REVISION NO. 2 APPROVED BY
BUREAU OF EXPLOSIVES

DATE 10/27/92

MLRS

LOADING AND BRACING● IN MILVAN CONTAINERS⊕ OF ROCKET POD/ CONTAINERS (RP/C) FOR MULTIPLE LAUNCH ROCKET SYSTEM, FOR SHIPMENT BY T/COFC CARRIER

INDEX

ITEM	PAGE (S)
GENERAL NOTES AND MATERIAL SPECIFICATIONS	2
RP/C DETAIL AND HANDLING GUIDANCE	3,5
FOUR-RP/C LOAD	6,9
THREE-RP/C LOAD	10,11
TWO-RP/C LOAD	12,13
ONE-RP/C LOAD	14,15

● LOADING AND BRACING SPECIFICATIONS SET FORTH WITHIN THIS DRAWING ARE APPLICABLE TO LOADS THAT ARE TO BE SHIPPED BY TRAILER/CONTAINER-ON-FLATCAR (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

Carl W Honea

APPROVED BY ORDER OF COMMANDING GENERAL, U.S. ARMY MATERIEL COMMAND

William J Ernst

U.S. ARMY DEFENSE AMMUNITION CENTER AND SCHOOL

DRAFTSMAN	TECHNICIAN	ENGINEER
B. LEONARD		W. FRERICHS
R. HAYNES	R. HAYNES	

VALIDATION ENGINEERING DIVISION	TRANSPORTATION ENGINEERING DIVISION	LOGISTICS ENGINEERING OFFICE
MM JJK	W. Frerichs	WJ Ernst

APRIL 1982

CLASS	DIVISION	DRAWING	FILE
19	48	5967	GM15RS1

REVISION NO. 2 — MARCH 1993

SEE THE REVISION LISTING ON PAGE 2

DO NOT SCALE

PROJECT GM 720-79

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 MULTIPLE LAUNCH ROCKET SYSTEM (MLRS) COMPLETE ROUND, WHEN PACKED IN THE ROCKET POD/CONTAINER (RP/C). SUBSEQUENT REFERENCE TO CONTAINER HEREIN MEANS THE RP/C WITH ROCKET COMPONENTS.

C. FOR DETAIL OF THE ROCKET POD/CONTAINER, SEE US ARMY MISSILE COMMAND DRAWING NO. 13027900.

CONTAINER DIMENSIONS - - 13'-10" LONG BY 41-1/2" WIDE BY 33" HIGH
GROSS WEIGHT - - - - - - 5,078 POUNDS (APPROX)

D. THE OUTLOADING PROCEDURES SPECIFIED HEREIN CAN ALSO BE UTILIZED FOR THE 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.

E. 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-FLATCAR (T/COFC) SERVICE.

F. 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 INSTALLATION OF CROSS MEMBERS CONFORM WITH BUREAU OF EXPLOSIVES PAMPHLET 6C, WITH THE EXCEPTION THAT TWO 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 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 VOID WITHIN A LOAD. THE LOAD BLOCKING COMPONENT DESIGNATED AS "CROSS MEMBER" HEREIN, IS IDENTIFIED AS "BEAM ASSEMBLY" WITHIN TM 55-8115-200-23 & P, DATED DECEMBER 1979. THE BEAM ASSEMBLY IS FURTHER IDENTIFIED AS NSN 8115-00-165-6623.

G. VOIDS BETWEEN THE END GATE AND THE LADING MUST NOT EXCEED 1/2". ADDITIONAL MATERIAL MAY BE ADDED, OR THINNER MATERIAL MAY BE USED TO ACHIEVE THE PROPER THICKNESS AS REQUIRED.

H. THE 1-3/8" THICK DIMENSIONAL LUMBER SPECIFIED IN THE FILL MATERIAL DETAIL CAN BE MADE BY PLANING NOMINAL 2" X 4" MATERIAL TO THE PROPER THICKNESS. ALSO, STRIPS OF PLYWOOD CAN BE USED AS FILL MATERIAL. USE PLYWOOD OF DIFFERENT THICKNESS TO ACHIEVE THE SPECIFIED 1-3/8".

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, UNLESS OTHERWISE SPECIFIED.

(CONTINUED AT RIGHT)

MATERIAL SPECIFICATIONS

LUMBER - - - - - - - -: SEE TM 743-200-1 (DUNNAGE LUMBER) AND FED SPEC MM-L-751.

NAILS - - - - - - - -: FED SPEC FF-N-105; COMMON.

PLYWOOD - - - - - - -: COMMERCIAL ITEM DESCRIPTION A-A-55057, TYPE A, CONSTRUCTION AND INDUSTRIAL PLYWOOD, INTERIOR WITH EXTERIOR GLUE, GRADE C-D. IF SPECIFIED GRADE IS NOT AVAILABLE, A BETTER INTERIOR OR AN EXTERIOR GRADE MAY BE SUBSTITUTED.

WIRE, CARBON STEEL -: ASTM A853; ANNEALED AT FINISH, BLACK OXIDE FINISH, .0800" DIA, GRADE 1006 OR BETTER.

(GENERAL NOTES CONTINUED)

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 CONTAINER DEPICTED WITHIN THIS DRAWING, SUCH AS ONE OF THE SIDEWALLS, HAVE NOT BEEN SHOWN IN THE LOAD VIEWS FOR CLARITY PURPOSES.

N. MAXIMUM LOAD WEIGHT CRITERIA:

THE ITEMIZED LOAD WEIGHTS ARE CONTROLLED BY EQUIPMENT CAPABILITY FACTORS. ALSO, THESE LISTED LOAD WEIGHTS IDENTIFY THE COMBINED WEIGHT OF AMMUNITION LADING UNITS AND DUNNAGE THAT CAN BE PLACED INTO ONE MILVAN CONTAINER WITHOUT VIOLATING ONE OR MORE OF THE "CAPABILITY FACTORS". SEE NOTES 1 AND 2.

39,100 LBS IN 20-FT CONTAINER (W/O CHASSIS) ABOARD CONTAINERSHIP.
39,100 LBS IN CONTAINER ON 20-FT CHASSIS WITH DOUBLE BOGIE. SEE NOTE 3.
25,300 LBS IN CONTAINER ON 20-FT CHASSIS WITH SINGLE BOGIE. SEE NOTE 4.
21,300 LBS IN EACH CONTAINER ON 40-FT CHASSIS (COUPLED WITH DOUBLE BOGIE). SEE NOTE 3.

NOTE 1: DUNNAGE INCLUDES MATERIALS, OTHER THAN COMPONENTS OF THE MECHANICAL LOAD BRACING SYSTEM, USED TO BLOCK AND BRACE A LOAD.

NOTE 2: ALTHOUGH THE HEAVIEST MAXIMUM LOADS ARE DELINEATED IN THE LOAD VIEWS, PROVISIONS ARE INCLUDED WITHIN THIS DRAWING SO THAT THE BASIC LOADS CAN BE ADJUSTED TO SATISFY A LESSER QUANTITY OF LADING UNITS. ADDITIONAL INSTRUCTIONS ARE FURNISHED IN THE "SPECIAL NOTE(S)" SECTION FOR EACH LOAD VIEW.

NOTE 3: DEPENDING ON TRANSPORTATION ROUTING, IT MAY BE NECESSARY TO REDUCE THE LOAD WEIGHT TO SATISFY "WEIGHT LAWS" OF CERTAIN STATES. ALSO, IT MAY BE NECESSARY TO REDUCE THE LOAD WEIGHT TO SATISFY OTHER WEIGHT RESTRICTIONS IMPOSED ON THE MILVAN SYSTEM.

NOTE 4: BY SPECIAL AUTHORITY, IT MAY BE POSSIBLE TO MOVE HEAVIER LOADS ON SINGLE BOGIE CHASSIS WITHIN AN INSTALLATION.

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 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 OVERHANG 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. IF THE CONTAINERS BEING SHIPPED ARE EQUIPPED WITH FORKLIFT TUNNELS, THE TUNNELS MUST BE REMOVED AND SECURED ON TOP OF OR AT THE REAR OF THE LOAD PRIOR TO SHIPMENT. SECUREMENT CAN BE ACCOMPLISHED BY WIRE-TIEING OR STRAPPING THE TUNNELS TO THE RP/C FRAMEWORK IN SUCH A MANNER TO PRECLUDE DAMAGE TO THE RP/C DURING SHIPMENT.

