

J. H. Hession
DATE 7/19/91

HELLFIRE

LOADING AND BRACING[●] IN MILVAN CONTAINERS[⊕] OF GUIDED MISSILE PACKED ONE PER METAL CONTAINER, PALLETIZED AND UNPALLETIZED (9 PER PALLET)

INDEX

<u>ITEM</u>	<u>PAGE(S)</u>
GENERAL NOTES, AND MATERIAL SPECIFICATIONS - - - - -	2
CONTAINER AND PALLET UNIT DETAILS - - - - -	3,4
UNPALLETIZED LOAD - - - - -	6-11
PALLETIZED LOAD - - - - -	12-15
DETAILS - - - - -	16

● 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 CARRIERS. SEE GENERAL NOTE "O" 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.

U.S. ARMY MATERIEL COMMAND DRAWING

APPROVED, U.S. ARMY MISSILE COMMAND <i>Carl W. Honea</i>	DRAFTSMAN	TECHNICIAN	ENGINEER
	P. BELLICH	R. HAYNES	
APPROVED BY ORDER OF COMMANDING GENERAL, U.S. ARMY MATERIEL COMMAND <i>William F. Ernst</i>	VALIDATION ENGINEERING DIVISION	TRANSPORTATION ENGINEERING DIVISION	LOGISTICS ENGINEERING OFFICE
	<i>W. F. Ernst</i>		
U.S. ARMY DEFENSE AMMUNITION CENTER AND SCHOOL	NOVEMBER 1982		
REVISION NO. 1	DECEMBER 1991	CLASS	DIVISION
		DRAWING	FILE
SEE THE REVISION LISTING ON PAGE 2	19	48	5979
			GM15HF1

DO NOT SCALE

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 WITHIN THIS DOCUMENT ARE APPLICABLE TO THE HELLFIRE GUIDED MISSILE PACKED ONE (1) EACH PER UNSEALED, SEALED OR STRETCHED SHIPPING AND STORAGE CONTAINER OR NINE (9) EACH PER PALLET UNIT. SUBSEQUENT REFERENCE TO CONTAINER HEREIN MEANS THE CONTAINER WITH MISSILE COMPONENTS; SUBSEQUENT REFERENCE TO PALLET UNIT HEREIN MEANS THE PALLET UNIT WITH NINE (9) MISSILE CONTAINERS.
- C. FOR DETAIL OF THE UNSEALED CONTAINER, SEE APN DRAWING 13012182 AND THE "UNSEALED CONTAINER UNIT" DETAIL ON PAGE 3.
- CONTAINER DIMENSIONS - 76-1/4" LONG BY 15-1/2" WIDE BY 16-1/2" HIGH
GROSS WEIGHT ----- 175 POUNDS (APPROX)
CUBE ----- 11.3 CUBIC FEET
- FOR DETAIL OF THE SEALED CONTAINER, SEE APN DRAWING 13155079 AND THE "SEALED CONTAINER UNIT" DETAIL ON PAGE 3.
- CONTAINER DIMENSIONS - 76" LONG BY 14-5/8" WIDE BY 16-1/2" HIGH
GROSS WEIGHT ----- 185 POUNDS (APPROX)
CUBE ----- 10.6 CUBIC FEET
- SEE THE "STRETCHED CONTAINER UNIT" DETAIL ON PAGE 3.
- CONTAINER DIMENSIONS - 84" LONG BY 14-5/8" WIDE BY 16" HIGH
GROSS WEIGHT ----- 203 POUNDS
CUBE ----- 11.4 CUBIC FEET
- FOR PALLET UNIT DETAILS, SEE PAGE 4.
- UNSEALED PALLET UNIT DIMENSIONS - 76-1/4" WIDE BY 46-1/2" LONG BY 53" HIGH
GROSS WEIGHT ----- 1,669 POUNDS (APPROX)
CUBE ----- 109.8 CUBIC FEET
- SEALED PALLET UNIT DIMENSIONS --- 76" WIDE BY 44-3/8" LONG BY 53" HIGH
GROSS WEIGHT ----- 1,749 POUNDS (APPROX)
CUBE ----- 103.4 CUBIC FEET
- STRETCHED PALLET UNIT DIMENSIONS - 84" WIDE BY 44-3/8" LONG BY 53" HIGH
GROSS WEIGHT ----- 1,921 POUNDS (APPROX)
CUBE ----- 114.3 CUBIC FEET
- D. THIS ITEM IS A DOT CLASS "A" EXPLOSIVE. THESE PROCEDURES CAN ALSO BE UTILIZED FOR THE SHIPMENT OF THE CONTAINERS WHEN THEY ARE LOADED WITH AN ITEM OTHER THAN THE SPECIFIED GUIDED MISSILE, OR WHEN THEY ARE EMPTY.
- E. OTHER TYPES OF LADING ITEMS MAY BE LOADED IN 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.
- F. THE LOADS AS SHOWN ARE BASED ON A 20' LONG BY 8' WIDE BY 8' HIGH MILVAN CONTAINER WITH INSIDE DIMENSIONS OF 19'-4" LONG BY 92" WIDE BY 87" HIGH. THE LOADS ARE DESIGNED FOR TRAILER/CONTAINER-ON-FLAT-CAR SERVICE.

(CONTINUED AT RIGHT)

MATERIAL SPECIFICATIONS

LUMBER ----- : TM 743-200-1, DUNNAGE LUMBER, FED SPEC MM-L-751
NAILS ----- : FED SPEC FF-N-105; COMMON
WIRE ----- : FED SPEC QQ-W-461.

(GENERAL NOTES CONTINUED)

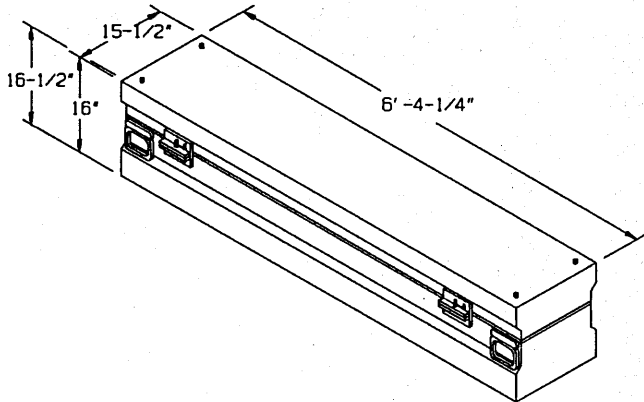
- G. THE SPECIFIED OUTLOADING PROCEDURES ARE FOR CONTAINERS EQUIPPED WITH SELF-CONTAINED MECHANICAL BRACING DEVICES AS DESCRIBED WITHIN BUREAU OF EXPLOSIVES PAMPHLET 6C. CROSS MEMBER ATTACHMENT FACILITIES WITHIN THESE CONTAINERS MUST PROVIDE FOR THE INSTALLATION OF LOAD BLOCKING CROSS MEMBERS AT THE 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" ON PAGE 7 FOR THE DUNNAGING METHOD REQUIRED TO ELIMINATE AN EXCESSIVE LENGTHWISE VOID WITHIN A LOAD. SEE GENERAL NOTE "P".
- H. VOIDS BETWEEN THE LADING OR HOLD-DOWN ASSEMBLY AND CROSS MEMBERS MUST NOT EXCEED ONE-HALF INCH (1/2"). ADDITIONAL MATERIAL MAY BE ADDED, OR THINNER MATERIAL MAY BE USED TO ACHIEVE THE PROPER THICKNESS AS REQUIRED.
- J. 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.
- K. CAUTION: DO NOT NAIL DUNNAGE MATERIAL TO THE CONTAINER WALLS OR FLOOR. ALL NAILING WILL BE WITHIN THE DUNNAGE.
- L. 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.
- M. 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.
- N. MAXIMUM LOAD WEIGHT CRITERIA:
BECAUSE OF THE LIGHT WEIGHT OF THE MISSILES, A LOAD WEIGHT WILL NEVER EXCEED ANY WEIGHT RESTRICTION CRITERIA.
SEE THE SPECIAL NOTES 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 6, 10, 12 AND 14.
- O. 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 CONTAINERS.
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.
- P. 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 8115-165-6223).

