

INTERIM PROCEDURES

LOADING AND BRACING WITH WOODEN DUNNAGE IN COMMERCIAL CONTAINERS OF PALLETIZED UNITS OF FUZE, POINT DETONATING, M557 SERIES (36-BOX PALLET UNIT)

THE INTERIM LOADING AND BRACING PROCEDURES SPECIFIED BY THIS DRAWING ARE ONLY APPLICABLE FOR USE ONE TIME, UNLESS OTHERWISE DIRECTED, IN SUPPORT OF A TRIAL SHIPMENT PROGRAM. APPROVAL OF THIS DRAWING, AS REFLECTED HEREON, IS BASED ON THE CONSTRAINTS SET FORTH IMMEDIATELY ABOVE.

THE DEPICTED WOODEN DUNNAGE METHOD CAN BE APPLIED TO ANY COMMERCIAL INTERMODAL 20-FOOT CONTAINER, ALTHOUGH THE DUNNAGE DIMENSIONS HAVE BEEN GIVEN FOR A 92" WIDE BY 95"* HIGH (INSIDE DIMENSIONS) CONTAINER. SEE SPECIAL NOTE 1 ON PAGE 7.

LOADING AND BRACING SPECIFICATIONS AS DELINEATED HEREIN ARE ADEQUATE FOR SHIPMENTS TO BE MOVED BY ANY SURFACE MODE OF TRANSPORT (MOTOR, RAIL, AND WATER).

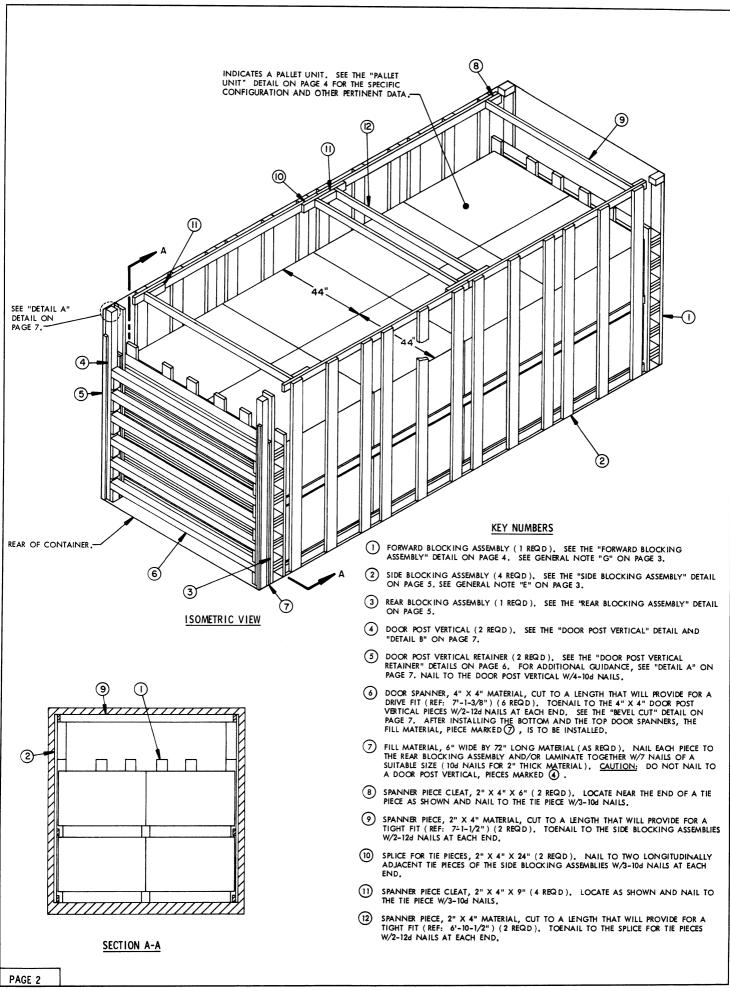
REQUIREMENTS CITED WITHIN THE BUREAU OF EXPLOSIVES PAMPHLET 6C APPLY WHEN THE SHIPMENT MOVES BY TRAILER/CONTAINER-ON-FLATCAR (T/COFC). SPECIAL T/COFC NOTES FOLLOW.