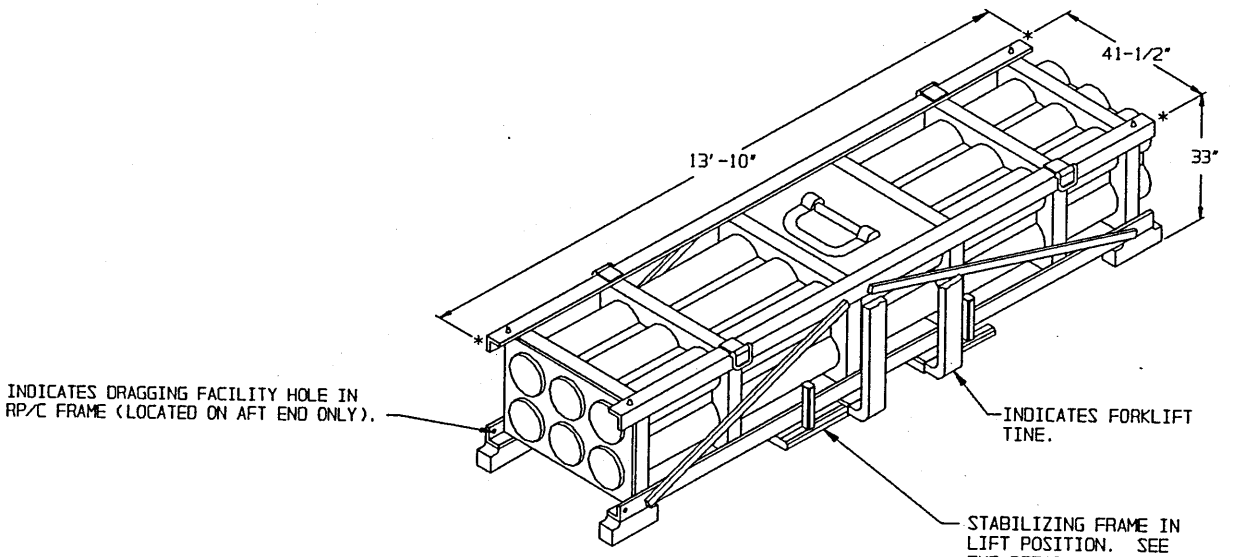
REVISIONS

REVISION NO. 1, DATED JULY 1989, CONSISTS OF:

1. MODIFYING END GATE ASSEMBLIES.
2. ADDING UNLOADING PROCEDURES.
2. UPDATING "LAUNCH POD/CONTAINER" TO "ROCKET POD/CONTAINER.

REVISION NO. 2, DATED MARCH 1993, CONSISTS OF:

ADDING MLRS POD STABILIZER DETAIL AND PROCEDURES.



ROCKET POD/CONTAINER

SPECIAL HANDLING GUIDANCE

1. POD STACKING FOR OUTLOADING PURPOSES.

   A. THE UPPER POD SHOULD BE PLACED AS CLOSELY AS POSSIBLE IN VERTICAL ALIGNMENT WITH THE LOWER POD.

   B. WHEN STACKING THESE PODS, CARE MUST BE EXERCISED TO ENSURE THAT THE INTERLOCKING HOLES IN THE BOTTOM OF THE POD SKIDS ALIGN CORRECTLY WITH THE INTERLOCKING PINS ON THE TOP OF THE POD FRAME. THIS WILL PRECLUDE DAMAGE TO THE SKIDS AND ENSURE PROPER FUNCTIONING OF THE POD INTERLOCKS.

2. POD OR POD STACK HANDLING.

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

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

   A. ONLY APPROVED AND APPROPRIATELY SIZED MHE WILL BE USED FOR HANDLING THE DEPICTED PODS.

   B. IF HANDLING IS ACCOMPLISHED WITH A FORKLIFT TRUCK, THE TINES OF THE FORKLIFT ARE TO BE INSERTED INTO THE MLRS POD STABILIZING FRAME SHOWN IN THE DETAIL ON PAGE 4. THE FORKLIFT CARRIAGE IS TO BE CENTERED ON THE CENTER OF GRAVITY OF THE MLRS RP/C. NOTE: 1/4" SAFETY CHAINS ARE NOT SHOWN BUT WILL BE WELDED TO THE STABILIZING FRAME FOR SECUREMENT TO THE FORKLIFT CARRIAGE.

(CONTINUED AT RIGHT)

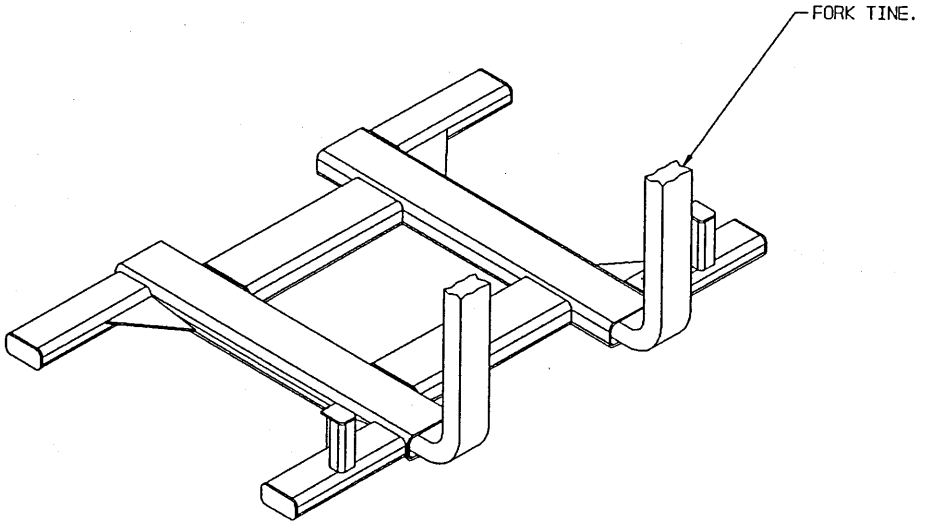
(SPECIAL HANDLING GUIDANCE CONTINUED)

   C. THE DUNNAGE ASSEMBLIES AT THE FRONT AND ALONG THE SIDE-WALLS OF THE MILVAN CONTAINER MUST BE PRE-POSITIONED PRIOR TO LOADING THE FIRST STACK OF PODS INTO IT. ONCE THE FIRST STACK OF PODS IS IN POSITION, THE SECOND STACK CAN BE LOADED INTO THE MILVAN SUBSEQUENT TO THE INSTALLATION OF THE CENTER FILL ASSEMBLY.

   D. WHEN REMOVING A POD OR POD STACK FROM A MILVAN CONTAINER BY ATTACHING CHAINS TO THE FRAME AND DRAGGING THE POD OR POD STACK PARTIALLY OUT OF THE MILVAN CONTAINER, CARE MUST BE TAKEN TO ENSURE THAT THE PULL ANGLE OF EACH OF THE TWO CHAIN LEGS IS 60° OR GREATER. IF THE CHAIN IS ATTACHED SO THAT THE PULL ANGLE IS LESS THAN 60° , STRUCTURAL FAILURE OF THE RP/C FRAME COULD OCCUR. SEE THE "RP/C TOW ANGLE" DETAIL ON PAGE 4. CHAINS WILL BE ATTACHED ONLY TO THE BOTTOM-LAYER RP/C UNITS, AND SHACKLES WILL BE USED TO ATTACH THE DRAG CHAINS TO THE DRAGGING FACILITY HOLES. A FORKLIFT TRUCK IS TO BE USED FOR DRAGGING THE UNITS SO THAT THE TINES OF THE TRUCK CAN BE INSERTED A SHORT DISTANCE UNDER THE AFT END OF THE LOWER RP/C UNIT AND THE AFT END OF THE RP/C UNIT LIFTED ENOUGH TO JUST CLEAR THE CONTAINER FLOOR BEFORE ACTUAL DRAGGING IS BEGUN. CAUTION: FORKLIFT TRUCK TINES MUST NOT BEAR ON THE BOTTOM SURFACE OF A BULKHEAD BRACE ASSEMBLY OF THE LOWER RP/C UNIT DURING A DRAGGING OPERATION. SEE NOTE 3 ON PAGE 5 AND NOTE 2.E BELOW. NOTICE: WIRE ROPE CABLE CAN BE SUBSTITUTED FOR THE CHAIN SPECIFIED HEREIN.

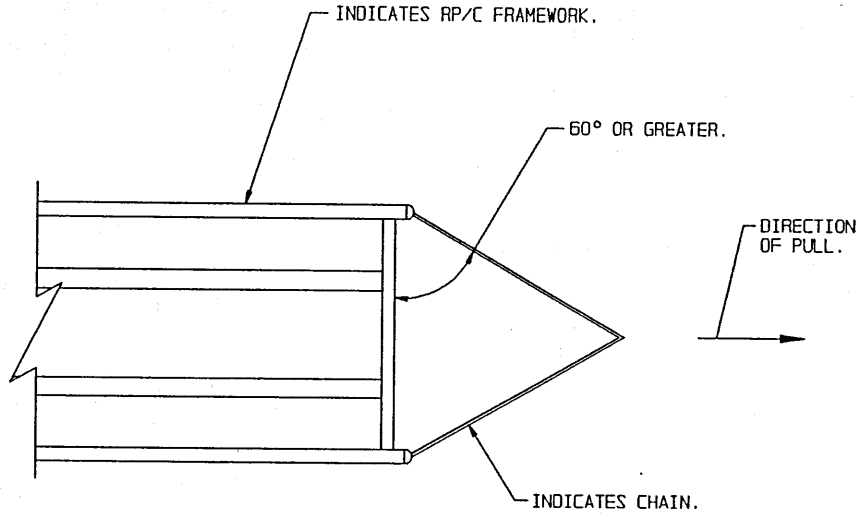
   E. WHEN RP/C UNITS ARE HANDLED WITH A FORKLIFT TRUCK, A 1" X 4" MATERIAL BUFFER BOARD MUST BE PLACED ACROSS THE FORKLIFT TRUCK TINES SUCH THAT THE TINES DO NOT CONTACT THE BOTTOM SURFACE OF THE FRAME MEMBERS.

   F. RP/C UNITS WILL BE PUSHED INTO THE MILVAN CONTAINER USING A PUSHER ASSEMBLY OR A 4" X 4" BUFFER BOARD WILL BE POSITIONED BETWEEN THE HEELS OF THE FORKLIFT TRUCK TINES AND THE RP/C FRAME. THE PUSHER ASSEMBLY DEPICTED ON PAGE 9 MAY ALSO BE USED IN PLACE OF A 4" X 4" BUFFER BOARD TO PUSH THE RP/C UNITS INTO THE MILVAN.



