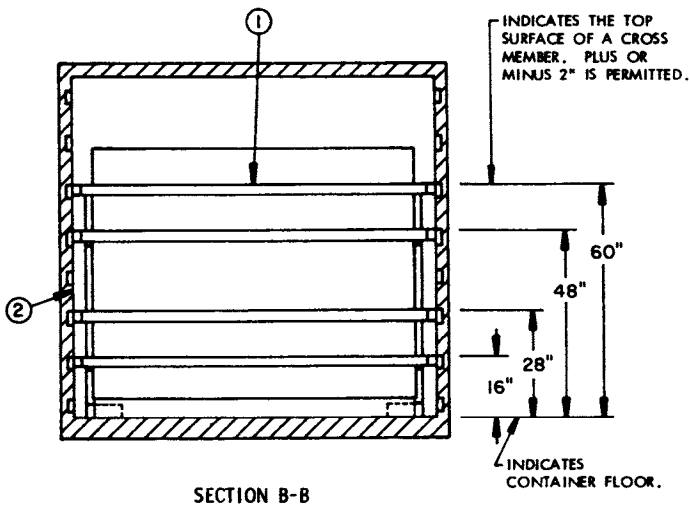
UNPALLETIZED LOAD



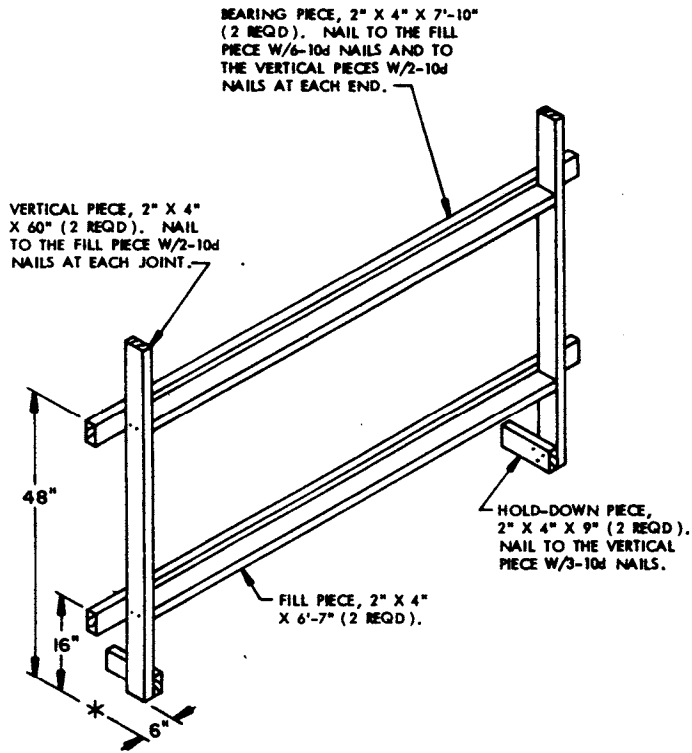
ISOMETRIC VIEW

KEY NUMBERS

- ① CROSS MEMBER (8 REQD). POSITION AT THE HEIGHTS SPECIFIED IN THE "SECTION B-B" VIEW. SEE THE "FILL DETAIL C" DETAIL ON PAGE 9 AND GENERAL NOTE "K" ON PAGE 2.
- ② FILLER GATE (4 REQD). SEE THE "FILLER GATE" DETAIL ON PAGE 9. PRE-POSITION BEFORE LOADING THE PALLET UNITS. TO FACILITATE LOADING OPERATIONS, THE GATE CAN BE WIRE TIED TO THE 38" HIGH BELT RAIL ON EACH SIDE OF THE CONTAINER. SECURE EACH VERTICAL PIECE OF A GATE TO THE BELT RAIL WITH A 24" LONG PIECE OF NO. 14 GAGE WIRE, INSTALL TO FORM A COMPLETE LOOP THROUGH THE HOLES IN THE BELT RAIL AND AROUND A VERTICAL PIECE, BRING THE ENDS TOGETHER AND TWIST TAUT.