- A. A LOADED CONTAINER MUST BE ON A CHASSIS EQUIPPED WITH TWO BOGIE ASSEMBLIES WHEN BEING MOVED IN TOFC SERVICE.
- B. THE LOAD LIMIT OF A T/COFC RAIL CAR 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

DURING INTRASTATE AND/OR INTERSTATE MOVES BY MOTOR CARRIER, A PROPER CHASSIS/MODIFIED FLAT BED TRAILER MUST BE USED TO RECLULDE VIOLATION OF ONE OR MORE "WEIGHT LAWS" APPLICABLE TO THE STATE OR STATES INVOLVED.

* NOTICE: ALTHOUGH THE LOAD AS SHOWN IS BASED ON A 8'-6" HIGH CONTAINER, AN 8'-0" HIGH CONTAINER IS PREFERRED FOR SHIPPING THE DEPICTED LOAD. WHEN AN 8'-0" HIGH CONTAINER IS USED, THE HEIGHT OF SOME DUNNAGE ASSEMBLIES WILL HAVE TO BE LOWERED BY REMOVING SOME MATERIAL FROM THE TOP OF THE VERTICAL PIECES.

		REVIS	SIONS	CHOLER LOS BARGE OFFICE			
	JUN 77	9/1/2	8.C. Zetter	APPROVED, U. S. ARMY ARMAMENT MATERIEL READINESS COMMAND			
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				APPROVED BY ORDER OF COMMANDING GENERAL, U. S. ARMY MATERIEL DEVELOPMENT AND READINESS COMMAND (DARCOM)			
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(GENERAL NOTES CONTINUED)

- M. RECOMMENDED SEQUENTIAL LOADING PROCEDURES:
 - PREFABRICATE ONE FORWARD BLOCKING ASSEMBLY, FOUR SIDE BLOCKING ASSEMBLIES, ONE REAR BLOCKING ASSEMBLY, AND TWO DOOR POST VERTICAL RETAINER ASSEMBLIES WITH THE VERTICALS NAILED TO THEM. ONE RIGHT HAND AND ONE LEFT HAND ASSEMBLY REQUIRED.
 - 2. INSTALL THE FORWARD BLOCKING ASSEMBLY AND TWO SIDE BLOCKING
 - 3. LOAD EIGHT PALLET UNITS (2 LONG BY 2 WIDE BY 2 HIGH).
 - 4. INSTALL THE TWO REMAINING SIDE BLOCKING ASSEMBLIES.
 - 5. LOAD THE REMAINING EIGHT PALLETS UNITS (2 LONG BY 2 WIDE BY 2 HIGH).
 - 6. INSTALL THE REAR BLOCKING ASSEMBLY.
 - INSTALL THE TWO DOOR POST VERTICAL ASSEMBLIES (ONE RIGHT HAND AND ONE LEFT HAND) WITH VERTICALS.
 - 8. INSTALL TWO DOOR SPANNER PIECES (ONE AT LOWEST POSITION AND ONE AT THE UPPERMOST POSITION).
 - 9. INSTALL THE SOLID FILL TYPE LOAD-BLOCKING MATERIAL.
 - 10. INSTALL THE TWO SPLICE PIECES FOR THE TIE PIECES, THE SIX SPANNER PIECE CLEATS, AND THE FOUR SPANNER PIECES. SEE "** NOTE BELOW.
 - 11. INSTALL THE REMAINING FOUR DOOR SPANNER PIECES STARTING WITH THE LOWEST AND WORKING UPWARD TO THE HIGHEST,
 - # IF DESIRED, PIECES MARKED (2), AND (8) THRU (12) MAY BE INSTALLED PRIOR TO LOADING A CONTAINER.

REVISIONS

REVISION NO. 1, DATED JUNE 1977, CONSISTS OF:

- 1. PROVISIONS FOR ALTERNATIVE SIDE FILL GATE.
- 2. PROVISIONS FOR ALTERNATIVE FORWARD/REAR BLOCKING ASSEMBLIES.

BILL OF MATERIAL								
LUMBER	LINEAR FEET	BOARD FEET						
1" X 6" 2" X 4" 2" X 6" 4" X 4"	12 140 580 57	6 94 580 76						
NAILS	NO. REQD	POUNDS						
6d (2") 10d (3") 12d (3-1/4")	14 748 40	NIL 11-1/2 3/4						
DOOR POST VERTICAL	RETAINER 2 REG	QD 64 LBS						

MATERIAL SPECIFICATIONS

LUMBER ----: SEE TM 743-200-1, DUNNA GE LUMBER. FED SPEC MM-L-751.

NAILS --- : COMMON, CEMENT COATED, OR CHEMICALLY ETCHED; FED SPEC FF-N-105.

ALT: ANNULAR-RING TYPE NAIL OF THE SAME SIZE.