MLRS POD STABILIZING FRAME

REFER TO U.S. ARMY ARMAMENT MUNITIONS AND CHEMICAL COMMAND, DEFENSE AMMUNITION CENTER AND SCHOOL DRAWING NUMBER AC200000809 TO MANUFACTURE. THE DRAWING CAN BE OBTAINED FROM THE FOLLOWING ADDRESS: U.S. ARMY DEFENSE AMMUNITION CENTER AND SCHOOL, ATTN: SMCAC-DES, SAVANNA, IL 61074-9639, DSN 585-8928, COMM (815) 273-8928.



RP/C TOW ANGLE

(PARTIAL PLAN VIEW)

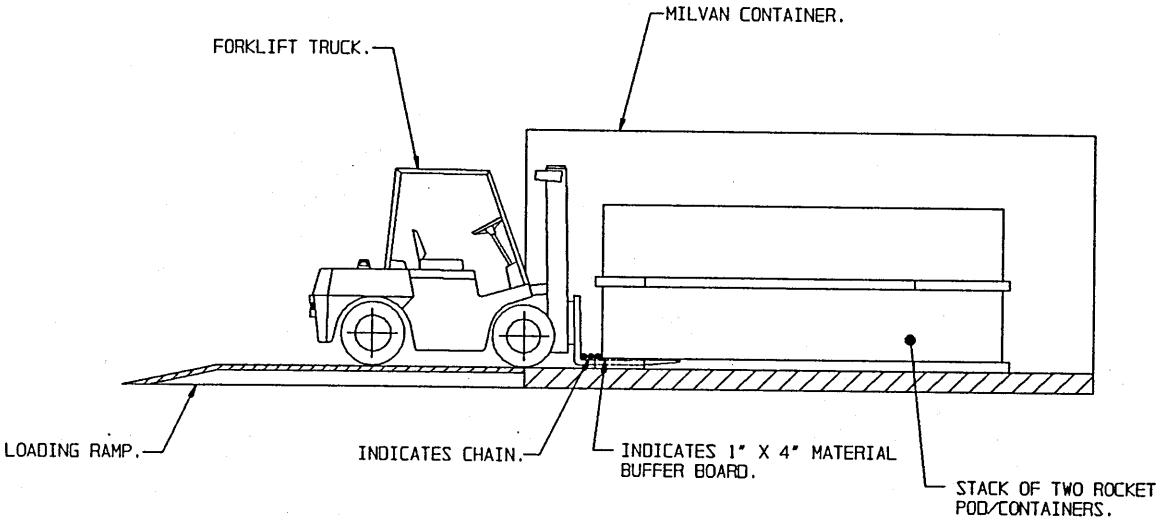


FIGURE 1

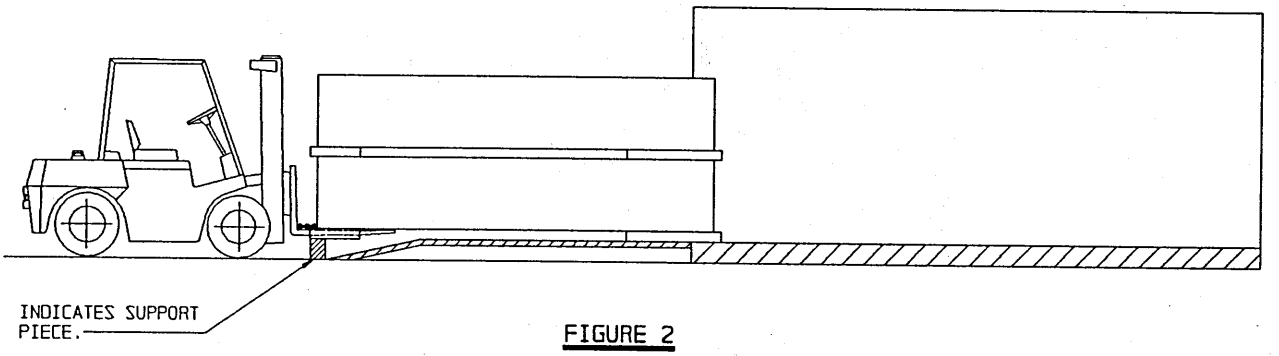


FIGURE 2

MILVAN FREIGHT CONTAINER UNLOADING PROCEDURES

1. REMOVE ALL REAR BLOCKING FROM THE MILVAN CONTAINER.
2. ATTACH CHAIN FROM DRAGGING FACILITY HOLES ON BOTTOM RP/C TO THE FORKLIFT TRUCK AS SHOWN IN FIGURE 1 ABOVE (SEE NOTE 2.D ON PAGE 3).
3. INSERT THE FORKLIFT TINES WITH A 1" X 4" MATERIAL BUFFER BOARD PLACED ACROSS THE FORK TINES (TO INSURE THAT THE TINES DO NOT CONTACT THE BOTTOM OF THE LONGITUDINAL FRAME MEMBERS) UNDER THE AFT END OF THE BOTTOM RP/C.
4. LIFT THE AFT END OF THE RP/C STACK ENOUGH TO JUST CLEAR THE CONTAINER FLOOR BEFORE ACTUAL DRAGGING IS BEGUN.
5. SLOWLY PULL THE RP/C STACK FROM THE CONTAINER UNTIL THE TWO SKIDS ON THE OPPOSITE (FORE) END ARE ALMOST OUTSIDE OF THE INTERMODAL FREIGHT CONTAINER.
6. THE RP/C STACK SHOULD THEN BE LOWERED ONTO A SHORT LENGTH OF DUNNAGE SO THAT THE AFT-END SKIDS ARE SUPPORTED BY THE DUNNAGE PIECE AND THE RP/C STACK IS APPROXIMATELY LEVEL. THE RP/C STACK MAY NOW BE HANDLED BY SLINGING, FORKLIFT TRUCK, OR ANY OTHER MEANS; PROVIDING THEY ARE HANDLED IN ACCORDANCE WITH APPROVED PROCEDURES.
7. REPEAT THE ABOVE PROCEDURES FOR THE REMAINING RP/C STACK.

(CONTINUED AT RIGHT)

(CONTINUED FROM LEFT)

8. IF THE PODS ARE INADVERTENTLY POSITIONED INTO THE MILVAN CONTAINER AFT END TOWARD THE FORWARD END OF THE CONTAINER (I.E. THE PODS ARE LOADED WITH THE DRAGGING FACILITY HOLES OPPOSITE THE DOOR END OF THE CONTAINER). THE FOLLOWING GUIDANCE APPLIES DURING UNLOADING.

   A. TO PREVENT DAMAGING THE BOTTOM SURFACE OF THE POD FRAME, A WOODEN BUFFER PIECE MUST BE PLACED ACROSS THE FORKLIFT TINES SO THAT THE TINES DO NOT CONTACT THE BOTTOM SURFACE OF THE POD FRAME DURING ANY OF THE FOLLOWING OPERATIONS.

   B. AFTER REMOVING THE END DUNNAGE, RAISE A STACK OF PODS APPROXIMATELY 3" WITH A FORKLIFT AND POSITION WOODEN PIECES UNDER THE END FRAME OF THE LOWER POD. LOWER THE STACK TO REST UPON THE WOOD SUPPORT PIECES AND TEMPORARILY REMOVE FORKLIFT.

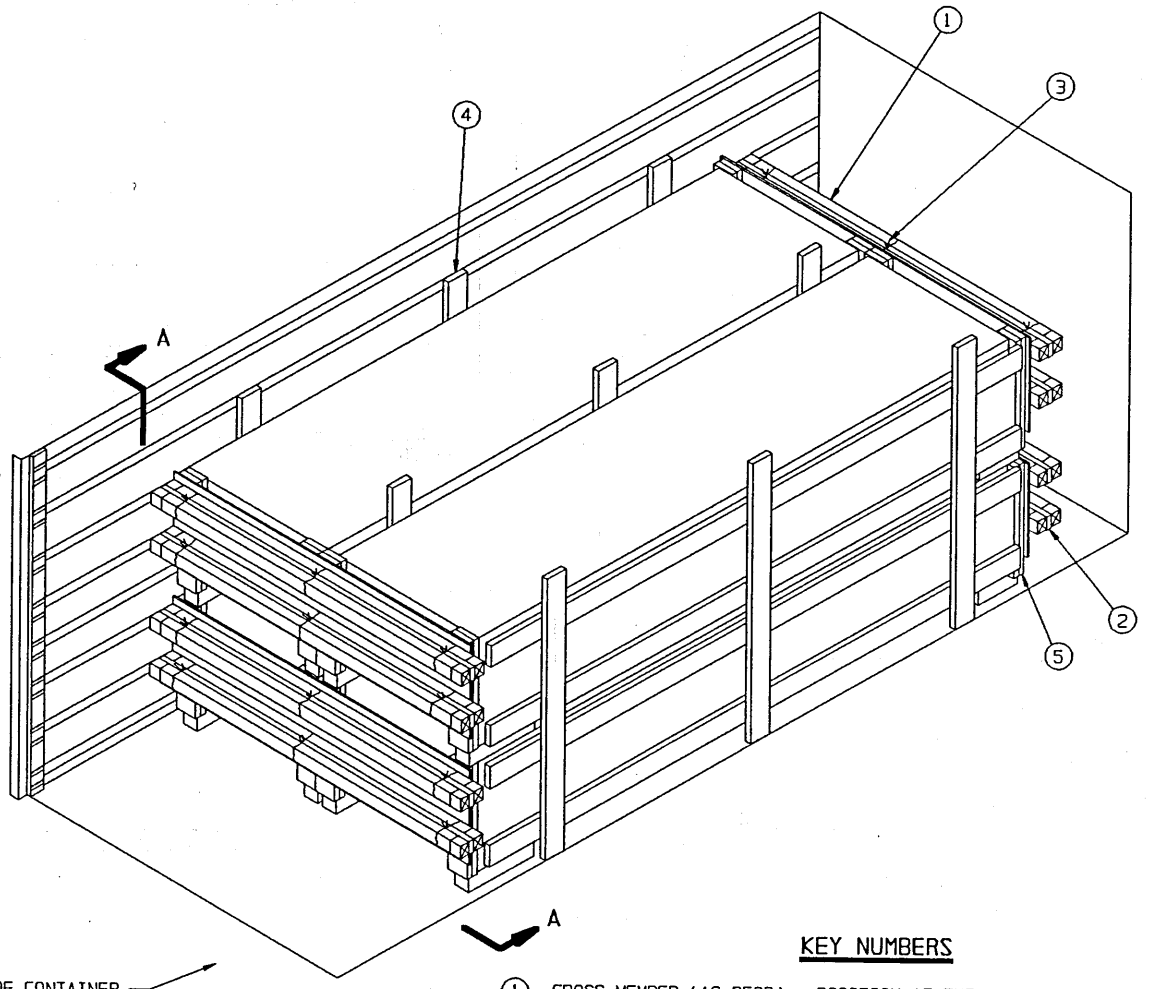
   C. REMOVE KEEPER PINS HOLDING LOWER SHOCK ISOLATOR SKIDS IN PLACE AND REMOVE BOTH SKIDS.