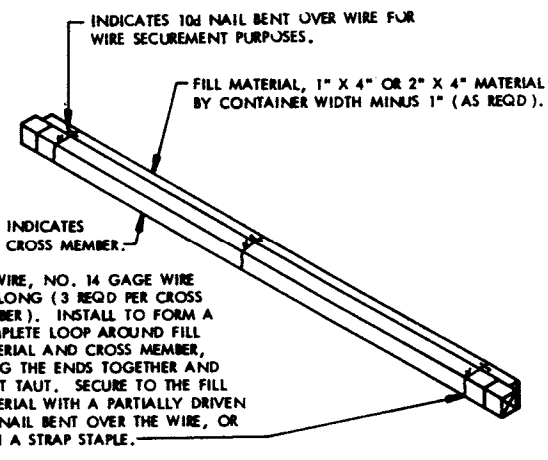


SECTION B-B



FILLER GATE
SEE SPECIAL NOTE 2 AT RIGHT.

- SPECIAL NOTES:**
1. THE LOAD AS SHOWN ON PAGE 8 DEPICTS A 4-PALLET UNIT LOAD IN A MILVAN CONTAINER.
 2. THE THICKNESS OF THE BEARING PIECES OF THE FILLER GATE DEPICTED AT LEFT MUST BE ADJUSTED AS REQUIRED, TO COMPLY WITH THE DIMENSIONAL VARIANCE OF THE PALLET UNIT, SO AS TO NOT ALLOW MORE THAN ONE AND ONE-HALF INCH (1-1/2") VOID ACROSS THE WIDTH OF A BRACED LOAD. ADJUSTMENTS CAN BE MADE BY USING A DIFFERENT THICKNESS BEARING PIECE OR BY LAMINATING ADDITIONAL PIECES TO THE SPECIFIED BEARING PIECES ON ONE OR BOTH SIDES OF THE LOAD. ADJUSTMENTS CAN ALSO BE MADE BY ADJUSTING THE WIDTH OF THE FILLER PIECES AND THE VERTICAL PIECES.



INDICATES CROSS MEMBER.

TIE WIRE, NO. 14 GAGE WIRE 18" LONG (3 REQD PER CROSS MEMBER). INSTALL TO FORM A COMPLETE LOOP AROUND FILL MATERIAL AND CROSS MEMBER, BRING THE ENDS TOGETHER AND TWIST TAUT. SECURE TO THE FILL MATERIAL WITH A PARTIALLY DRIVEN 10d NAIL BENT OVER THE WIRE, OR WITH A STRAP STAPLE.

