APPROVED BY	APPROVED BY
U.S. COAST GUARD NOTE: THIS ITEM IS NOT AN "EXPLOSIVE OR HAZARDOUS MUNITION" AND IS NOT REGULATED BY PART 146 OF TITLE 46 CFR. TRANSPORT BY WATER CARRIER DOES NOT REQUIRE SPECIFIC COAST GUARD APPROVAL.	BUREAU OF EXPLOSIVES A. F. Grossmuck SUPERVISOR, MILITARY & INTERMODAL SERVICES DATE 1/24/74

BATS

LOADING AND BRACING◑ IN MILVAN CONTAINERS⊕ OF THE MAIN ASSEMBLAGE● PACKED ONE PER SHIPPING CONTAINER

◑ 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 "L" 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.

● THE OUTLOADING PROCEDURES SPECIFIED WITHIN THIS DRAWING ARE ONLY APPLICABLE TO ITEMS WHICH ARE EMPTY. NOTICE: THE ITEM PACKAGING AND THE SPECIFIED LOADING AND BRACING PROCEDURES WILL NOT BE USED FOR SHIPPING ITEMS CONTAINING EXPLOSIVES.

DO NOT SCALE

REVISIONS			

DRAFTSMAN Kaec	PROJ ENG GNP		J.P.A
CHECKER RSH	LOG ENGRG OFFICE		

APPROVED
Wesley E. Gilleland
U. S. ARMY MISSILE COMMAND

APPROVED BY ORDER OF COMMANDING GENERAL, U. S. ARMY MATERIEL COMMAND
A. J. Ehringer
USAMC AMMO CENTER

U.S. ARMY MATERIEL COMMAND

MARCH 1974

CLASS	DIVISION	DRAWING	FILE
19	48	5943	GM 15TD1

PROJECT GM 666-73

GENERAL NOTES

A. THIS DOCUMENT HAS BEEN PREPARED AND ISSUED IN ACCORDANCE WITH AMCR 740-13, AND AUGMENTS TM 743-200-1 (CHAPTER 5).

B. THE OUTLOADING PROCEDURES SPECIFIED HEREIN ARE APPLICABLE TO THE (BATS) BALLISTIC AERIAL TARGET SYSTEM, MAIN ASSEMBLAGE, PACKED ONE PER SHIPPING CONTAINER. SUBSEQUENT REFERENCE TO CONTAINER MEANS THE SHIPPING CONTAINER WITH CONTENTS.

C. FOR DETAILS OF THE SHIPPING CONTAINER, SEE DRAWING NO. 10286400 AND "SHIPPING CONTAINER" DETAIL ON PAGE 3.

CONTAINER DIMENSIONS --- 210" LONG BY 18" WIDE BY 18" HIGH.
GROSS WEIGHT ---------- 250 POUNDS (APPROX).
CUBE ---------- 39.4 CUBIC FEET

D. THE LOAD AS SHOWN ON PAGE 4 IS 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 LOAD IS DESIGNED FOR TRAILER/CONTAINER-ON-FLAT-CAR SERVICE.

E. 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 5 FOR THE DUNNAGING METHOD REQUIRED TO ELIMINATE AN EXCESSIVE LENGTHWISE VOID WITHIN A LOAD. 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 FSN 8115-165-6623.

F. DUNNAGE LUMBER SPECIFIED IS OF A NOMINAL SIZE. FOR EXAMPLE, 1" X 4" MATERIAL IS ACTUALLY 3/4" THICK BY 3-1/2" OR 3-5/8" WIDE AND 2" X 6" MATERIAL IS ACTUALLY 1-1/2" THICK BY 5-1/2" WIDE OR 1-5/8" THICK BY 5-5/8" WIDE.

G. CAUTION: DO NOT NAIL DUNNAGE MATERIAL TO THE CONTAINER WALLS OR FLOOR. ALL NAILING WILL BE WITHIN THE DUNNAGE.

H. 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.

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

K. MAXIMUM LOAD WEIGHT CRITERIA:

BECAUSE OF THE LIGHT WEIGHT OF THIS ITEM, A LOAD WEIGHT WILL NEVER EXCEED ANY WEIGHT RESTRICTION CRITERIA.