   D. ATTACH AN APPROPRIATELY SIZED SHACKLE TO EACH SIDE OF THE POD FRAME THRU THE SKID PIN HOLE. THE SHACKLE MUST BE SIZED SO THAT THERE IS SUFFICIENT CLEARANCE BETWEEN ITS CURVED PORTION AND THE END OF THE POD FRAME SO THAT A CHAIN CAN BE ATTACHED TO THE SHACKLE WITHOUT DAMAGING THE POD FRAME.

   E. REPOSITION THE FORKLIFT AND ATTACH THE CHAINS AS SPECIFIED IN NOTE 2 ON THIS PAGE.

   F. REMOVE WOODEN SUPPORT PIECES AND REMOVE POD OR POD STACK FROM THE INTERMODAL FREIGHT CONTAINER. NOTE THAT THE SKIDS MUST BE REATTACHED TO THE RP/C FRAME PRIOR TO LOWERING PODS TO THE GROUND.

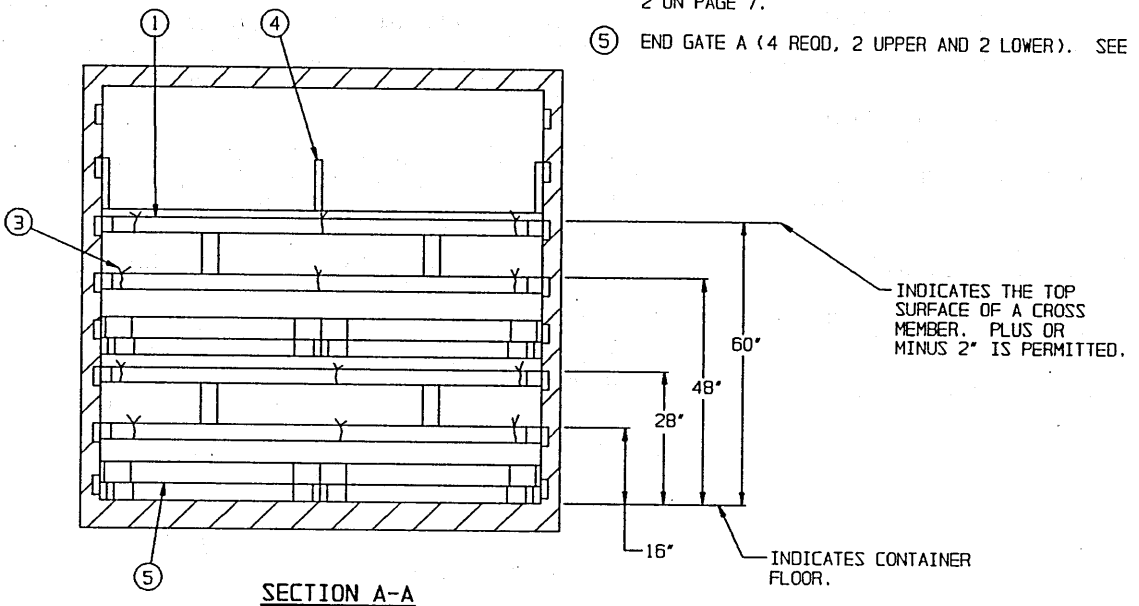
   G. REMOVE THE SECOND POD OR POD STACK IN A LIKE MANNER.



ISOMETRIC VIEW

KEY NUMBERS

1. CROSS MEMBER (16 REQD). POSITION AT THE HEIGHTS SPECIFIED IN THE "SECTION A-A" VIEW. SEE THE "FILL DETAIL" ON PAGE 7.
2. FILL MATERIAL, 1-3/8" X 3-1/2" BY INSIDE CONTAINER WIDTH MINUS 1" (8 REQD). SEE THE "FILL MATERIAL INSTALLATION" DETAIL ON PAGE 7.
3. TIE WIRE, NO. 14 GAGE WIRE 24" LONG (24 REQD). SEE THE "FILL MATERIAL INSTALLATION" DETAIL ON PAGE 7.
4. FILLER GATE A (3 REQD). SEE THE DETAIL ON PAGE 9 AND SPECIAL NOTE 2 ON PAGE 7.
5. END GATE A (4 REQD, 2 UPPER AND 2 LOWER). SEE THE DETAIL ON PAGE 8.



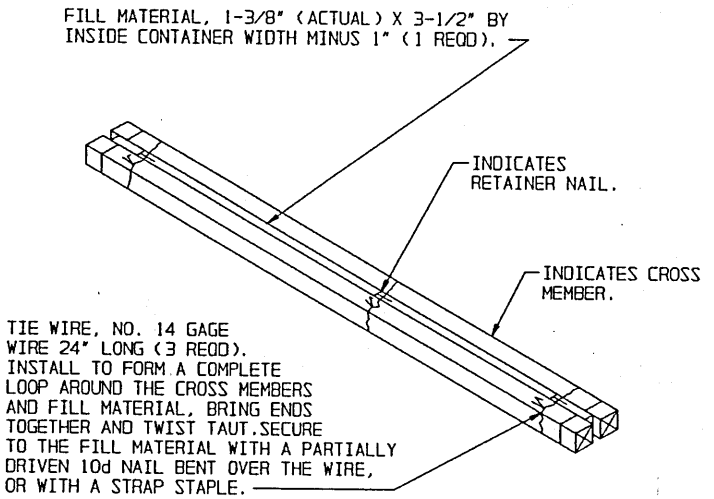
SECTION A-A

FOUR-CONTAINER LOAD

PROJECT GM 720-79

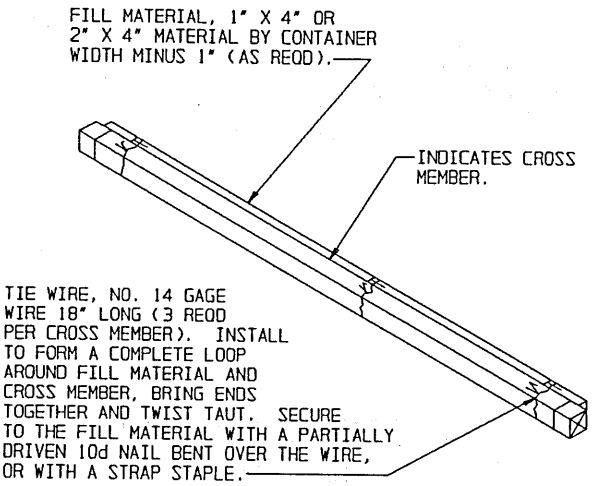
SPECIAL NOTES:

1. THE LOAD AS SHOWN ON PAGE 6 DEPICTS A FOUR CONTAINER LOAD IN A MILVAN CONTAINER.
2. TO AID IN THE LOADING OF THE CONTAINERS INTO THE MILVAN, CONATINER, THE "FILLER GATES A" LOCATED AGAINST THE SIDE-WALLS OF THE MILVAN MAY BE WIRE TIED IN PLACE PRIOR TO THE ACTUAL LOADING OPERATION. ADDITIONALLY, SUBSEQUENT TO PLACING TH FIRST CONTAINER STACK INTO THE MILVAN, THE CENTER "FILLER GATE A" MAY BE WIRE TIED TO THE FIRST CONTAINER STACK TO PRECLUDE INTERFERING WITH THE SECOND CONTAINER STACK WHEN IT IS BEING LOADED IN THE MILVAN CONTAINER.



FILL MATERIAL INSTALLATION

SEE GENERAL NOTE "H" ON PAGE 2.