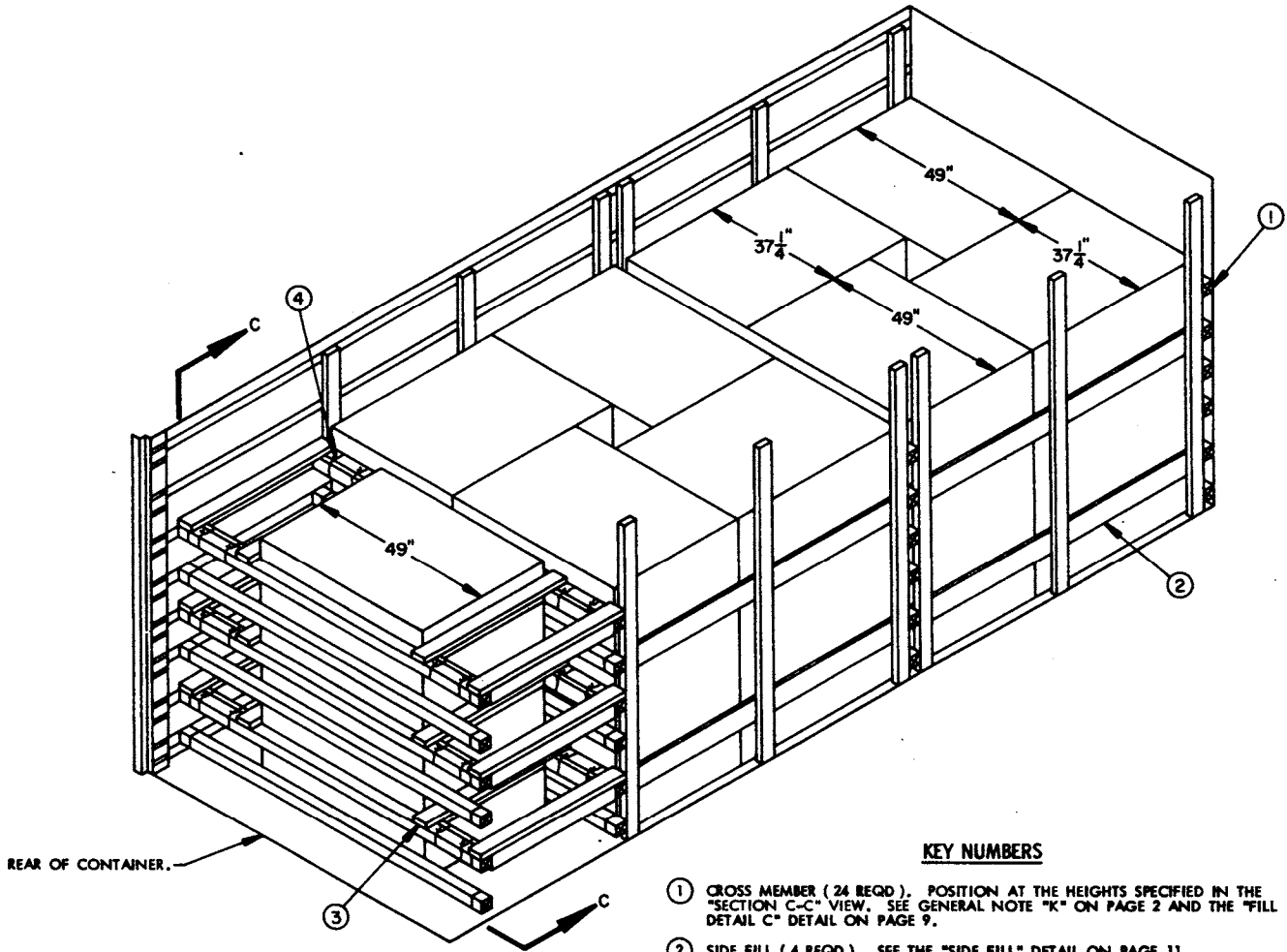
FILL DETAIL C

THIS DETAIL DEPICTS THE METHOD OF POSITIONING FILL MATERIAL BETWEEN THE CROSS MEMBER AND LADING, WHEN THE VOID BETWEEN THE TWO IS GREATER THAN ONE INCH (1").

BILL OF MATERIAL		
LUMBER	LINEAR FEET	BOARD FEET
2" X 4"	162	108
NAILS	NO. REQD	POUNDS
10d (3")	136	2-1/4
CROSS MEMBER -----		8 REQD