(CONTINUED ON PAGE 5)

REVISION

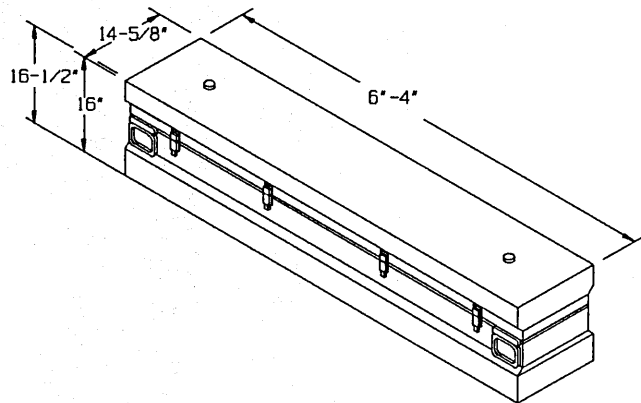
REVISION NO. 1 DATED

1. ADDING PROCEDURES FOR STRETCHED CONTAINER AND PALLET UNIT.



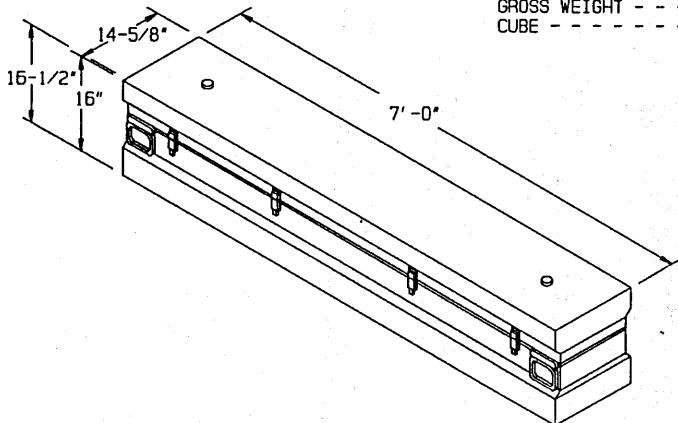
UNSEALED CONTAINER

GROSS WEIGHT - - - - - 175 LBS (APPROX)
 CUBE - - - - - 11.3 CUBIC FEET



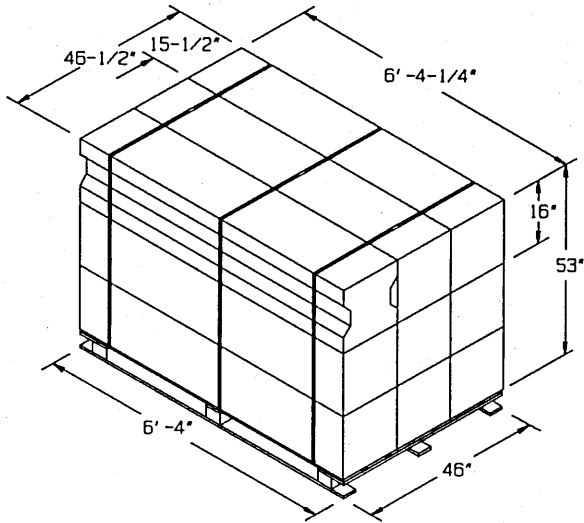
SEALED CONTAINER

GROSS WEIGHT - - - - - 185 LBS (APPROX)
 CUBE - - - - - 10.6 CUBIC FEET



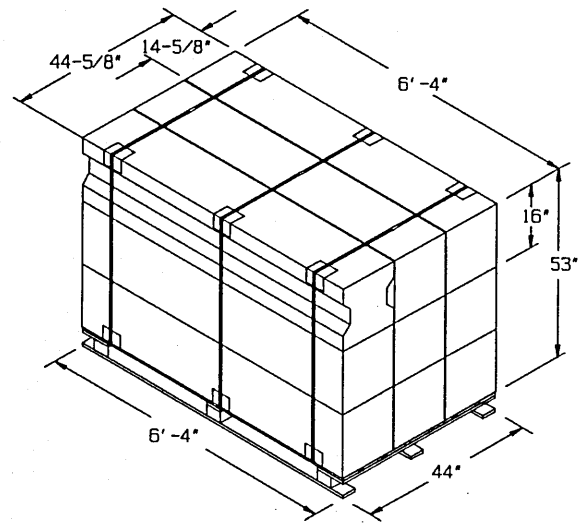
STRETCHED CONTAINER

GROSS WEIGHT - - - - - 203 LBS (APPROX)
 CUBE - - - - - 11.4 CUBIC FEET



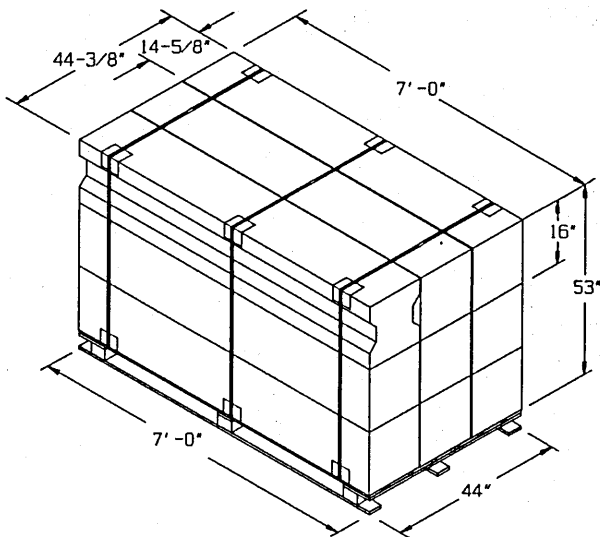
UNSEALED PALLET UNIT

GROSS WEIGHT - - - - - 1,669 LBS (APPROX)
 CUBE - - - - - 108.7 CUBIC FEET



SEALED PALLET UNIT

GROSS WEIGHT - - - - - 1,749 LBS (APPROX)
 CUBE - - - - - 103.4 CUBIC FEET

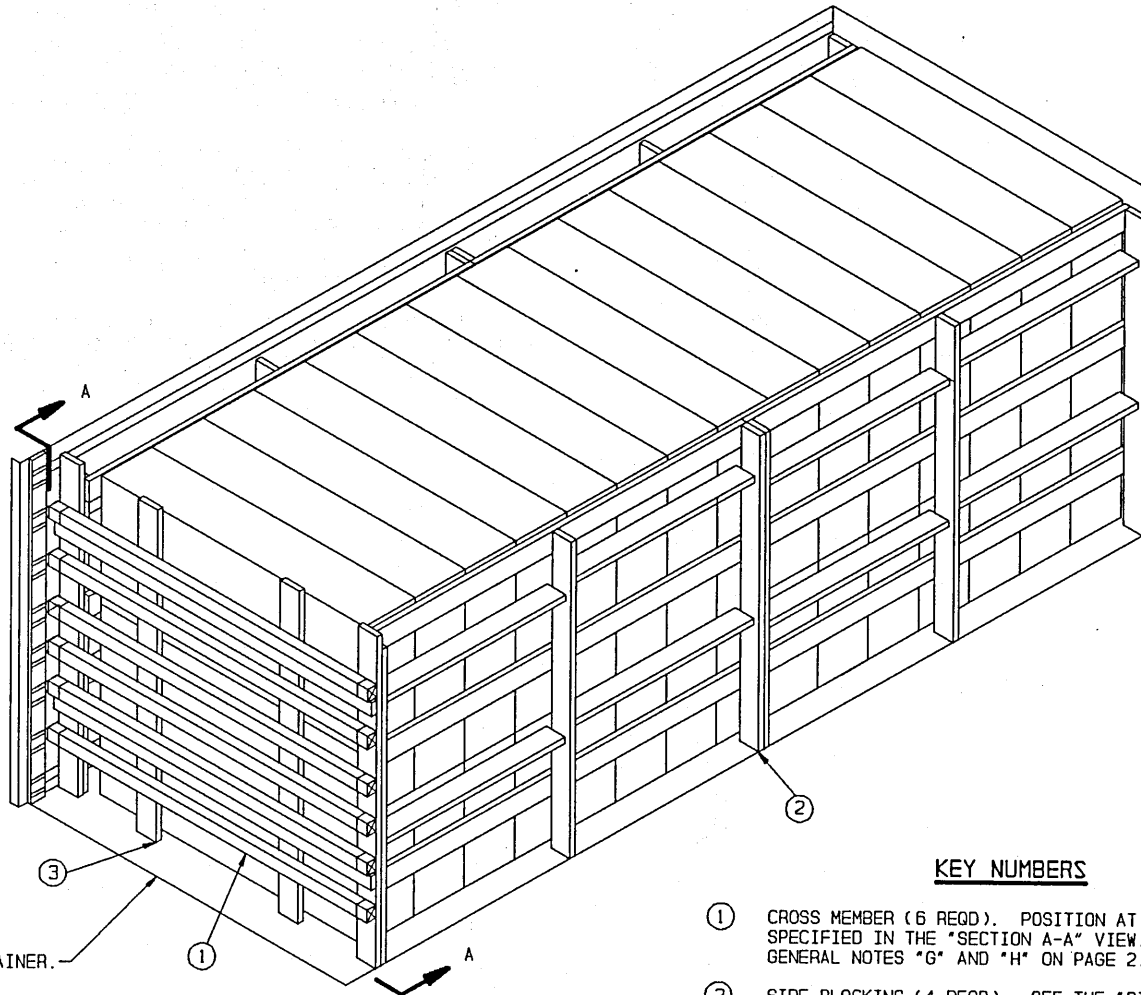


STRETCHED PALLET UNIT

GROSS WEIGHT - - - - - 1,921 LBS (APPROX)
 CUBE - - - - - 114.3 CUBIC FEET

(GENERAL NOTES CONTINUED)