FILL DETAIL

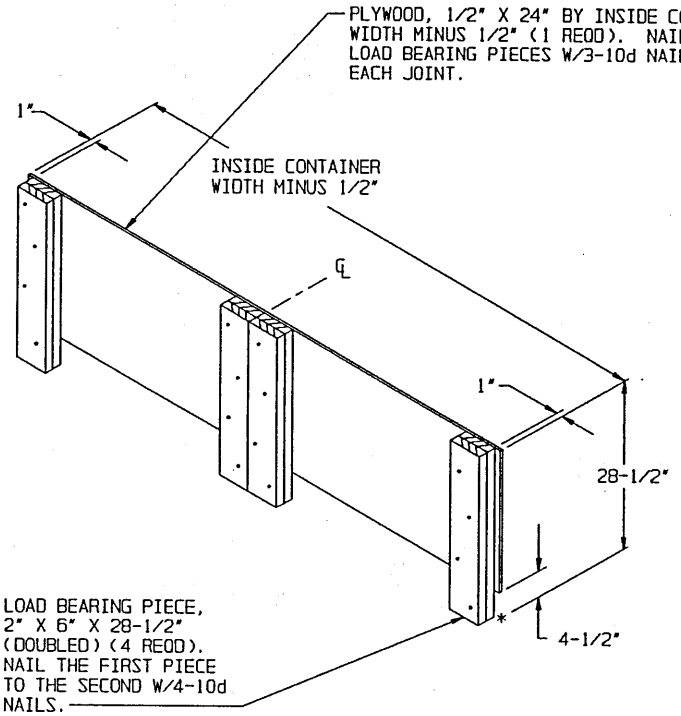
THIS DETAIL DEPICTS THE METHOD OF POSITIONING FILL MATERIAL BETWEEN A CROSS MEMBER AND LADING, WHEN THE VOID BETWEEN THE TWO IS GREATER THAN 1".

BILL OF MATERIAL

LUMBER	LINEAR FEET	BOARD FEET
2" X 4" 2" X 6" 4" X 4"	60 286 6	40 286 8
NAILS	**NO. REQD**	**POUNDS**
10d (3") 12d (3-1/4")	244 32	4 3/4
WIRE, NO. 14 GAGE - - - - 48' REQD - - - - - - - 1 LB PLYWOOD, 3/4" - - - - - - 61 SQ FT REQD - - 126 LBS		
CROSS MEMBER - - - - - - - - - - - - - - - - - 16 REQD		

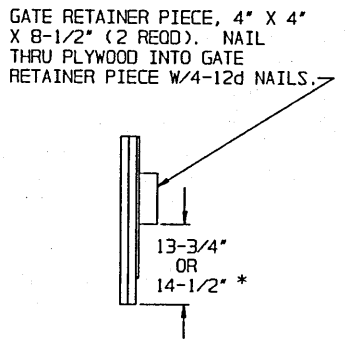
LOAD AS SHOWN

ITEM	QUANTITY	WEIGHT (APPROX)
MLRS RP/C	4	20,312 LBS
DUNNAGE		800 LBS
CONTAINER		5,700 LBS
TOTAL WEIGHT		26,812 LBS (APPROX)



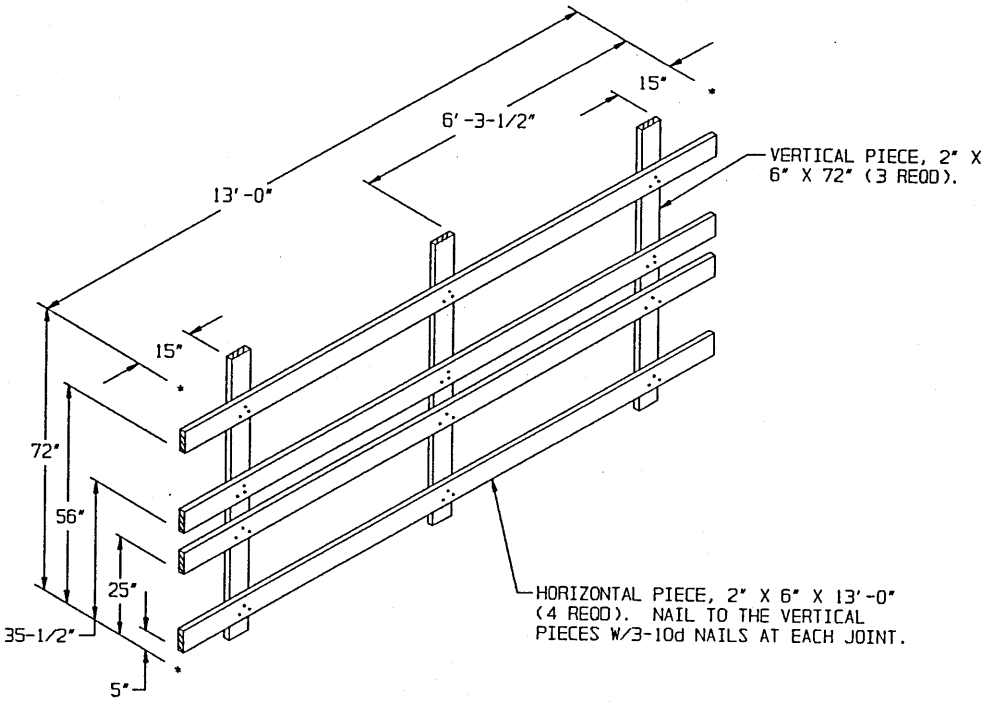
END GATE A

* THE 13-3/4" DIMENSION WILL BE USED IN THE LOWER END GATE AND THE 14-1/2" DIMENSION WILL BE USED IN THE UPPER END GATE ASSEMBLY.

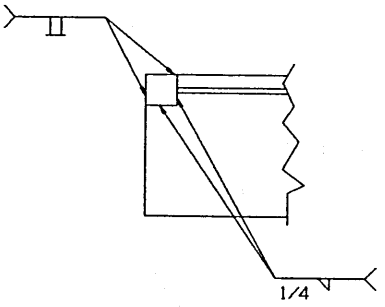


END GATE A RETAINER LOCATION

NOTE: GATE RETAINER PIECES SHOULD BE APPROXIMATELY CENTERED HORIZONTALLY BETWEEN THE LOAD BEARING PIECES OF THE END GATE ON THE OPPOSITE THE LOAD BEARING PIECE.



FILLER GATE A

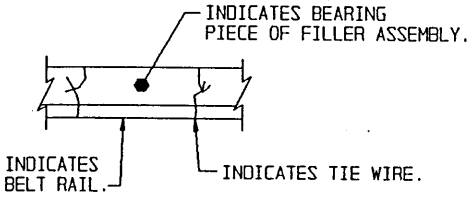


PARTIAL VIEW A

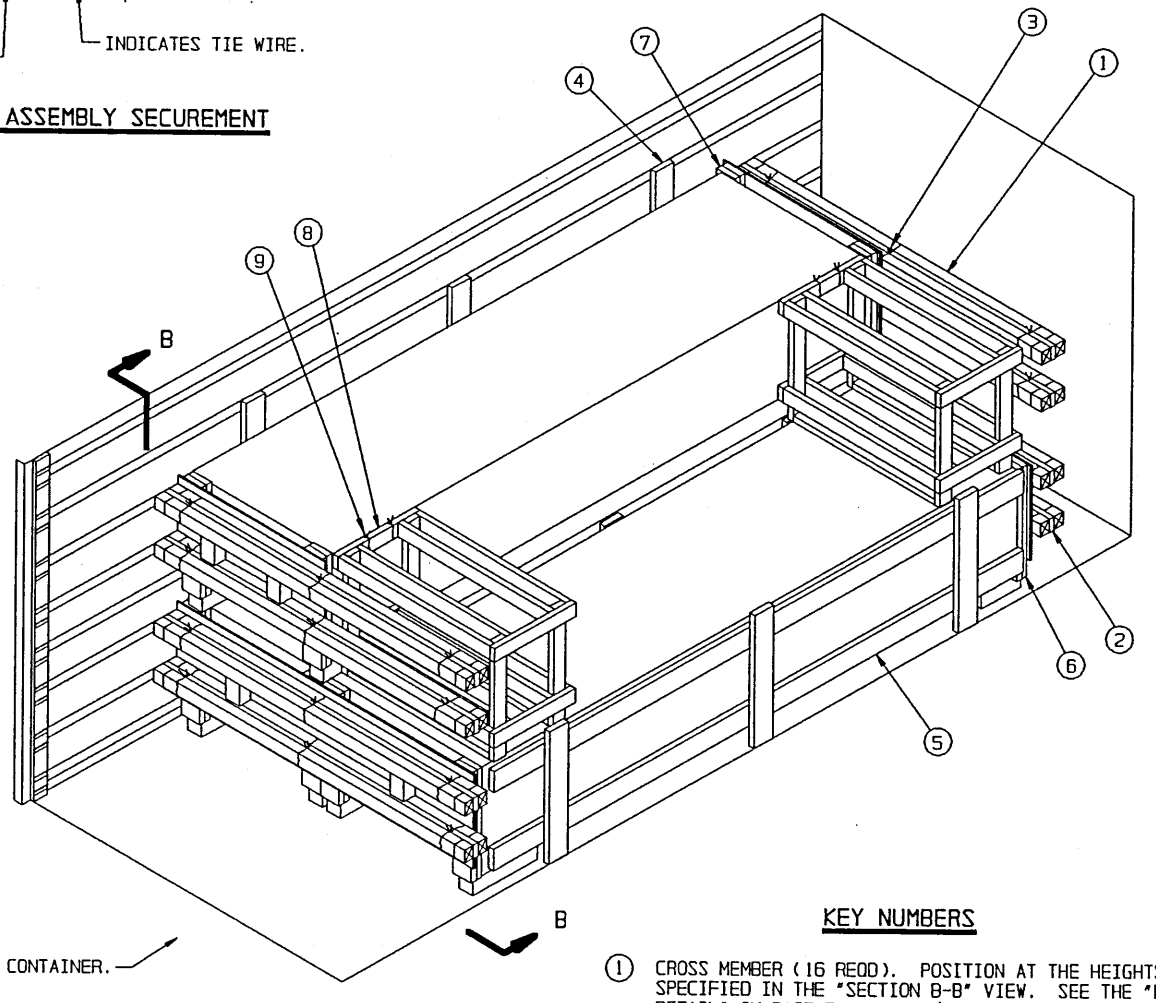
PUSHER ASSEMBLY

NOTE: THE FORK TINES MUST EXTEND AN ADDITIONAL 13" BEYOND THE END OF THE PUSH ASSEMBLY. THE LENGTH OF THE 8" X 4" RECTANGULAR TUBING MAY BE VARIED AS NECESSARY TO ACCOMODATE VARIOUS LENGTH FORK TINES.