STEEL, STRUCTURAL -: SQUARE STRUCTURAL TUBING, AND ROLLED PLATE;

FED SPEC QQ-S-741.

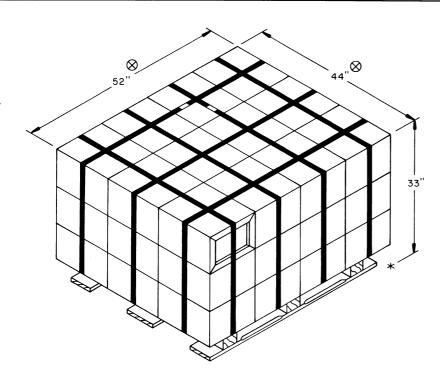
GENERAL NOTES

- A. THIS DOCUMENT HAS BEEN PREPARED AND ISSUED IN ACCORDANCE WITH AR 740-1 AND AUGMENTS TM 743-200-1 (CHAPTER 5).
- THIS DOCUMENT HAS BEEN PREPARED AND ISSUED TO SUPPORT A TRIAL SHIPMENT PROGRAM. THE DELINEATED OUTLOADING PROCEDURES SPECIFY A "WOODEN DUNNAGE" METHOD OF BLOCKING AMMUNITION IN COMMERCIAL INTERMODAL CONTAINERS
- C. THE SPECIFIED OUTLOADING PROCEDURES ARE APPLICABLE TO THE THIRTY-SIX BOX PALLET UNIT OF FUZE, POINT DETONATION, PACKED IN WIREBOUND BOXES, SUBSEQUENT REFERENCE TO PALLET UNIT MEANS THE PALLET WITH AMMUNITION ITEMS. SEE PAGE 4 AND US ARMY MATERIEL COMMAND DRAWING NO. 19-48-4020-1-2-5-11PA1000 FOR DETAIL OF PALLET UNIT. CAUTION: REGARDLESS OF THE QUANTITY OF UNITS TO BE SHIPPED, THE "MAXIMUM CROSS WEIGHT" OF 44,800 POINTS MUST AND THE PERSON OF THE SHIPPED. POUNDS MUST NOT BE EXCEEDED.
- D. THE LOAD AS SHOWN IS BASED ON A 4,700 POUND 201 LONG BY 81 WIDE X 81-6" HIGH INTERMODAL COMMERCIAL CONTAINER WITH INSIDE DIMENSIONS OF 191-4" LONG BY 92" WIDE BY 95" HIGH. THE LOAD IS DESIGNED FOR TRAILER/CONTAINER-ON-FLATCAR (T/COFC) SHIPMENT, HOWEVER, THE LOAD AS DESIGNED CAN ALSO BE MOVED BY OTHER SURFACE MODES OF TRANSPORT. SEE SPECIAL NOTE 1 ON PAGE 7. NOTICE: OTHER CONTAINERS OF THE SAME CONTIGURATION DESIGN CAN BE USED; HOWEVER, A 20-FOOT CONTAINER THAT IS HEAVIER THAN 9,610 POUNDS CANNOT BE USED BECAUSE THE RESULTANT GROSS WEIGHT WOULD EXCEED THE PERMITTED MAXIMUM OF 44,800 POUNDS.
- E. WHEN LOADING PALLET UNITS, THEY ARE TO BE POSITIONED SO AS TO ACHIEVE A TIGHT LOAD (TIGHT A GAINST FORWARD AND SIDE DUNNAGE ASSEMBLIES). ALTHOUGH A TOTAL OF ONE AND ONE-HALF INCHES (1-1/2") OF UNBLOCKED SPACE ACROSS THE WIDTH OF A LOAD BAY IS PERMITTED, LATERAL VOIDS WITHIN THE LOAD ARE TO BE HELD TO THE MINIMUM. EXCESSIVE SLACK CAN BE ELIMINATED FROM A LOAD BY LAMINATING ADDITIONAL PIECES OF APPROPRIATE THICKNESS TO THE VERTICAL PIECES ON A SIDE BLOCKING ASSEMBLY, NAIL EACH ADDITIONAL PIECE TO THE VERTICAL PIECE W/1 APPROPRIATELY SIZED NAIL EVERY 12". SEE SPECIAL NOTE ON PAGE 8.