SEE SPECIAL NOTE SECTION OPPOSITE THE BASIC LOAD FOR INSTRUCTIONS WHICH MUST BE APPLIED IF A CONTAINER IS TO BE LOADED WITH LESS UNITS THAN SHOWN IN THE BASIC LOAD ON PAGE 4.

(GENERAL NOTES CONTINUED AT RIGHT)

(GENERAL NOTES CONTINUED)

L. SPECIAL T/COFC NOTES:

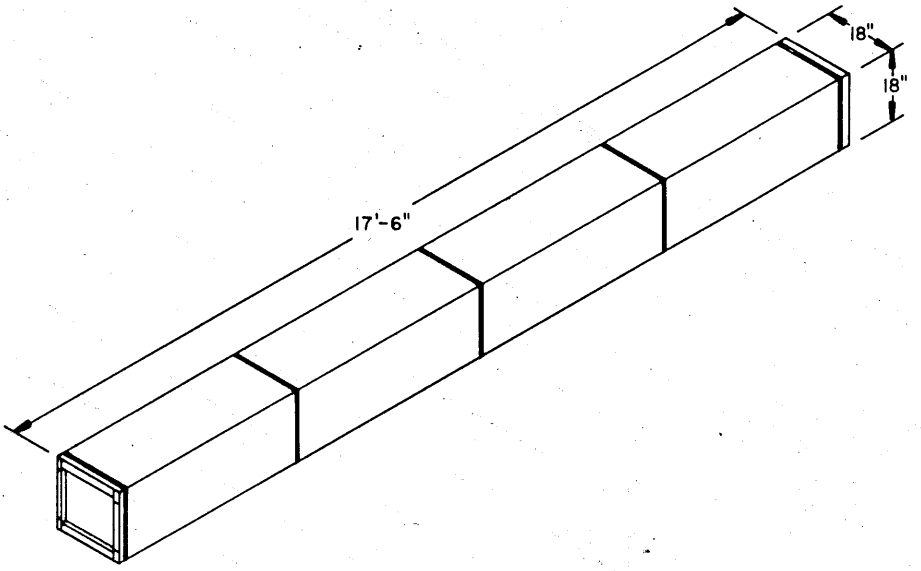
1. CAUTION: LOADED CONTAINERS MUST BE ON CHASSIS EQUIPPED WITH TWO BOGIE ASSEMBLIES WHEN BEING MOVED IN TOFC SERVICE, REGARDLESS OF LOAD WEIGHT WITHIN THE CONTAINERS.

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.