- Q. THE WIDTH OF THE VERTICAL PIECES OF THE SIDE BLOCKING ASSEMBLIES AS DETAILED ON PAGES 9, 11, 13 AND 15 MUST BE ADJUSTED AS REQUIRED, TO COMPLY WITH CONTAINER SIZE VARIANCE, 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 WIDTH VERTICAL PIECE OR BY LAMINATING ADDITIONAL PIECES TO THE SPECIFIED BEARING PIECES ON ONE OR BOTH SIDES OF THE LOAD.
- R. TO FACILITATE LOADING OPERATIONS, THE SIDE BLOCKING ASSEMBLIES CAN BE WIRE TIED TO THE CONTAINER BELT RAILS ON EACH SIDE OF THE CONTAINER. SECURE THE VERTICAL PIECES OF A GATE TO A BELT RAIL WITH A 24" LONG PIECE OF NO. 14 GAGE WIRE POSITIONED NEAR THE TOP OF THE VERTICALS. INSTALL THE WIRE TO FORM A COMPLETE LOOP THROUGH THE HOLES IN THE BELT RAIL AND AROUND A VERTICAL PIECE, BRING THE ENDS TOGETHER AND TWIST TAUT.
- S. WHEN THE LONGITUDINAL VOID BETWEEN THE LOAD BRACING CROSS MEMBERS AND REAR GATE/PALLET UNIT EXCEEDS ONE INCH (1"), FILL MATERIAL SUCH AS A 1" X 4" OR 2" X 4" BY MILVAN CONTAINER WIDTH MINUS 1" AS SHOWN BY THE "FILL DETAIL A" ON PAGE 7 MUST BE USED.



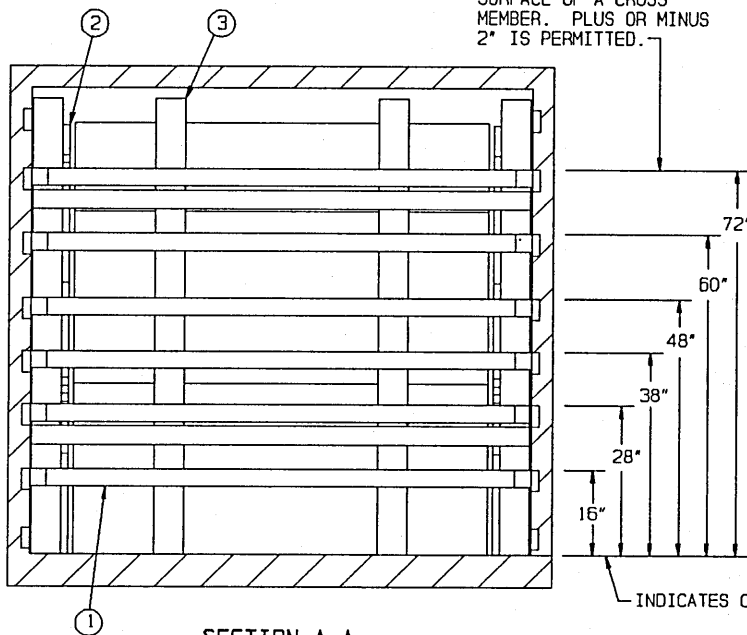
REAR OF MILVAN CONTAINER.

ISOMETRIC VIEW

KEY NUMBERS

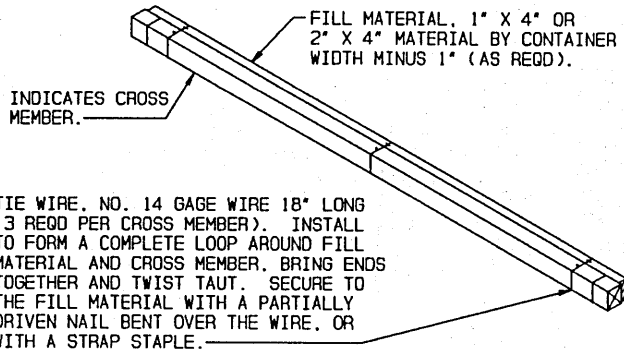
- ① CROSS MEMBER (6 REQD). POSITION AT THE HEIGHT SPECIFIED IN THE "SECTION A-A" VIEW. SEE GENERAL NOTES "G" AND "H" ON PAGE 2.
- ② SIDE BLOCKING (4 REQD). SEE THE "SIDE BLOCKING ASSEMBLY A" DETAIL ON PAGE 9. PRE-POSITION BEFORE LOADING THE MISSILE CONTAINERS. TO FACILITATE LOADING OPERATIONS, THE SIDE BLOCKING CAN BE WIRE TIED TO THE 38" HIGH BELT RAIL ON EACH SIDE OF THE MILVAN CONTAINER. SECURE EACH VERTICAL PIECE OF THE SIDE BLOCKING 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.
- ③ REAR GATE (1 REQD). SEE THE "REAR GATE" DETAIL ON PAGE 9.

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



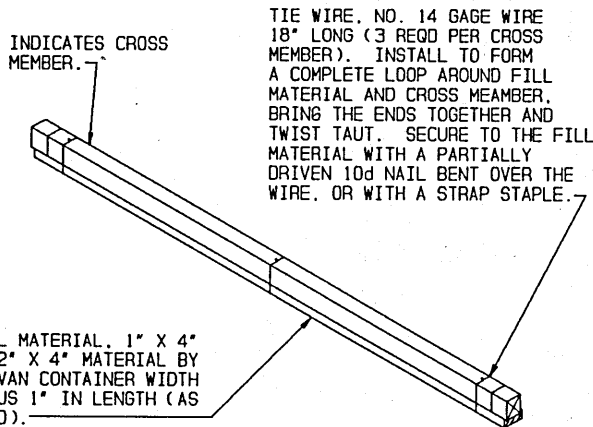
INDICATES CONTAINER FLOOR.

SECTION A-A



FILL DETAIL A

THIS DETAIL DEPICTS METHOD OF POSITIONING FILL MATERIAL BETWEEN LOAD-BRACING CROSS MEMBER AND REAR GATE/PALLET UNIT, WHEN THE VOID BETWEEN THE TWO IS GREATER THAN ONE INCH (1").



FILL DETAIL B

THIS DETAIL DEPICTS THE METHOD OF POSITIONING FILL MATERIAL BETWEEN A HOLD-DOWN CROSS MEMBER AND THE LADING OR DUNNAGE, WHEN THE VOID BETWEEN THE TWO IS GREATER THAN ONE-HALF INCH (1/2").

SPECIAL NOTES:

1. THE LOAD AS SHOWN ON PAGE 6 DEPICTS A 75-CONTAINER (SEALED) LOAD IN A MILVAN CONTAINER.
2. IF A MILVAN CONTAINER IS TO BE LOADED WITH LESS MISSILE CONTAINERS THAN SHOWN IN THE LOAD VIEW ON PAGE 6, A "FILLER ASSEMBLY" AS SHOWN ON PAGE 8 MAY BE USED TO FILL THE VOID IN A LOAD FOR AN OMITTED CONTAINER. THE FILLER ASSEMBLY MUST BE USED IN THE TOP LAYER ONLY, AND NEAR THE CENTER OF THE LOAD, IF POSSIBLE.
3. IF A MILVAN CONTAINER IS TO BE LOADED WITH LESS CONTAINERS, CONTAINERS CAN ALSO BE ELIMINATED BY STACK AND/OR LAYER.
4. SEE THE "ALTERNATIVE LOADING PATTERN" ON PAGE 8 FOR SHIPPING PARTIAL LOADS.
5. SPECIFICATIONS FOR THE "BASIC LOAD" AND FOR THE "ALTERNATIVE LOADING PATTERN" SHOWN ON PAGE 8 WILL BE APPLIED SEPARATELY OR IN COMBINATION TO BLOCK AND BRACE OTHER THAN 75-CONTAINER LOADS.
6. THE SIDE BLOCKING ASSEMBLY MUST BE ADJUSTED AS REQUIRED SO AS TO NOT ALLOW MORE THAN ONE AND ONE-HALF INCH (1-1/2") VOID ACROSS THE WIDTH OF A BRACED LOAD. THE WIDTH OF THE VERTICAL PIECES AND/OR THE THICKNESS OF THE LOAD BEARING PIECES SHOULD BE ADJUSTED AS REQUIRED.
7. THE SAME PROCEDURES WILL BE USED FOR SHIPMENT OF UNSEALED CONTAINERS. HOWEVER, ONLY 14 STACKS OF 5 CONTAINERS FOR A TOTAL LOAD OF 70 CONTAINERS WILL BE SHIPPED.