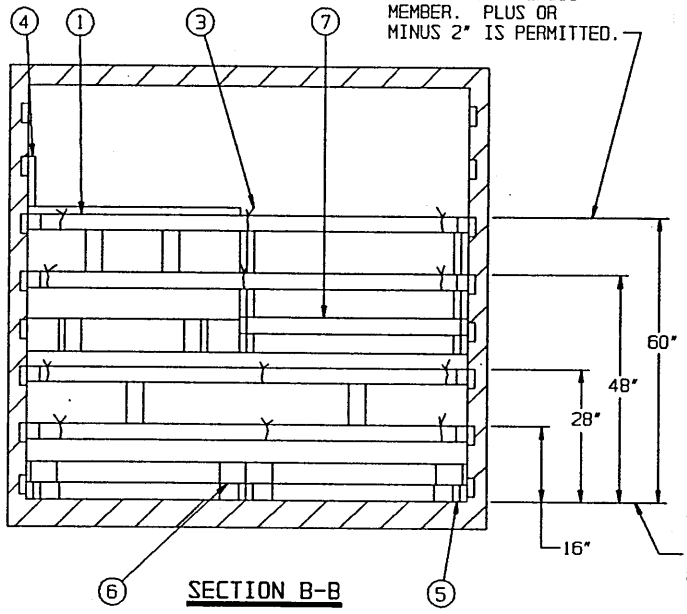
DETAILS



FILLER ASSEMBLY SECURement



ISOMETRIC VIEW



SECTION B-B

KEY NUMBERS

(1) CROSS MEMBER (16 REQD). POSITION AT THE HEIGHTS SPECIFIED IN THE "SECTION B-B" VIEW. SEE THE "FILL DETAIL" ON PAGE 7.

(2) FILL MATERIAL, 1-3/8" X 3-1/2" BY INSIDE CONTAINER WIDTH MINUS 1" (REF: 7'-7") (8 REQD). SEE THE "FILL MATERIAL INSTALLATION" DETAIL ON PAGE 7.

(3) TIE WIRE, NO. 14 GAGE WIRE 24" LONG (24 REQD). SEE THE "FILL MATERIAL INSTALLATION" DETAIL ON PAGE 7.

(4) FILLER GATE A (1 REQD). SEE THE DETAIL ON PAGE 9 AND SPECIAL NOTE 2 ON PAGE 11.

(5) FILLER GATE B (2 REQD). SEE THE DETAIL ON PAGE 11 AND SPECIAL NOTE 2 ON PAGE 11.

(6) END GATE A (2 REQD). SEE THE DETAIL ON PAGE 8.

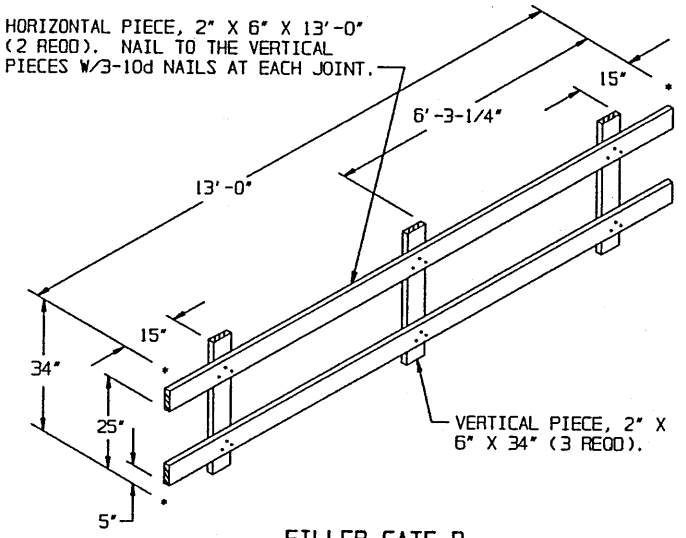
(7) END GATE B (2 REQD). SEE THE DETAIL ON PAGE 11.

(8) FILLER ASSEMBLY A (2 REQD). SEE THE DETAIL ON PAGE 11.

(9) TIE WIRE, NO. 14 GAGE WIRE 24" LONG (8 REQD). INSTALL TWO TIE WIRES TO FORM A COMPLETE LOOP AROUND ONE END OF A FILLER ASSEMBLY AND THE ITEM FRAME AS SHOWN, BRING ENDS TOGETHER AND TWIST TAUT. INSTALL TWO TIE WIRES TO FORM A COMPLETE LOOP THRU THE HOLE IN THE 60" HIGH BELT RAIL AND AROUND THE FILLER ASSEMBLY, BRING ENDS TOGETHER AND TWIST TAUT. SEE THE "FILLER ASSEMBLY SECUREMENT" DETAIL ABOVE.

THREE-CONTAINER LOAD

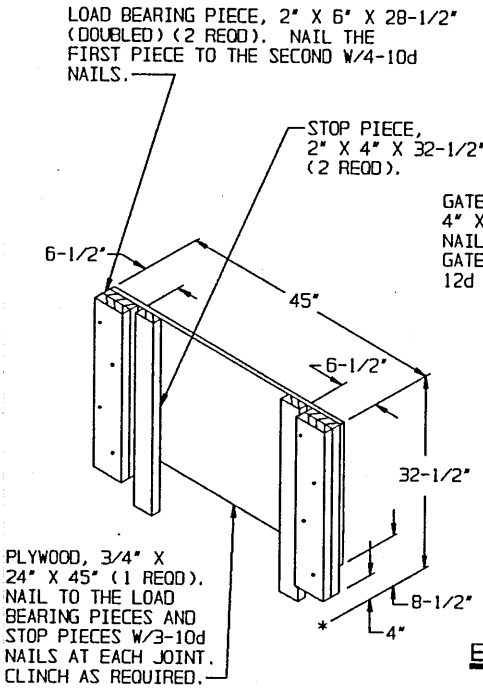
PROJECT GM 720-79



FILLER GATE B

SPECIAL NOTES:

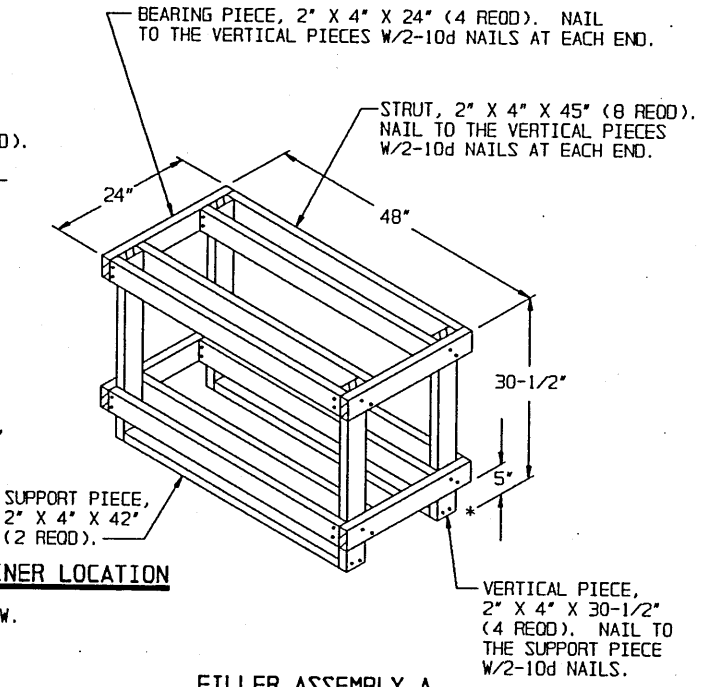
1. THE LOAD AS SHOWN ON PAGE 10 DEPICTS A THREE CONTAINER LOAD IN A MILVAN CONTAINER.
2. TO AID IN THE LOADING OF THE CONTAINERS INTO THE MILVAN CONTAINER, THE "FILLER GATES A AND B" LOCATED AGAINST THE SIDEWALLS OF THE MILVAN MAY BE WIRE TIED IN PLACE PRIOR TO THE ACTURAL LOADING OPERATION. ADDITIONALLY, SUBSEQUENT TO PLACING THE FIRST CONTAINER STACK INTO THE MILVAN, THE CENTER "FILLER GATE B" MAY BE WIRE TIED TO THE FIRST CONTAINER STACK TO PRECLUDE INTERFERING WITH THE SECOND CONTAINER STACK WHEN IT IS BEING LOADED INTO THE MILVAN CONTAINER.



END GATE B

END GATE B RETAINER LOCATION

SEE NOTE BELOW.