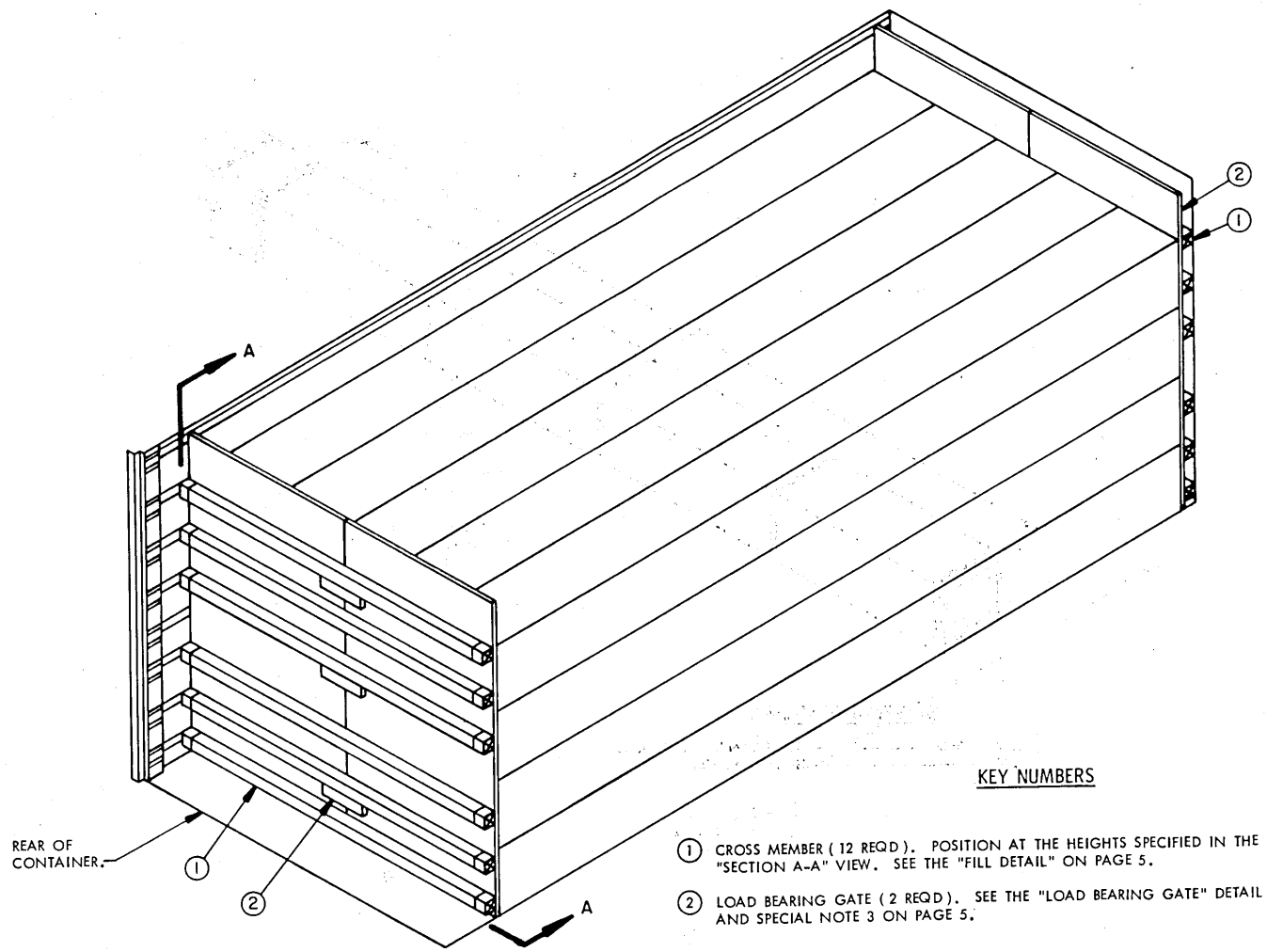
MATERIAL SPECIFICATIONS

LUMBER --------:	SEE TM 743-200-1, DUNNAGE LUMBER, FED SPEC MM-L-751.
NAILS ---------:	COMMON, CEMENT COATED OR CHEMICALLY ETCHED; FED SPEC FF-N-105. ALT: ANNULAR-RING TYPE NAIL OF SAME SIZE.
PLYWOOD------:	GROUP B OR C, GRADE C-D (EXTERIOR): FED SPEC NN-P-530 IF SPECIFIED GRADE IS NOT AVAILABLE, A BETTER EXTERIOR GRADE MAY BE SUBSTITUTED.
WIRE ----------:	FED SPEC QQ-W-461



SHIPPING CONTAINER

GROSS WEIGHT ---------- 250 POUNDS (APPROX).
CUBE ---------- 39.4 CUBIC FEET.