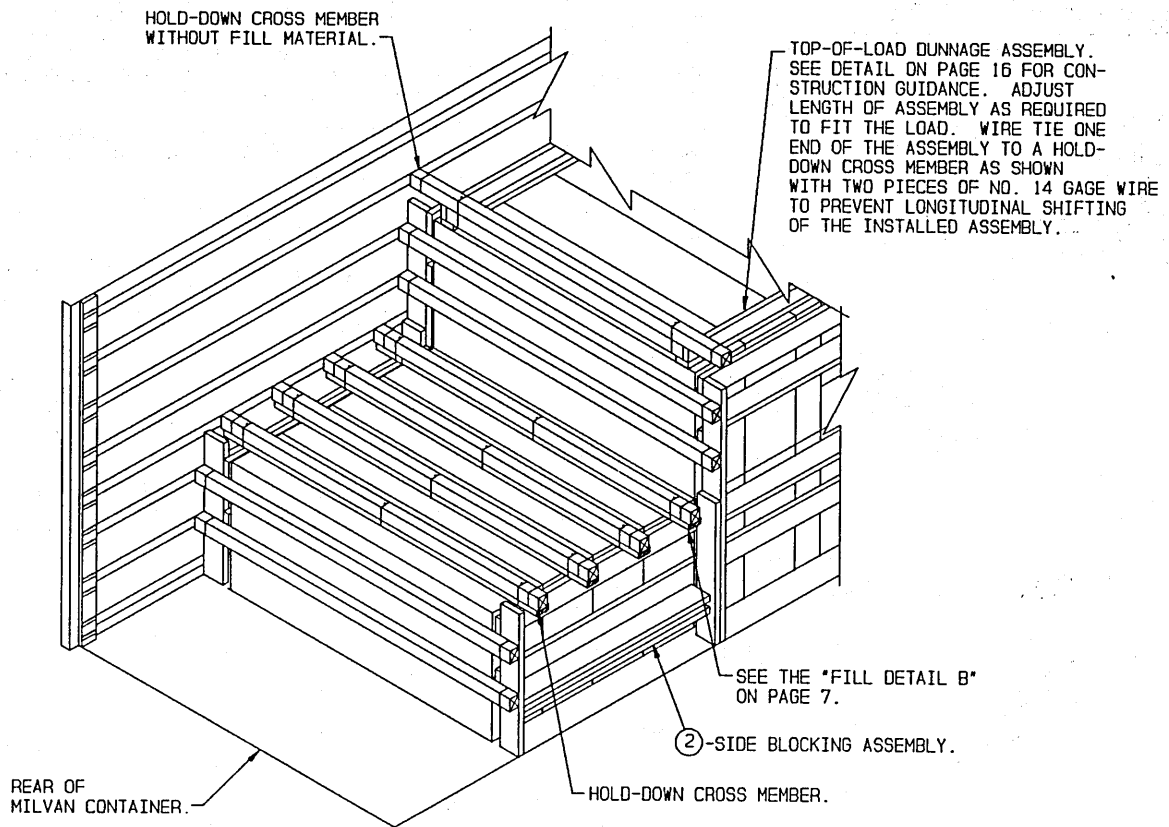
BILL OF MATERIAL

LUMBER	LINEAR FEET	BOARD FEET
2" X 4"	16	11
2" X 6"	291	291
NAILS	NO. REQD	POUNDS
10d (3")	196	3
CROSS MEMBER - - - - -		6 REQD

LOAD AS SHOWN

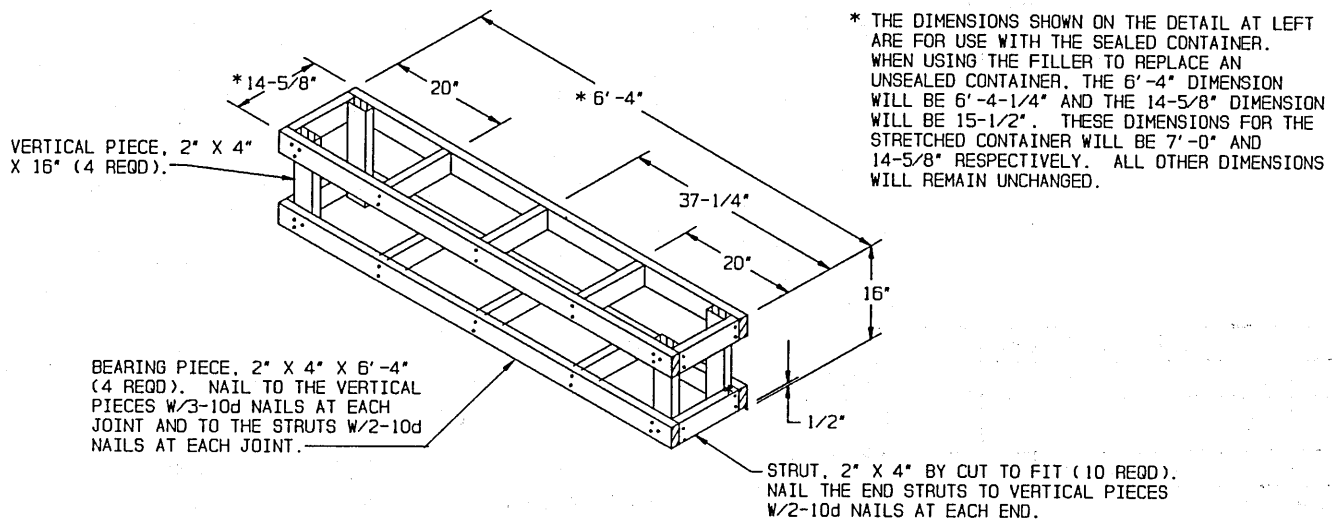
ITEM	QUANTITY	WEIGHT (APPROX)
MISSILE CONTAINER- - - - -	75 - - - - -	13,875 LBS
DUNNAGE - - - - -		607 LBS
MILVAN CONTAINER - - - - -		5,700 LBS

TOTAL WEIGHT - - - - - 20,182 LBS (APPROX)

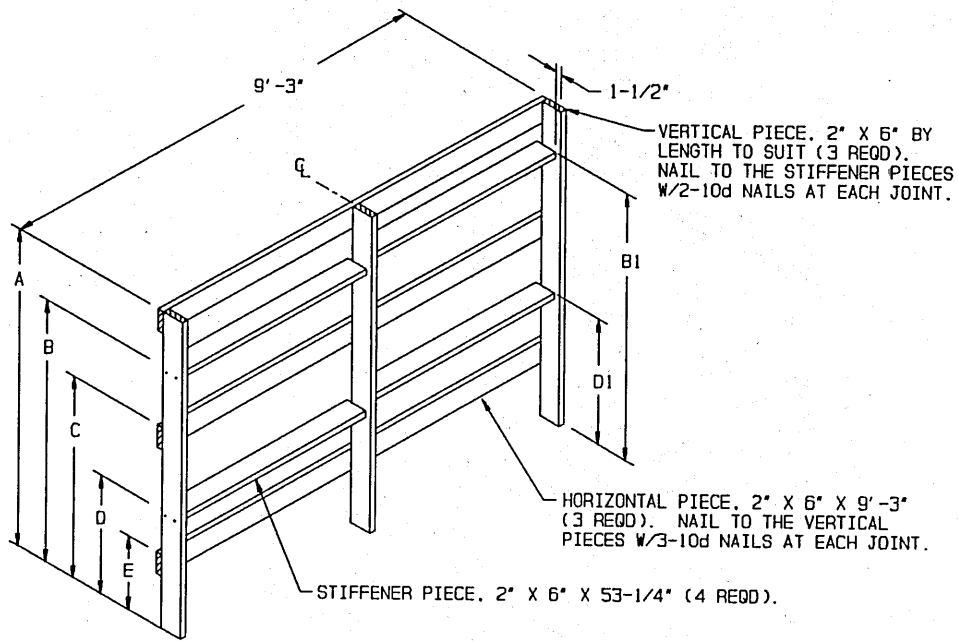


ALTERNATIVE LOADING PATTERN

THE DETAIL ABOVE SPECIFIES A HOLD-DOWN METHOD TO BE USED IN A "REDUCED-LOAD" MISSILE CONTAINER LOAD. THIS METHOD DEPICTS SPECIFICATIONS FOR A HOLD-DOWN PROCEDURE FOR A 2 AND 4-CONTAINER HIGH LOAD BAY. SEE PAGES 6 AND 7 FOR OTHER LOADING AND BRACING GUIDANCE. ADJUST THE HEIGHT AND LENGTH OF PIECES MARKED ② AS REQUIRED TO FIT THE LOAD. NOTE THAT AN END GATE (PIECE MARKED ③) IS NOT REQUIRED.