FILLER ASSEMBLY A

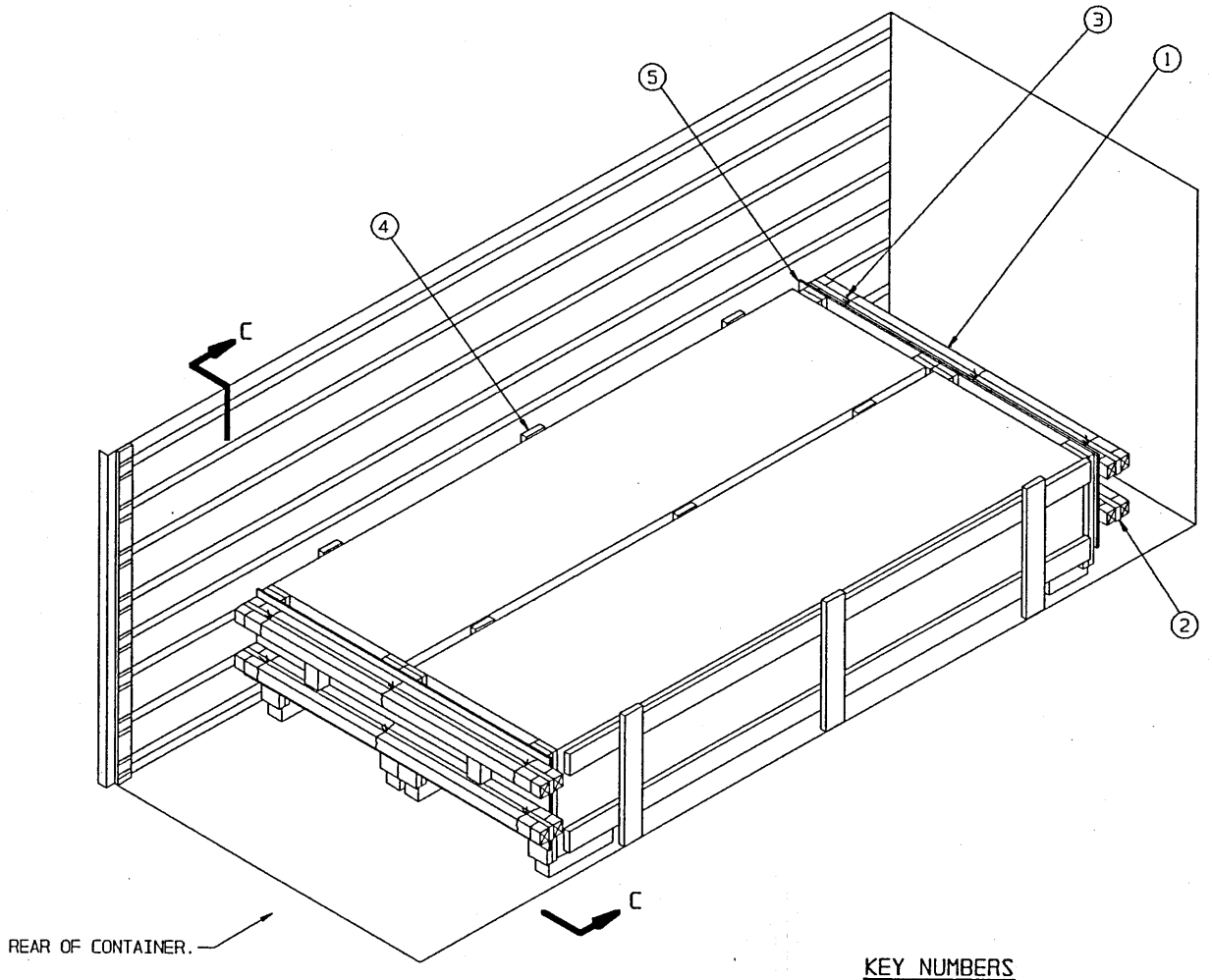
BILL OF MATERIAL		
LUMBER	LINEAR FEET	BOARD FEET
2" X 4" 2" X 6" 4" X 4"	182 196 6	122 196 8
NAILS	NO. REQD	POUNDS
10d (3") 12d (3-1/4")	304 32	4-3/4 3/4
WIRE, NO. 14 GAGE - - - - 64' REQD - - - - 1-1/4 LBS PLYWOOD, 3/4" - - - - - - 46 SQ FT REQD - - 95 LBS		
CROSS MEMBER - - - - - - - - - - - - - - - - - 16 REQD		

NOTE: GATE RETAINER PIECES SHOULD BE APPROXIMATELY CENTERED HORIZONTALY BETWEEN THE LOAD BEARING PIECES OF THE END GATE ON THE SIDE OPPOSITE OF THE LOAD BEARING PIECES, WITH APPROXIMATELY 15" BETWEEN GATE RETAINER PIECES.

LOAD AS SHOWN

ITEM	QUANTITY	WEIGHT (APPROX)
MLRS RP/C	3	15,234 LBS
DUNNAGE		754 LBS
CONTAINER		5,700 LBS
TOTAL WEIGHT		21,688 LBS (APPROX)

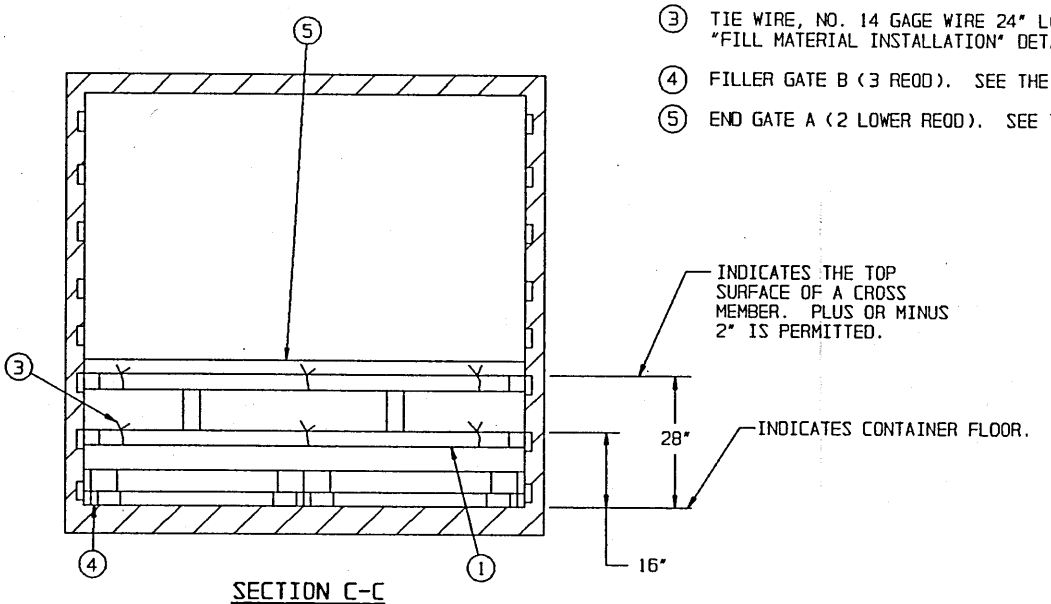
THREE-CONTAINER LOAD



ISOMETRIC VIEW

KEY NUMBERS

1. CROSS MEMBER (8 REQD). POSITION AT THE HEIGHTS SPECIFIED IN THE "SECTION C-C" VIEW. SEE THE "FILL DETAIL" ON PAGE 7.
2. FILL MATERIAL, 1-3/8" X 3-1/2" BY INSIDE CONTAINER WIDTH MINUS 1" (4 REQD). SEE THE "FILL MATERIAL INSTALLATION" DETAIL ON PAGE 7.
3. TIE WIRE, NO. 14 GAGE WIRE 24" LONG (12 REQD). SEE THE "FILL MATERIAL INSTALLATION" DETAIL ON PAGE 7.
4. FILLER GATE B (3 REQD). SEE THE DETAIL ON PAGE 11.
5. END GATE A (2 LOWER REQD). SEE THE DETAIL ON PAGE 8.



SECTION C-C

TWO-CONTAINER LOAD

PROJECT GM 720-79

SPECIAL NOTES:

1. THE LOAD AS SHOWN ON PAGE 12 DEPICTS A TWO CONTAINER LOAD IN A MILVAN CONTAINER.

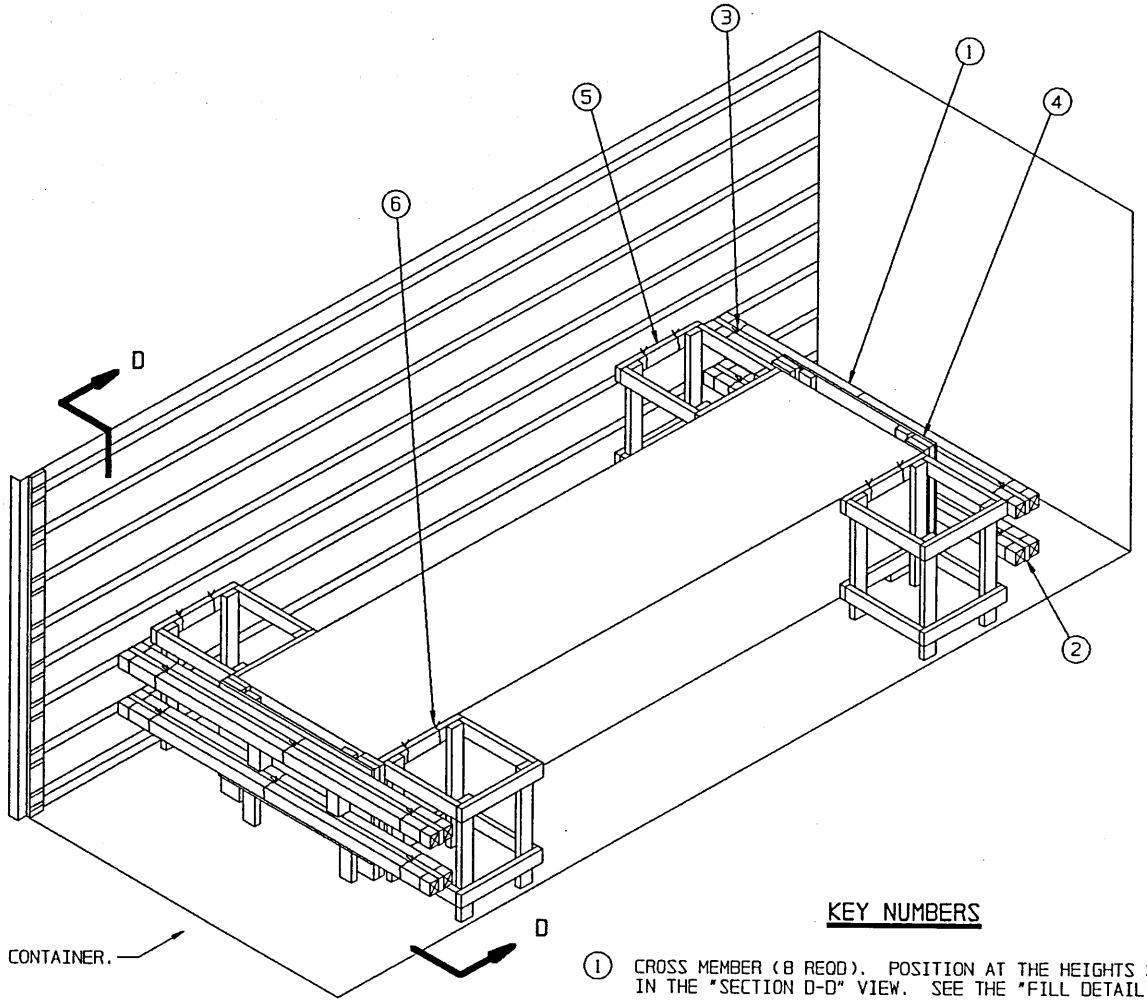
2. TO AID IN THE LOADING OF THE CONTAINERS INTO THE MILVAN CONTAINER, THE "FILLER GATES B" LOCATED AGAINST THE SIDEWALLS OF THE MILVAN MAY BE WIRE TIED IN PLACE PRIOR THE ACTURAL LOADING OPERATION. ADDITIONALLY, SUBSEQUENT TO PLACING THE FIRST CONTAINER INTO THE MILVAN, THE CENTER "FILLER GATE B" MAY BE WIRE TIED TO THE FIRST CONTAINER TO PRECLUDE INTERFERING WITH THE SECOND CONTAINER WHEN IT IS BEING LOADED IN THE MILVAN CONTAINER.

BILL OF MATERIAL		
LUMBER	LINEAR FEET	BOARD FEET
2" X 4" 2" X 6" 4" X 4"	30 142 3	20 142 4
NAILS	NO. REQD	POUNDS
10d (3") 12d (3-1/4")	122 16	2 1-1/2
WIRE, NO. 14 GAGE - - - - 24' REQD - - - - - 1/2 LB PLYWOOD, 3/4" - - - - - - 31 SQ FT REQD - - 64 LBS		
CROSS MEMBER - - - - - - - - - - - - - - - - - 8 REQD		

LOAD AS SHOWN

ITEM	QUANTITY	WEIGHT (APPROX)
MLRS RP/C	2	10,156 LBS
DUNNAGE		399 LBS
CONTAINER		5,700 LBS
TOTAL WEIGHT		16,255 LBS (APPROX)

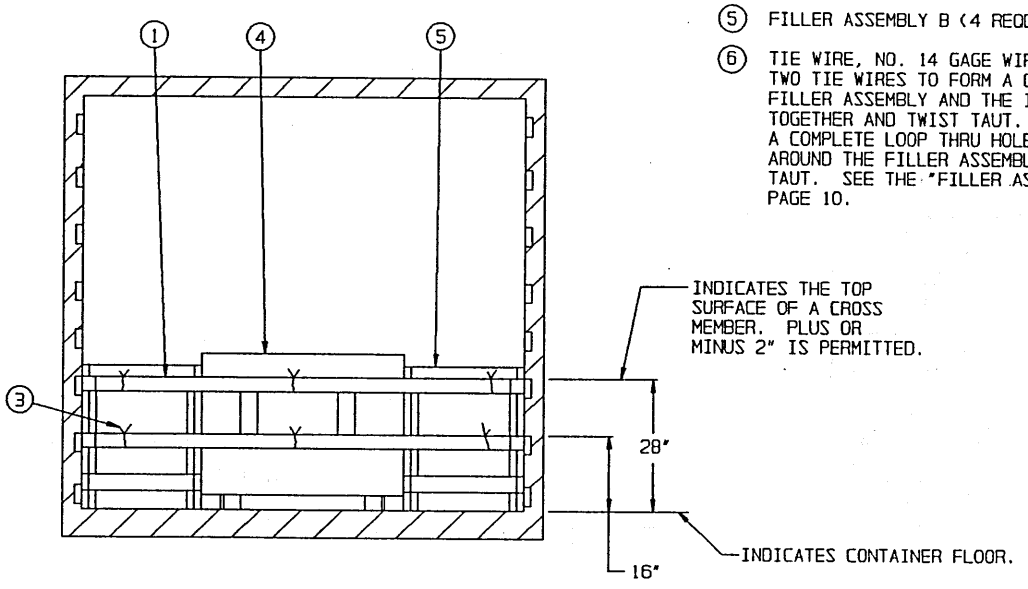
TWO-CONTAINER LOAD



ISOMETRIC VIEW

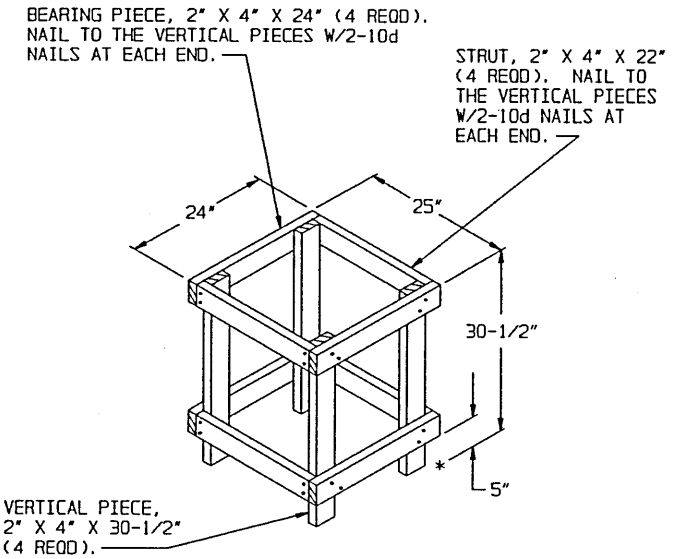
KEY NUMBERS

1. CROSS MEMBER (8 REQD). POSITION AT THE HEIGHTS SPECIFIED IN THE "SECTION D-D" VIEW. SEE THE "FILL DETAIL" ON PAGE 7.
2. FILL MATERIAL, 1-3/8" X 3-1/2" BY INSIDE CONTAINER WIDTH MINUS 1" (4 REQD). SEE THE "FILL MATERIAL INSTALLATION" DETAIL ON PAGE 7.
3. TIE WIRE, NO. 14 GAGE WIRE 24" LONG (12 REQD). SEE THE "FILL MATERIAL INSTALLATION" DETAIL ON PAGE 7.
4. END GATE B (2 LOWER REQD). SEE THE DETAIL ON PAGE 11.
5. FILLER ASSEMBLY B (4 REQD). SEE THE DETAIL ON PAGE 15.
6. TIE WIRE, NO. 14 GAGE WIRE 24" LONG (16 REQD). INSTALL TWO TIE WIRES TO FORM A COMPLETE LOOP AROUND ONE END OF A FILLER ASSEMBLY AND THE ITEM FRAME AS SHOWN, BRING ENDS TOGETHER AND TWIST TAUT. INSTALL TWO TIE WIRES TO FORM A COMPLETE LOOP THRU HOLES IN THE 28" HIGH BELT RAIL AND AROUND THE FILLER ASSEMBLY, BRING ENDS TOGETHER AND TWIST TAUT. SEE THE "FILLER ASSEMBLY SEVUREMENT" DETAIL ON PAGE 10.



SECTION D-D

ONE-CONTAINER LOAD



FILLER ASSEMBLY B

SPECIAL NOTES:

1. THE LOAD AS SHOWN ON PAGE 14 DEPICTS A ONE CONTAINER LOAD IN A MILVAN CONTAINER.
2. TO AID IN THE LOADING OF ONE MLRS LP/C INTO THE MILVAN, THE "FILLER ASSEMBLIES B" WILL NOT BE PLACED IN OR WIRE TIED TO THE MILVAN CONTAINER UNTIL THE ONE MLRS LP/C IS PLACED INTO POSITION AND THE ROLLER ASSEMBLY IS REMOVED.

BILL OF MATERIAL		
LUMBER	LINEAR FEET	BOARD FEET
2" X 4" 2" X 6" 4" X 4"	144 19 3	96 19 4
NAILS	NO. REQD	POUNDS
10d (3") 12d (3-1/4")	180 16	3 1/2
WIRE, NO. 14 GAGE - - - - 56' REQD - - - - - -		1 LB
PLYWOOD, 3/4" - - - - - - - 15 SQ FT REQD - -		31 LBS
CROSS MEMBER - - - - - - - - - - - - - - - - - -		8 REQD

LOAD AS SHOWN

ITEM	QUANTITY	WEIGHT (APPROX)
MLRS RP/C	1	5,078 LBS
DUNNAGE		274 LBS
CONTAINER		5,700 LBS
TOTAL WEIGHT		11,052 LBS (APPROX)

ONE-CONTAINER LOAD