- DUNNAGE LUMBER SPECIFIED IS OF A NOMINAL SIZE. FOR EXAMPLE, 1" X 6" MATERIAL IS ACTUALLY 3/4" THICK BY 5-1/2" WIDE AND 2" X 4" MATERIAL IS ACTUALLY 1-1/2" THICK BY 3-1/2" WIDE.
- G. 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.
- H. IN SOME CONTAINERS, SUCH AS SOME ALL STEEL CONTAINERS, THERE IS A SLOT AT THE CORNER OF THE FORWARD WALL. A PIECE OF DUNNAGE MATERIAL MUST BE LAMINATED TO THE BUFFER PIECES ON THE FORWARD BLOCKING ASSEMBLY TO PROVIDE A FLAT SUFFACE FOR THE 2" X 6" BUFFER PIECES. A PIECE OF 2" X 4", 2" X 3", OR A SPECIAL WIDTH PIECE CUT TO FIT CAN BE USED. THIS FILL PIECE WILL BE NAILED WITH ONE APPROPRIATELY SIZED NAIL EVERY 12". THIS PIECE IS NOT REQUIRED WHEN THE FRONT WALL OF THE CONTAINER IS SMOOTH AND FLAT.
- J. CAUTION: DO NOT NAIL DUNNAGE MATERIAL TO THE CONTAINER WALLS OR FLOOR. ALL NAILING WILL BE WITHIN THE DUNNAGE.
- K. 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.
- L. TO MAKE LOADING EASIER, TO HELP ACHIEVE A TIGHT LOAD ACROSS A CONTAINER AND TO PREVENT UNACCEPTABLE DAMAGE TO LADING UNITS WHEN LOADING A CONTAINER, A SLIP-SHEET CAN BE USED EFFECTIVELY AS A "SHOEHORN" TYPE CONTAINER, A SLIP-SHEET CAN BE USED EFFECTIVELY AS A "SHOEHORN" TYPE DEVICE, THE SLIP-SHEET WILL PROVIDE A SMOOTH SURFACE THAT WILL PREVENT UNIT STRAPS AND/OR BOX CLEATS FROM INTERLOCKING OR CATCHING ON OTHER PROJECTIONS WHEN LATERALLY ADJACENT LADING UNITS ARE BEING LOADED. A SLIP-SHEET WILL BE USED AFTER ONE-HALF OF A STACK IS LOADED WITH ONE OF ITS SIDES IN TIGHT CONTACT AT ONE SIDE OF THE CONTAINER. THE SLIP-SHEET IS TO BE PLACED AGAINST THE OTHER SIDE OF THE HALF-STACK BEFORE THE LAST HALF OF THE STACK IS LOADED. A FITER A STACK IS COMPLETED, THE SLIP-SHEET IS TO BE REMOVED FOR SUBSEQUENT USE WITH THE NEXT STACK, A SLIP-SHEET OF SUITABLE SIZE CAN BE MADE FROM A SHEET OF 1/8" TEMPERED HARDBOARD (MASONITE) OR FROM A SHEET OF ANY OTHER MATERIAL THAT WILL SATISFY THE REQUIREMENT) REQUIREMENT.