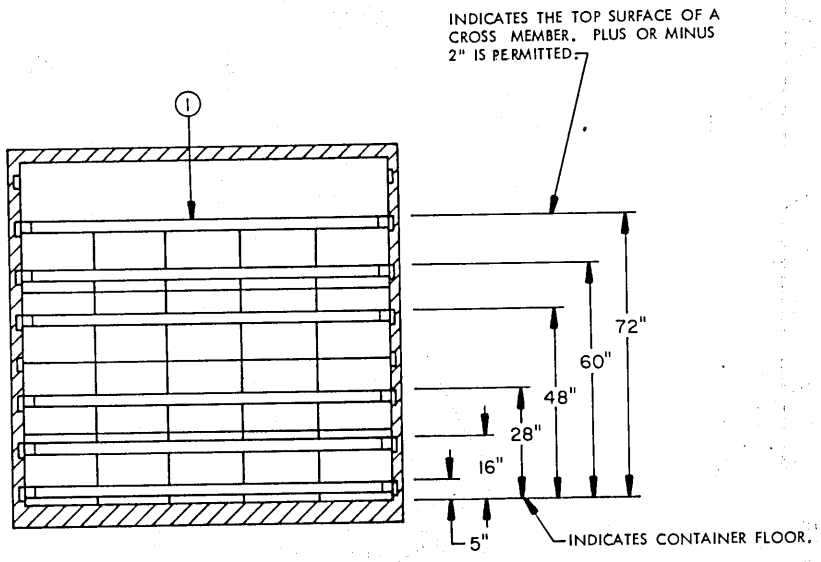


ISOMETRIC VIEW

KEY NUMBERS

(1) CROSS MEMBER (12 REQD). POSITION AT THE HEIGHTS SPECIFIED IN THE "SECTION A-A" VIEW. SEE THE "FILL DETAIL" ON PAGE 5.

(2) LOAD BEARING GATE (2 REQD). SEE THE "LOAD BEARING GATE" DETAIL AND SPECIAL NOTE 3 ON PAGE 5.

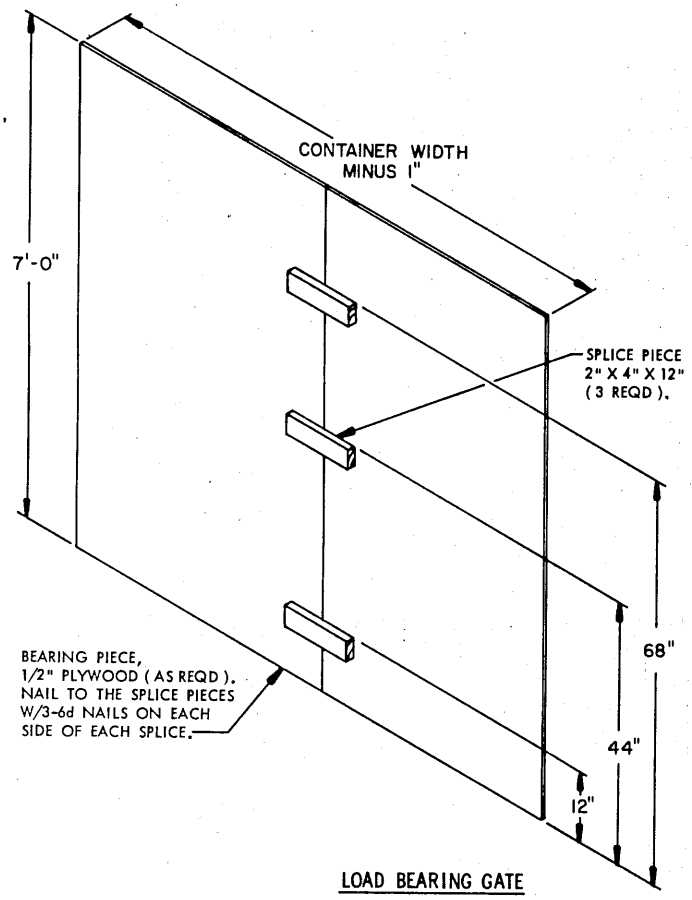


SECTION A-A

LOAD BEARING GATE, PIECE MARKED (2), HAS BEEN OMITTED FOR CLARITY PURPOSES.