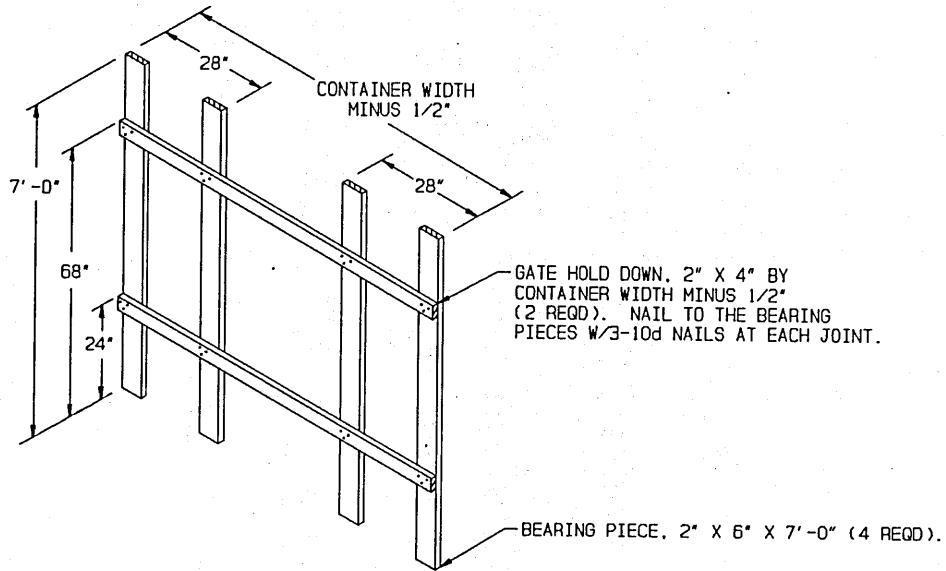
FILLER ASSEMBLY



SIDE BLOCKING ASSEMBLY A

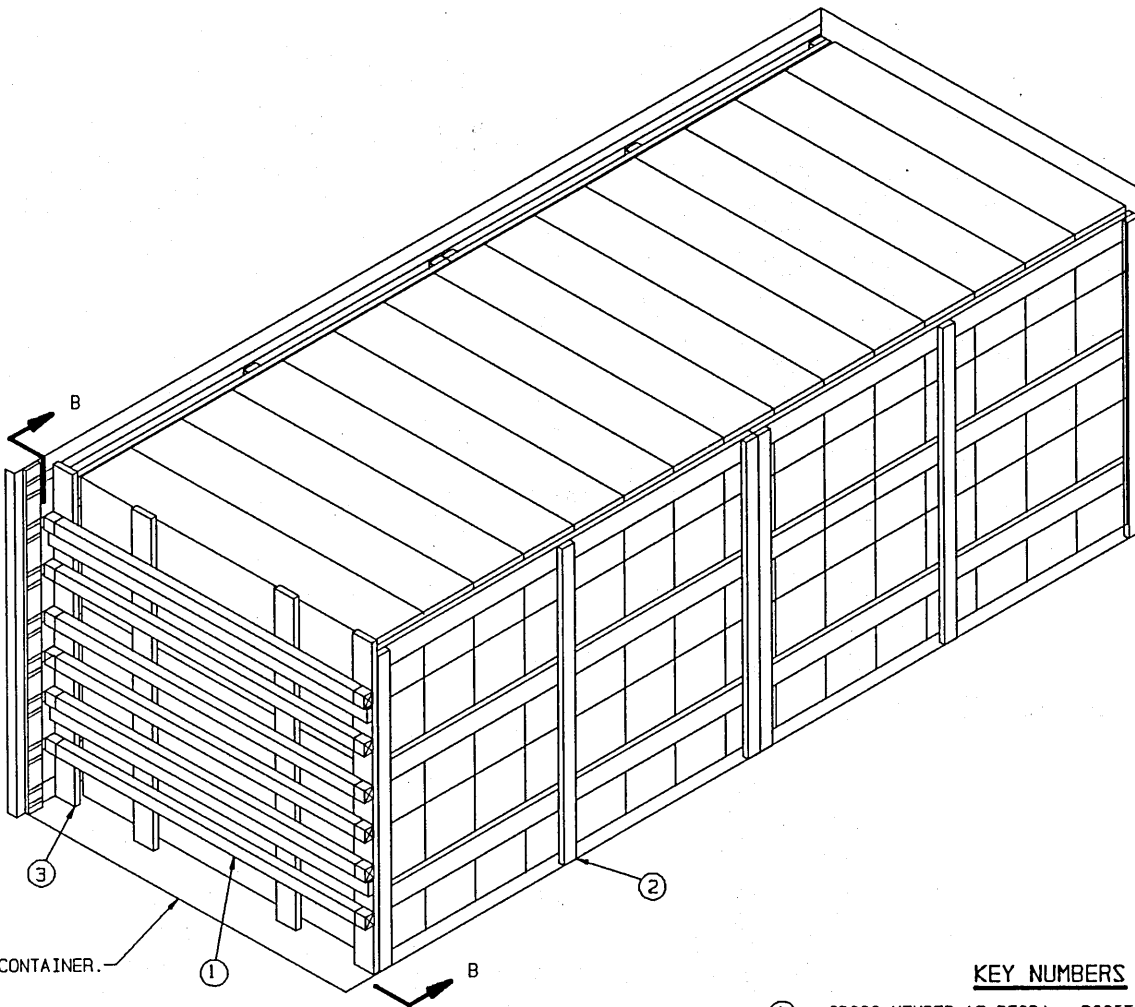
CHART A

NO. OF LAYERS	DIM A	DIM B	DIM B1	DIM C	DIM D	DIM D1	DIM E
2	36"	9"	12"	32"	X	X	18-3/4"
3	50"	36"	39"	48"	21"	24"	18-3/4"
4	64"	54"	57"	50-3/4"	30"	33"	18-3/4"
5	6'-8"	66"	69"	50-3/4"	30"	33"	18-3/4"



REAR GATE

DETAILS

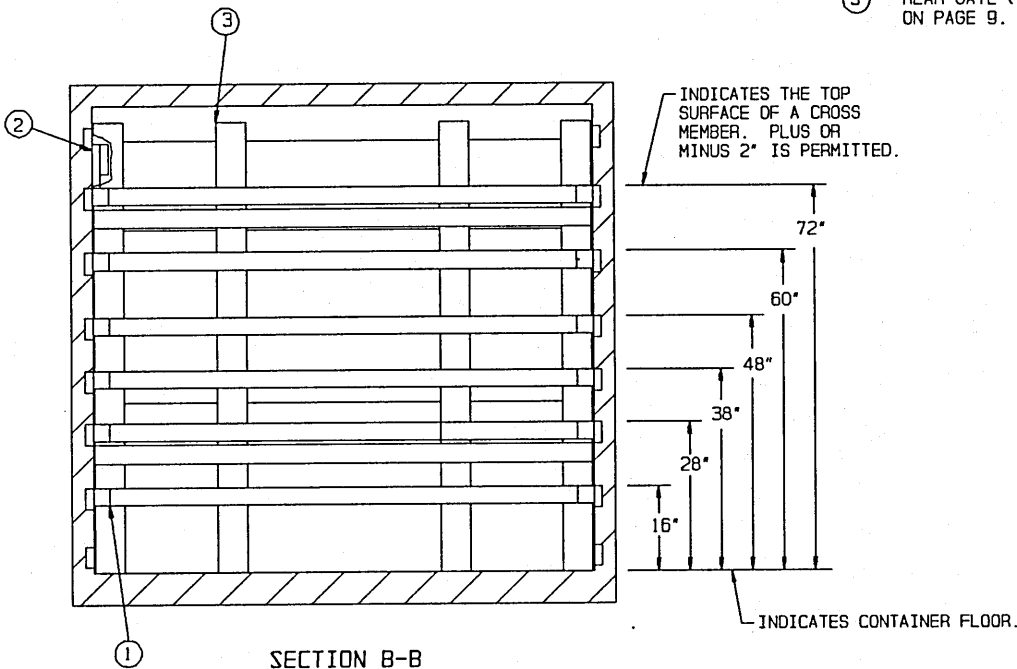


REAR OF MILVAN CONTAINER.

ISOMETRIC VIEW

KEY NUMBERS

- ① CROSS MEMBER (6 REQD). POSITION AT THE HEIGHT SPECIFIED IN THE "SECTION B-B" VIEW. SEE GENERAL NOTES "G" AND "H" ON PAGE 2.
- ② SIDE BLOCKING (4 REQD). SEE THE "SIDE BLOCKING ASSEMBLY B" DETAIL ON PAGE 11.
- ③ REAR GATE (1 REQD). SEE THE "REAR GATE" DETAIL ON PAGE 9.