LOAD AS SHOWN

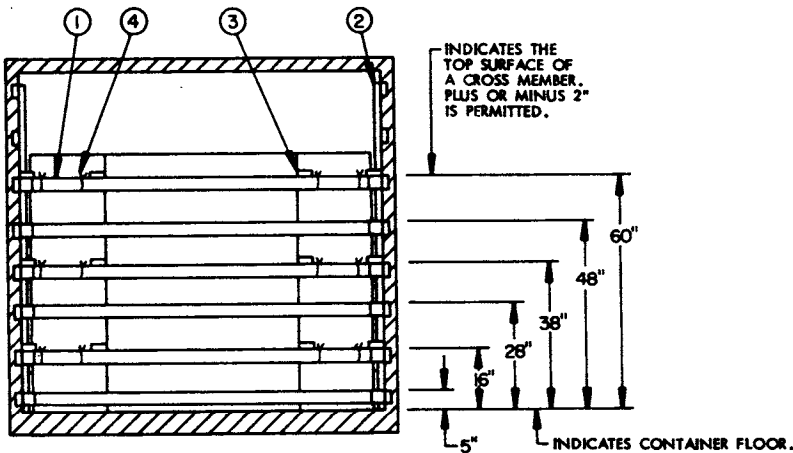
ITEM	QUANTITY	WEIGHT (APPROX)
PALLET UNIT -----	4 -----	5,804 LBS
DUNNAGE -----		219 LBS
CONTAINER -----		5,700 LBS
TOTAL GROSS WEIGHT -----		11,723 LBS



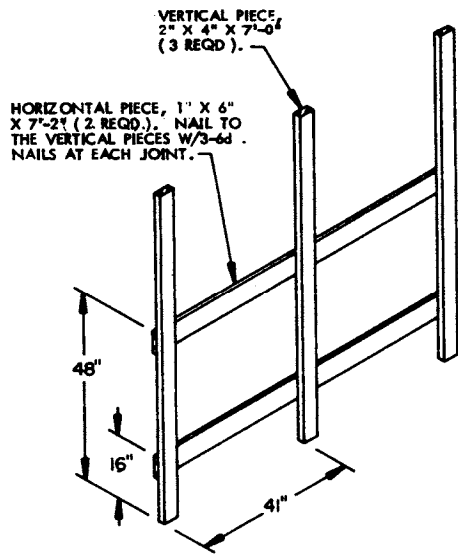
ISOMETRIC VIEW

KEY NUMBERS

- ① CROSS MEMBER (24 REQD). POSITION AT THE HEIGHTS SPECIFIED IN THE "SECTION C-C" VIEW. SEE GENERAL NOTE "K" ON PAGE 2 AND THE "FILL DETAIL C" DETAIL ON PAGE 9.
- ② SIDE FILL (4 REQD). SEE THE "SIDE FILL" DETAIL ON PAGE 11.
- ③ SPACER ASSEMBLY (6 REQD). SEE THE "SPACER ASSEMBLY" DETAIL ON PAGE 11.
- ④ TIE WIRE, NO. 14 GAGE WIRE 18" LONG (24 REQD, 4 PER SPACER ASSEMBLY). INSTALL TO FORM A COMPLETE LOOP AROUND THE SPACER ASSEMBLY AND CROSS MEMBER, BRING ENDS TOGETHER AND TWIST TAUT. SECURE TO THE SPACER ASSEMBLY WITH A PARTIALLY DRIVEN 10d NAIL BENT OVER THE WIRE, OR WITH A STRAP STAPLE.



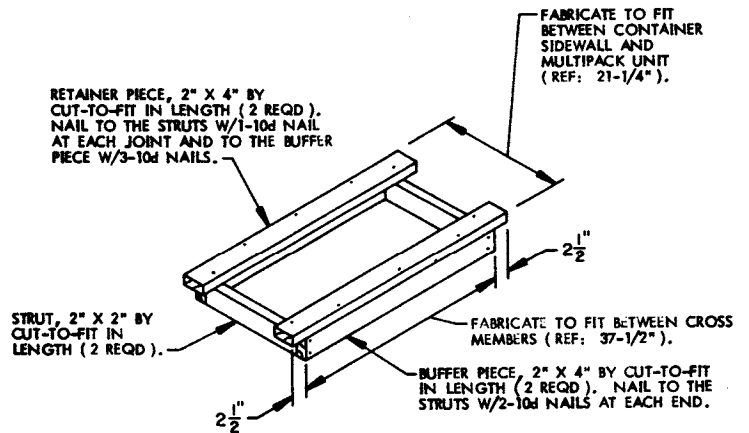
SECTION C-C



SIDE FILL ASSEMBLY
SEE SPECIAL NOTE 2 AT RIGHT.