SPECIAL NOTES:

1. THE LOAD AS SHOWN ON PAGE 4 DEPICTS A 20-CONTAINER LOAD IN A MILVAN CONTAINER.
2. IF A 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 ASSEMBLY MUST BE USED IN THE TOP LAYER ONLY.
3. IF 1/2" PLYWOOD IS NOT AVAILABLE, DIMENSIONAL LUMBER MAY BE USED IN LIEU OF THE PLYWOOD. SEE THE "ALTERNATIVE LOAD BEARING GATE" DETAIL ON PAGE 6.



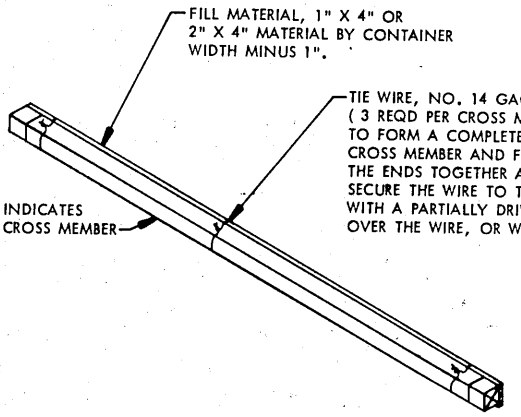
LOAD BEARING GATE

SEE SPECIAL NOTE 3 ABOVE.

BILL OF MATERIAL		
LUMBER	LINEAR FEET	BOARD FEET
2" X 4"	6	4
NAILS	NO. REQD	POUNDS
6d	36	NIL
PLYWOOD, 1/2" ---------- 105 SQ FT REQD ---------- 144 LBS		
CROSS MEMBERS ---------- 12 REQD		

NOTE ●:

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



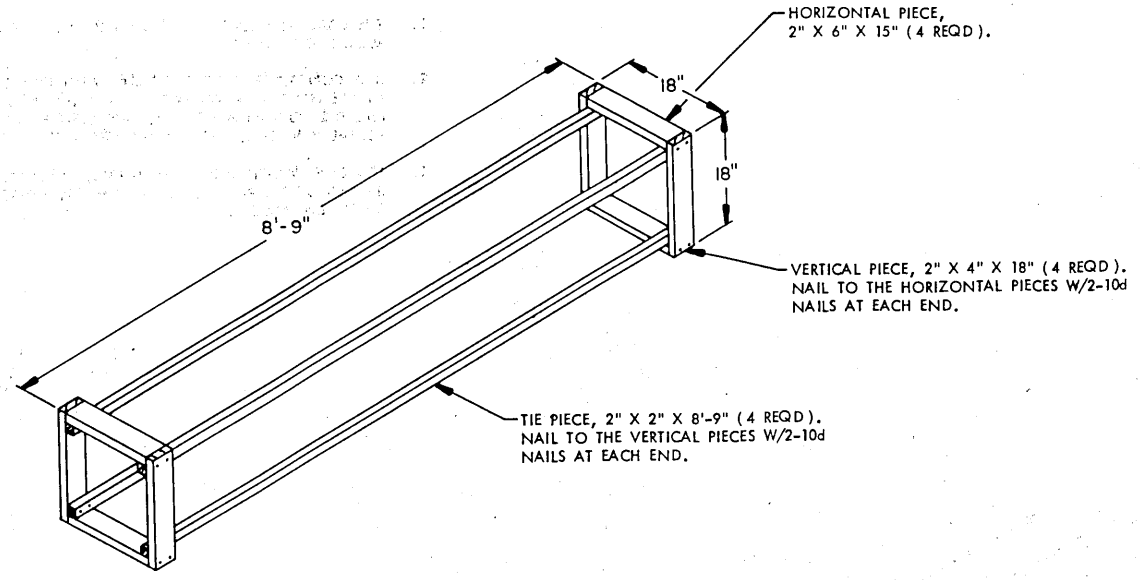
FILL DETAIL

SEE "NOTE ●" ABOVE

LOAD AS SHOWN

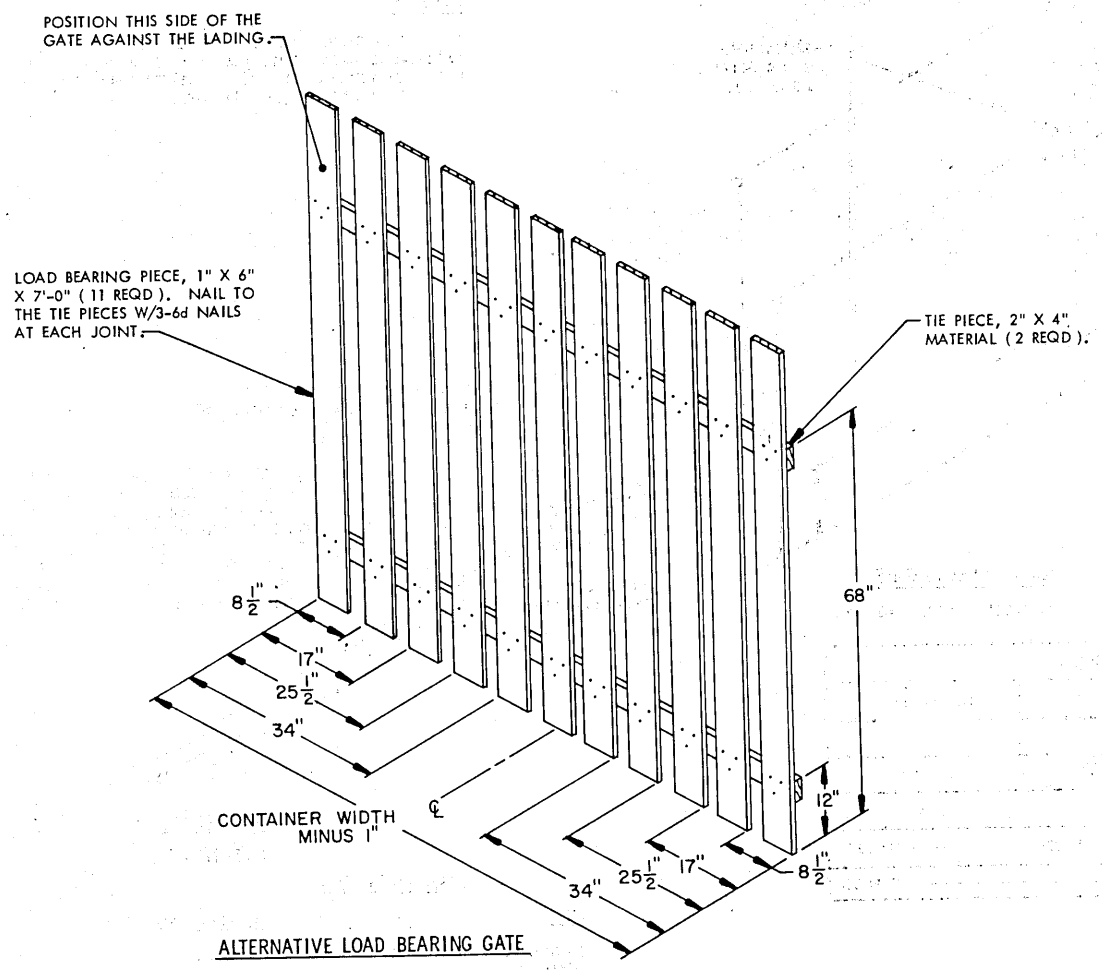
ITEM	QUANTITY	WEIGHT (APPROX)
SHIPPING CONTAINER	20	5,000 LBS
DUNNAGE		154 LBS
CONTAINER		5,700 LBS

TOTAL GROSS WEIGHT-- 10,854 LBS



FILLER ASSEMBLY

SEE SPECIAL NOTE 2 ON PAGE 5.
(2 REQD/OMITTED CONTAINER)



ALTERNATIVE LOAD BEARING GATE

SEE SPECIAL NOTE 3 ON PAGE 5.