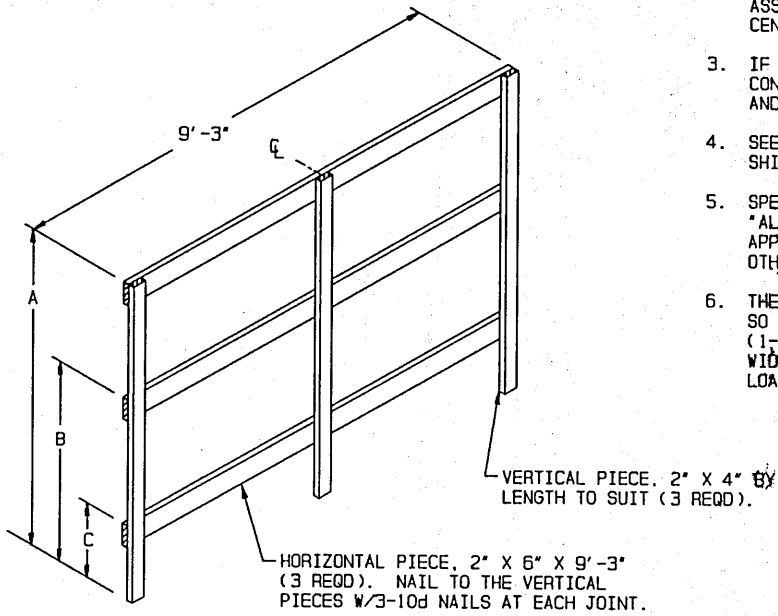


SECTION B-B

UNPALLETIZED LOAD (STRETCHED CONTAINER)

SPECIAL NOTES:

1. THE LOAD AS SHOWN ON PAGE 10 DEPICTS A 75-CONTAINER (STRETCHED) LOAD IN A MILVAN CONTAINER.
2. IF A MILVAN CONTAINER IS TO BE LOADED WITH LESS MISSILE CONTAINERS THAN SHOWN IN THE LOAD VIEW ON PAGE 10, A "FILLER ASSEMBLY" AS SHOWN ON PAGE 8 MAY BE USED TO FILL THE VOID IN A LOAD FOR AN OMITTED CONTAINER. THE FILLER ASSEMBLY MUST BE USED IN THE TOP LAYER ONLY, AND NEAR THE CENTER OF THE LOAD, IF POSSIBLE.
3. IF A MILVAN CONTAINER IS TO BE LOADED WITH LESS CONTAINERS, CONTAINERS CAN ALSO BE ELIMINATED BY STACK AND/OR LAYER.
4. SEE THE "ALTERNATIVE LOADING PATTERN" ON PAGE 8 FOR SHIPPING PARTIAL LOADS.
5. SPECIFICATIONS FOR THE "BASIC LOAD" AND FOR THE "ALTERNATIVE LOADING PATTERN" SHOWN ON PAGE 8 WILL BE APPLIED SEPARATELY OR IN COMBINATION TO BLOCK AND BRACE OTHER THAN 75-CONTAINER LOADS.
6. THE SIDE BLOCKING ASSEMBLY MUST BE ADJUSTED AS REQUIRED SO AS TO NOT ALLOW MORE THAN ONE AND ONE-HALF INCH (1-1/2") VOID ACROSS THE WIDTH OF A BRACED LOAD. THE WIDTH OF THE VERTICAL PIECES AND/OR THE THICKNESS OF THE LOAD BEARING PIECES SHOULD BE ADJUSTED AS REQUIRED.



SIDE BLOCKING ASSEMBLY B

CHART B

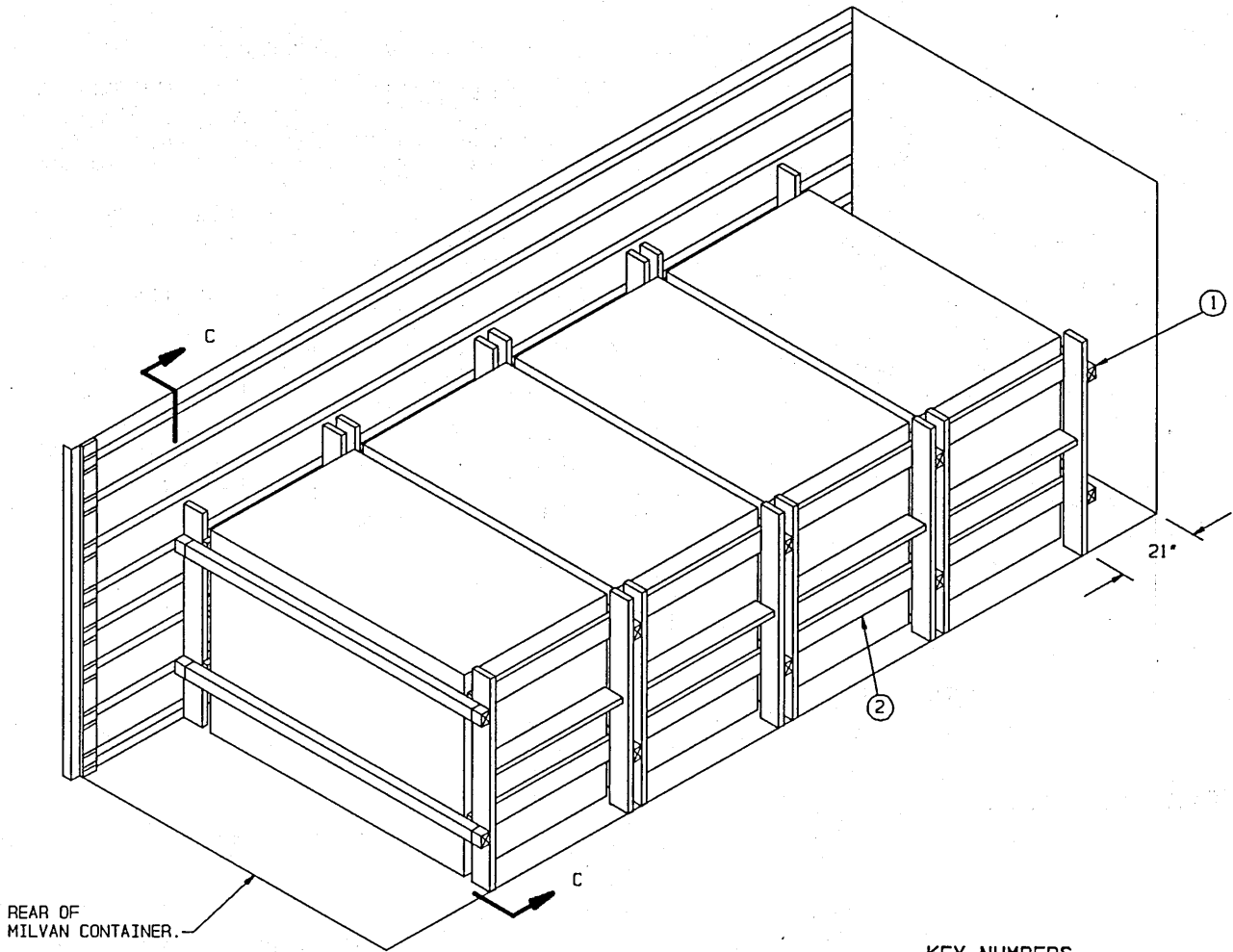
NO. OF LAYERS	DIM A	DIM B	DIM B
2	36"	32"	18-3/4"
3	50"	48"	18-3/4"
4	64"	50-3/4"	18-3/4"
5	6'-8"	50-3/4"	18-3/4"

BILL OF MATERIAL

LUMBER	LINEAR FEET	BOARD FEET
2" X 4"	95	64
2" X 6"	139	139
NAILS	NO. REQD	POUNDS
10d (3")	132	2
CROSS MEMBER - - - - -		6 REQD