SPECIAL NOTES:

1. THE LOAD AS SHOWN ON PAGE 10 DEPICTS A 9-MULTIPACK UNIT LOAD IN A MILVAN CONTAINER.
2. THE THICKNESS OF THE HORIZONTAL PIECES OF THE SIDE FILL ASSEMBLY DEPICTED AT LEFT MUST BE ADJUSTED AS REQUIRED, TO COMPLY WITH THE DIMENSIONAL VARIANCE OF THE MULTIPACK UNIT, SO AS TO NOT ALLOW MORE THAN ONE AND ONE-HALF INCH (1-1/2") VOID ACROSS THE WIDTH OF A BRACED LOAD. ADJUSTMENTS CAN BE MADE BY USING A DIFFERENT THICKNESS HORIZONTAL PIECE OR BY LAMINATING ADDITIONAL PIECES TO THE SPECIFIED HORIZONTAL PIECES ON ONE OR BOTH SIDES OF THE LOAD.
3. WHEN A MILVAN CONTAINER IS TO BE LOADED WITH A REDUCED QUANTITY OF LADING UNITS, THE LENGTHWISE CENTER OF GRAVITY OF A LOAD MUST BE WITHIN 12", IN EITHER DIRECTION, OF THE MIDPOINT OF THE MILVAN.
4. WHEN A MILVAN CONTAINER IS TO BE LOADED WITH ONE LESS MULTIPACK UNIT THAN IS SHOWN IN THE BASIC LOAD, THE SINGLE MULTIPACK UNIT AT THE REAR IS TO BE OMITTED, AND THE FORWARD SET OF CROSS MEMBERS IS TO BE MOVED A MAXIMUM OF 24" FROM THE FRONT WALL OF THE CONTAINER.
5. WHEN A MILVAN CONTAINER IS TO BE LOADED WITH MORE THAN ONE MULTIPACK UNIT OMITTED, REFER TO THE "ALTERNATIVE LOADING PATTERN" DETAIL ON PAGE 12 FOR ADDITIONAL GUIDANCE. SPECIFICATIONS FOR THE "BASIC LOAD" SHOWN ON PAGE 10, AND THE "ALTERNATIVE LOADING PATTERN" SHOWN ON PAGE 12 WILL BE APPLIED SEPARATELY OR IN COMBINATION TO BLOCK AND BRACE OTHER THAN EIGHT-UNIT LOADS.
6. THE SPACER ASSEMBLIES NEED NOT BE FABRICATED FOR A DRIVE FIT, THE ASSEMBLIES SHOULD BE FABRICATED SO THAT THEY CAN BE EASILY INSTALLED, HOWEVER, THEY MUST FIT TIGHT ENOUGH SO AS TO NOT ALLOW MORE THAN ONE-HALF INCH (1/2") VOID ACROSS THE WIDTH OF A BRACED LOAD.



SPACER ASSEMBLY
SEE SPECIAL NOTE 6 ABOVE.

BILL OF MATERIAL		
LUMBER	LINEAR FEET	BOARD FEET
1" X 6"	98	29
2" X 4"	183	122
NAILS	NO. REQD	POUNDS
6d { 2"	72	1/2
10d { 3"	133	2
WIRE, NO. 14 GAGE	36' REQD	3/4 LB
CROSS MEMBER		24 REQD

LOAD AS SHOWN

ITEM	QUANTITY	WEIGHT (APPROX)
MULTIPACK UNIT	9	5,922 LBS
DUNNAGE		306 LBS
CONTAINER		5,700 LBS
TOTAL GROSS WEIGHT		11,928 LBS