(CONTINUED AT LEFT)

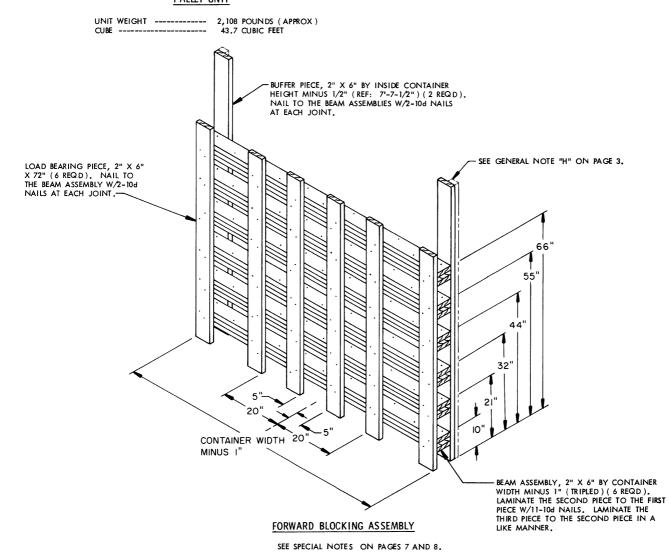
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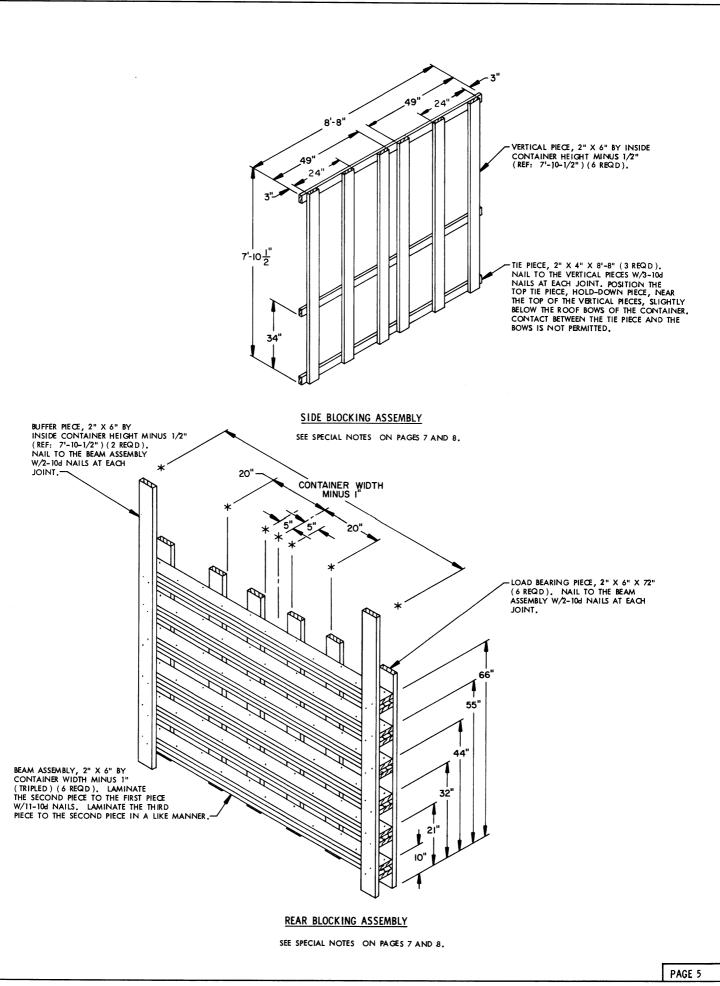
<u>ITEM</u>	QUANTITY	WE	WEIGHT (APPROX)		
	16				
DUNNAGE -		- 1,589	LBS		
CONTAINER		- 4,700	LBS		
TOTAL G	ROSS WEIGHT	- 40,017	LBS		

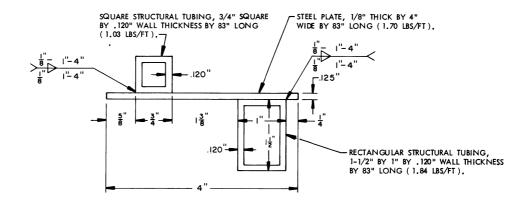


SEE "ECAL NO. ON PAGE 8.

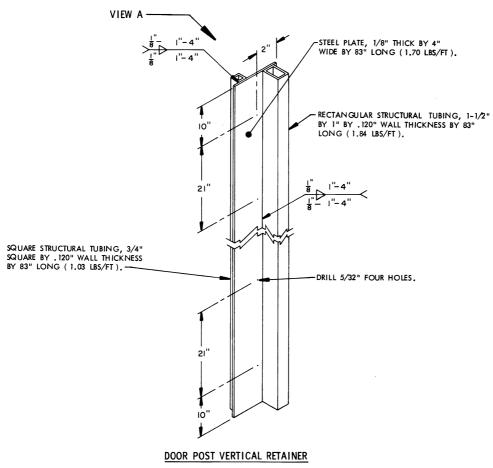
PALLET UNIT



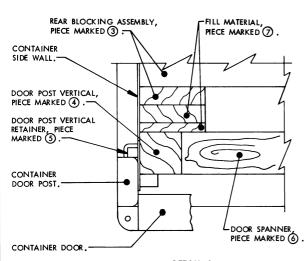




VIEW A

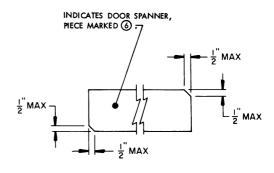


(2 ASSEMBLIES REQD)



DETAIL A

A PARTIAL PLAN VIEW OF THE LEFT REAR PORTION OF THE CONTAINER IS SHOWN DEPICTING THE PROPER POSITION OF THE DOOR POST VERTICAL AND ADJACENT DUNNAGE PIECES.