LOAD AS SHOWN

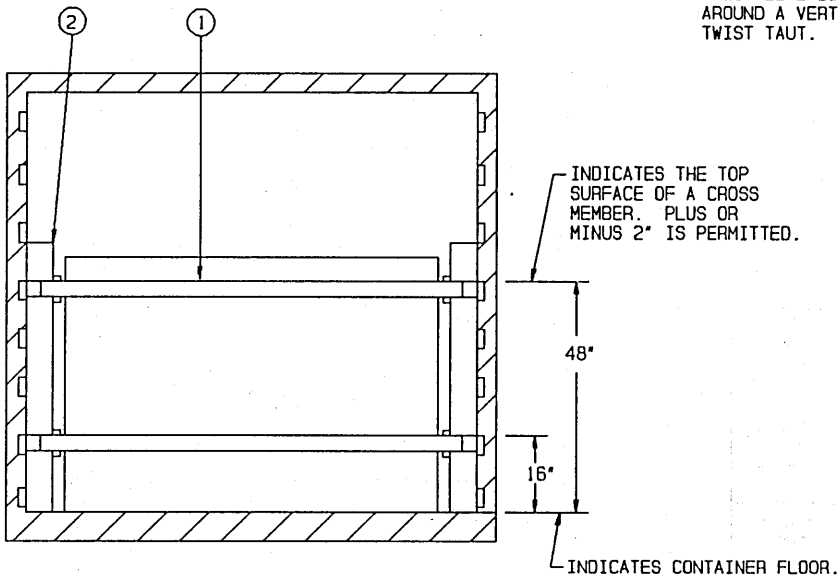
ITEM	QUANTITY	WEIGHT (APPROX)
MISSILE CONTAINER- - - - -75		15,225 LBS
DUNNAGE - - - - -		408 LBS
MILVAN CONTAINER - - - - -		5,700 LBS
TOTAL WEIGHT - - - - -		21,333 LBS (APPROX)



ISOMETRIC VIEW

KEY NUMBERS

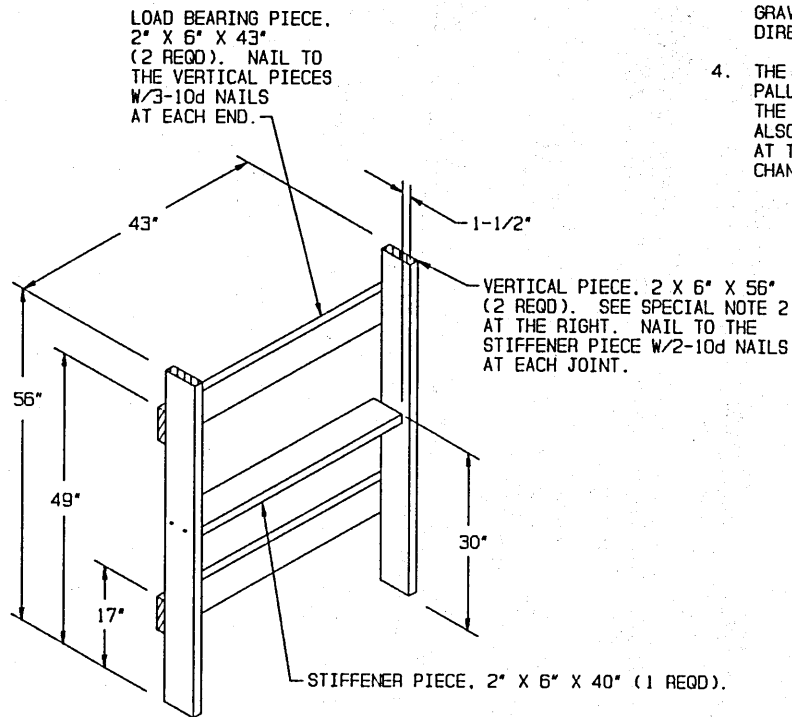
- ① CROSS MEMBER (10 REQD). POSITION AT THE HEIGHTS SPECIFIED IN THE "SECTION C-C" VIEW. SEE GENERAL NOTE "G" ON PAGE 2 AND GENERAL NOTE "S" ON PAGE 5.
- ② SIDE BLOCKING (8 REQD). SEE THE "SIDE BLOCKING ASSEMBLY C" DETAIL ON PAGE 13. PRE-POSITION TWO ASSEMBLIES BEFORE LOADING EACH PALLET UNIT. TO FACILITATE LOADING OPERATIONS, THE SIDE BLOCKING CAN BE WIRE TIED TO THE 38" HIGH 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 C-C

SPECIAL NOTES:

1. THE LOAD AS SHOWN ON PAGE 12 DEPICTS A 4-PALLET UNIT (SEALED) LOAD IN A MILVAN CONTAINER.
2. THE WIDTH OF THE VERTICAL PIECES OF THE SIDE BLOCKING ASSEMBLY DEPICTED AT THE LEFT MUST BE ADJUSTED AS REQUIRED SO AS TO NOT ALLOW MORE THAN ONE AND ONE-HALF (1-1/2") VOID ACROSS THE WIDTH OF THE MILVAN CONTAINER.
3. WHEN A MILVAN CONTAINER IS TO BE LOADED WITH A REDUCED QUANTITY OF PALLET UNITS, THE LENGTHWISE CENTER OF GRAVITY OF A LOAD MUST BE WITHIN 12", IN EITHER DIRECTION, OF THE MIDPOINT OF THE MILVAN CONTAINER.
4. THE SAME PROCEDURES MAY ALSO BE USED FOR SHIPMENT OF PALLETIZED UNSEALED CONTAINERS. HOWEVER, THE LENGTH OF THE SIDE BLOCKING WILL BE INCREASED FROM 43" TO 46". ALSO, WHEN SHIPPING UNSEALED PALLET UNITS, THE DIMENSION AT THE FORWARD END OF THE MILVAN CONTAINER WILL BE CHANGED FROM 21" TO 15".

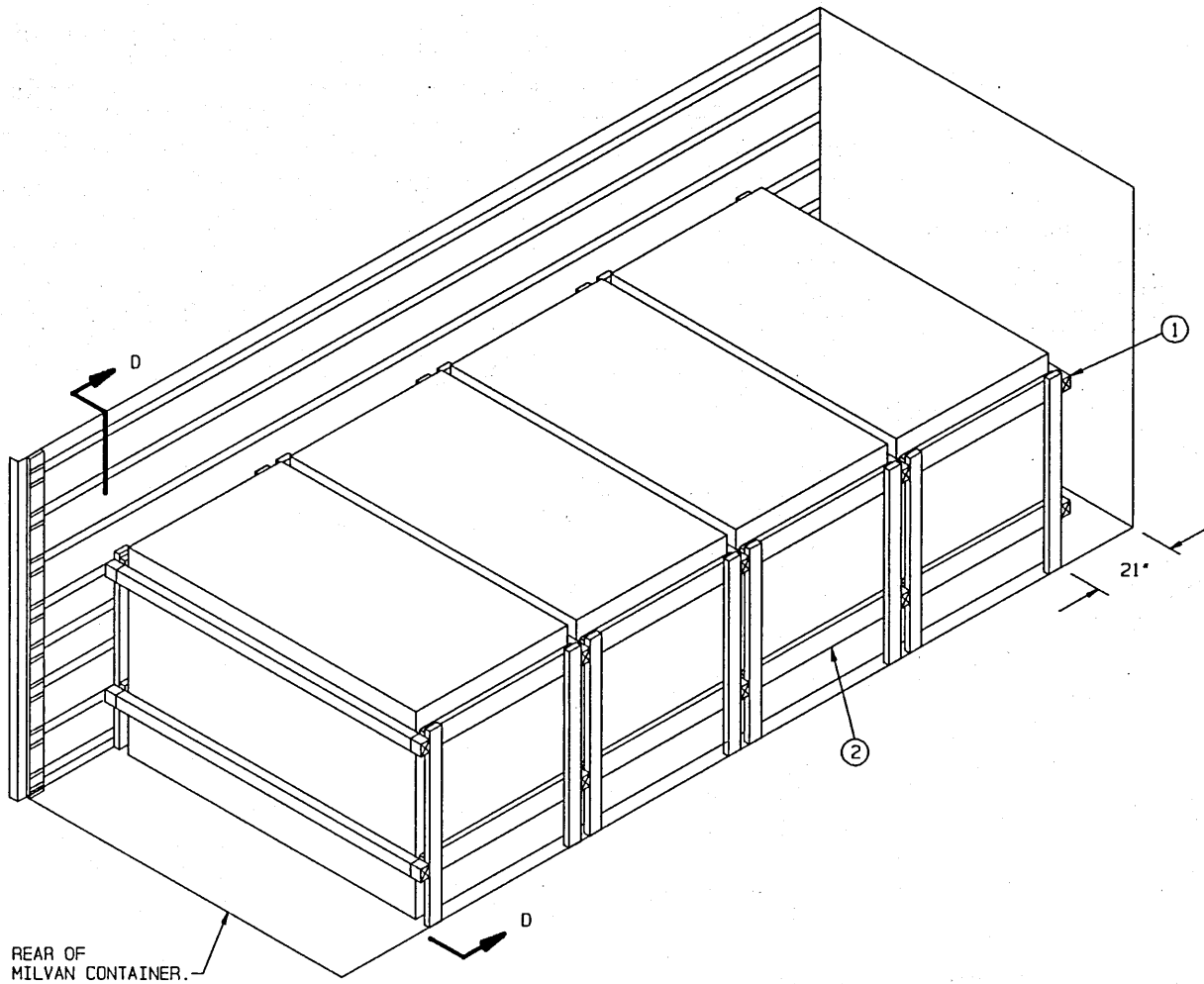


SIDE BLOCKING ASSEMBLY C

BILL OF MATERIAL		
LUMBER	LINEAR FEET	BOARD FEET
2" X 6"	159	159
NAILS	NO. REQD	POUNDS
10d (3")	128	2
CROSS MEMBER	----- 10 REQD	

LOAD AS SHOWN

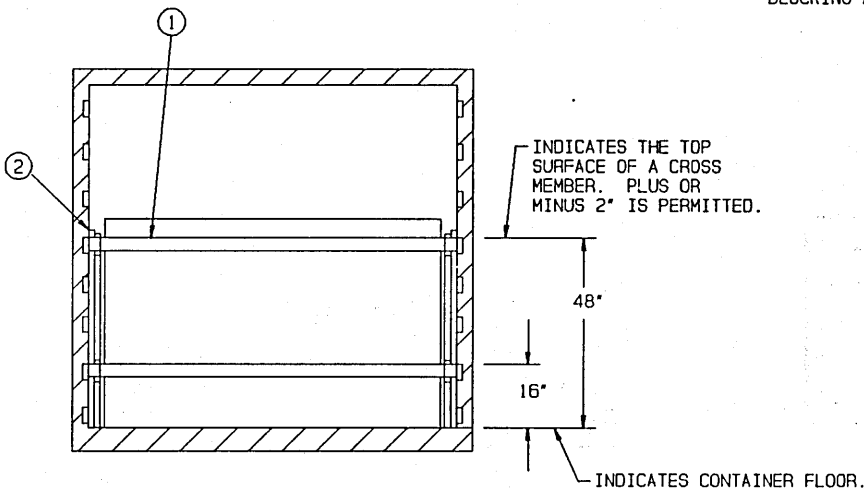
ITEM	QUANTITY	WEIGHT (APPROX)
PALLET UNIT	----- 4 -----	6,996 LBS
DUNNAGE	-----	320 LBS
MILVAN CONTAINER	-----	5,700 LBS
TOTAL WEIGHT		----- 13,016 LBS (APPROX)



ISOMETRIC VIEW

KEY NUMBERS

- ① CROSS MEMBER (10 REQD). POSITION AT THE HEIGHTS SPECIFIED IN THE "SECTION D-D" VIEW. SEE GENERAL NOTE "6" ON PAGE 2 AND GENERAL NOTE "5" ON PAGE 5.
- ② SIDE BLOCKING (8 REQD). SEE THE "SIDE BLOCKING ASSEMBLY D" DETAIL ON PAGE 15.

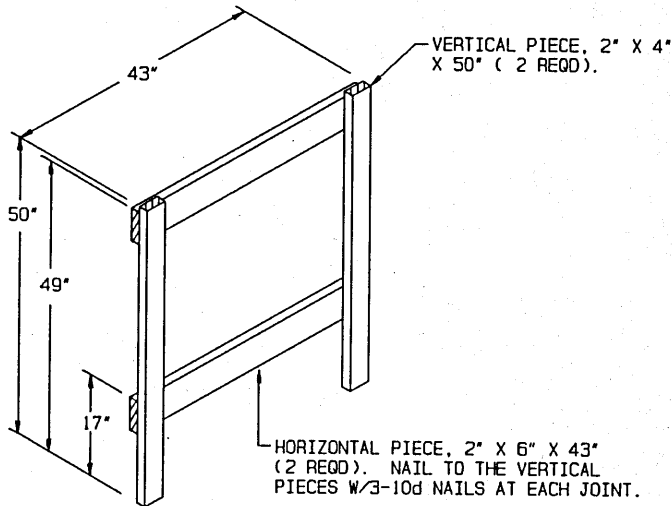


SECTION D-D

PALLETIZED LOAD (STRETCHED CONTAINERS)

SPECIAL NOTES:

1. THE LOAD SHOWN ON PAGE 14 DEPICTS A 4-PALLET UNIT (STRETCHED) LOAD IN A MILVAN CONTAINER.
2. THE WIDTH OF THE VERTICAL PIECES OF THE SIDE BLOCKING ASSEMBLY DEPICTED AT THE LEFT MUST BE ADJUSTED AS REQUIRED, SO AS TO NOT ALLOW MORE THAN ONE AND ONE-HALF (1-1/2") VOID ACROSS THE WIDTH OF THE MILVAN CONTAINER.
3. WHEN A MILVAN CONTAINER IS TO BE LOADED WITH A REDUCED QUANTITY OF PALLET UNITS, THE LENGTHWISE CENTER OF GRAVITY OF A LOAD MUST BE WITHIN 12", IN EITHER DIRECTION, OF THE MIDPOINT OF THE MILVAN CONTAINER.



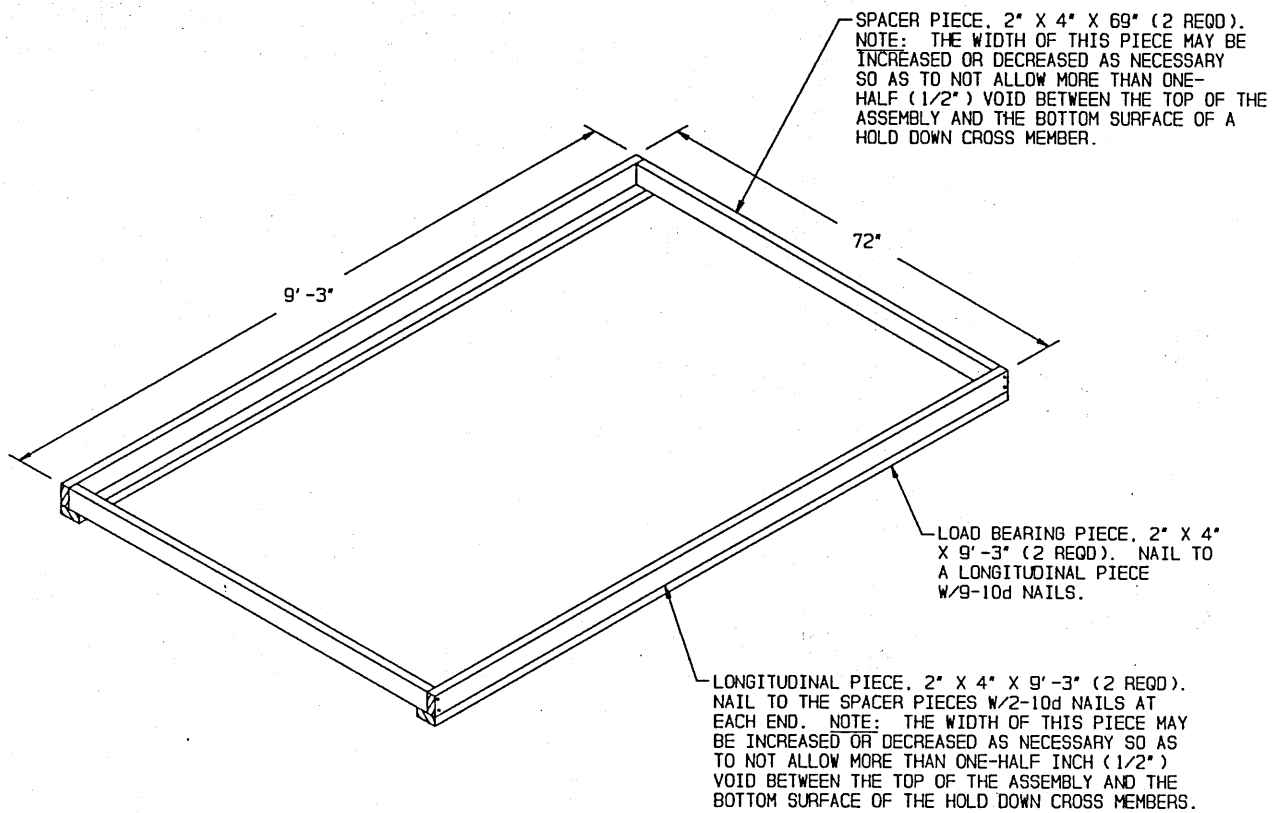
SIDE BLOCKING ASSEMBLY D

BILL OF MATERIAL		
LUMBER	LINEAR FEET	BOARD FEET
2" X 4"	67	45
2" X 6"	58	58
NAILS	NO. REQD	POUNDS
10d (3")	96	1-1/2
CROSS MEMBER	----- 10 REQD	

LOAD AS SHOWN

ITEM	QUANTITY	WEIGHT (APPROX)
PALLET UNIT (STRETCHED)	--- 4 ---	7,684 LBS
DUNNAGE	-----	208 LBS
MILVAN CONTAINER	-----	5,700 LBS
TOTAL WEIGHT		----- 13,592 LBS (APPROX)

PALLETIZED LOAD (STRETCHED CONTAINERS)



TOP-OF-LOAD DUNNAGE ASSEMBLY