BEVEL-CUT

IF DESIRED, EACH END OF A DOOR SPANNER PIECE MAY BE BEVEL-CUT AS SHOWN ABOVE TO FACILITATE THE ACHIEVEMENT OF A TIGHT DOOR POST TO DOOR POST FIT.

SPECIAL NOTE:

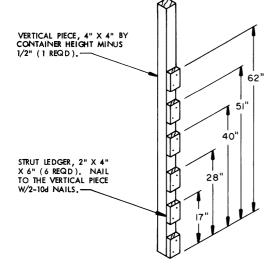
 THE DUNNAGE ASSEMBLIES DETAILED HEREIN HAVE BEEN DIMENSIONED FOR A CONTAINER WITH AN INSIDE HEIGHT OF 95". WHEN THE INSIDE HEIGHT IS GREATER OR LESS THAN 95", THE DUNNAGE ASSEMBLIES MUST BE ADJUSTED AS REQUIRED, TO PROVIDE FOR PROPER HOLD DOWN.

ONE WAY TO FACILITATE LOADING OPERATIONS IS TO PARTIALLY FABRICATE THE DUNNAGE ASSEMBLIES, AND COMPLETE THE FABRICATION AT THE LOADING SITE.

FABRICATE THE FORWARD BLOCKING ASSEMBLY WITHOUT THE 2" X 6" BUFFER PIECES. AFTER THE INSIDE HEIGHT OF THE CONTAINER IS ESTABLISHED, UNDER THE CONTAINER LIFTING BLOCKS, THE BUFFER PIECES CAN BE CUT TO FIT AND NAILED TO THE BEAM ASSEMBLIES AT THE LOADING SITE.

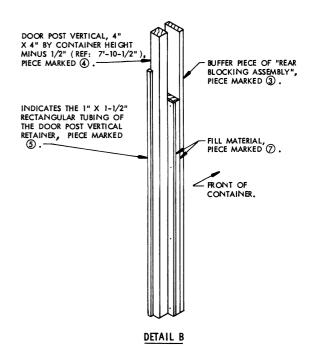
THE SAME PROCEDURE CAN BE FOLLOWED FOR THE REAR BLOCKING ASSEMBLY AFTER THE INSIDE CONTAINER HEIGHT IS ESTABLISHED.

THE SIDE FILL GATES CAN BE PARTIALLY FABRICATED WITH 8'-0" VERTICAL PIECES WITHOUT THE HOLD DOWN PIECE ATTACHED. THE VERTICAL PIECES CAN THEN BE CUT TO FIT, AND THE HOLD DOWN PIECE NAILED TO THE 2" X 6" VERTICALS AT THE LOADING SITE.



DOOR POST VERTICAL

THE STRUT LEDGERS CAN ONLY BE PRE-NAILED TO THE DOOR POST VERTICAL ON ONE SIDE OF THE CONTAINER, THE STRUT LEDGERS ON THE OTHER SIDE ARE TO BE NAILED AFTER A LOWER DOOR SPANNER IS INSTALLED.



DOOR SPANNERS AND STRUTS HAVE BEEN OMITTED FOR CLARITY PURPOSES.

SPECIAL NOTE:

1. VARIANCE IN PALLET UNIT DIMENSIONS WILL NECESSITATE ADJUSTMENTS IN DUNNAGE ASSEMBLIES, SUCH AS WHEN THE UNIT LENGTH IS LESS THAN 44", REFER TO GENERAL NOTE "E" ON PAGE 3. IF THE PALLET UNIT LENGTH IS GREATER THAN 44", IT WILL BE NECESSARY TO USE 1" X 6" VERTICAL PIECES ON THE SIDE BLOCKING ASSEMBLIES IN LIEU OF THE 2" X 6" VERTICALS, AS DEPICTED ON PAGE 5, ON ONE OR BOTH SIDES OF THE CONTAINER.

WHEN THE UNIT WIDTH IS LESS THAN 52", THE FILL MATERIAL, PIECE MARKED \bigcirc ON PAGE 2, MUST BE INCREASED TO PROVIDE A TIGHT FIT BETWEEN THE REAR BLOCKING ASSEMBLY AND THE DOOR POST VERTICAL. IF THE UNIT WIDTH IS CREATER THAN 52" IT WILL BE NECESSARY TO USE THE ALTERNATIVE FORWARD/REAR BLOCKING ASSEMBLY AS DEPICTED BELOW, IN LIEU OF THE FORWARD BLOCKING ASSEMBLY AND/OR THE REAR BLOCKING ASSEMBLY, AS DEPICTED ON PAGES 4 AND 5.

