

# LOADING AND BRACING<sup>⊕</sup> IN END OPENING ISO CONTAINERS OF CHARGE, DEMOLITION, LINEAR, HE, M58A3/A4 AND PRACTICE, M68A2, IN METAL SHIPPING AND STORAGE CONTAINER, USING TY-GARD RE- STRAINT MATERIAL

## INDEX

ITEM	PAGE(S)
TYPICAL LOADING PROCEDURES - - - - -	2
GENERAL NOTES AND MATERIAL SPECIFICATIONS - - - - -	3
CONTAINER DETAIL - - - - -	4
DETAILS - - - - -	5-6
LESS-THAN-FULL-LOAD PROCEDURES - - - - -	7

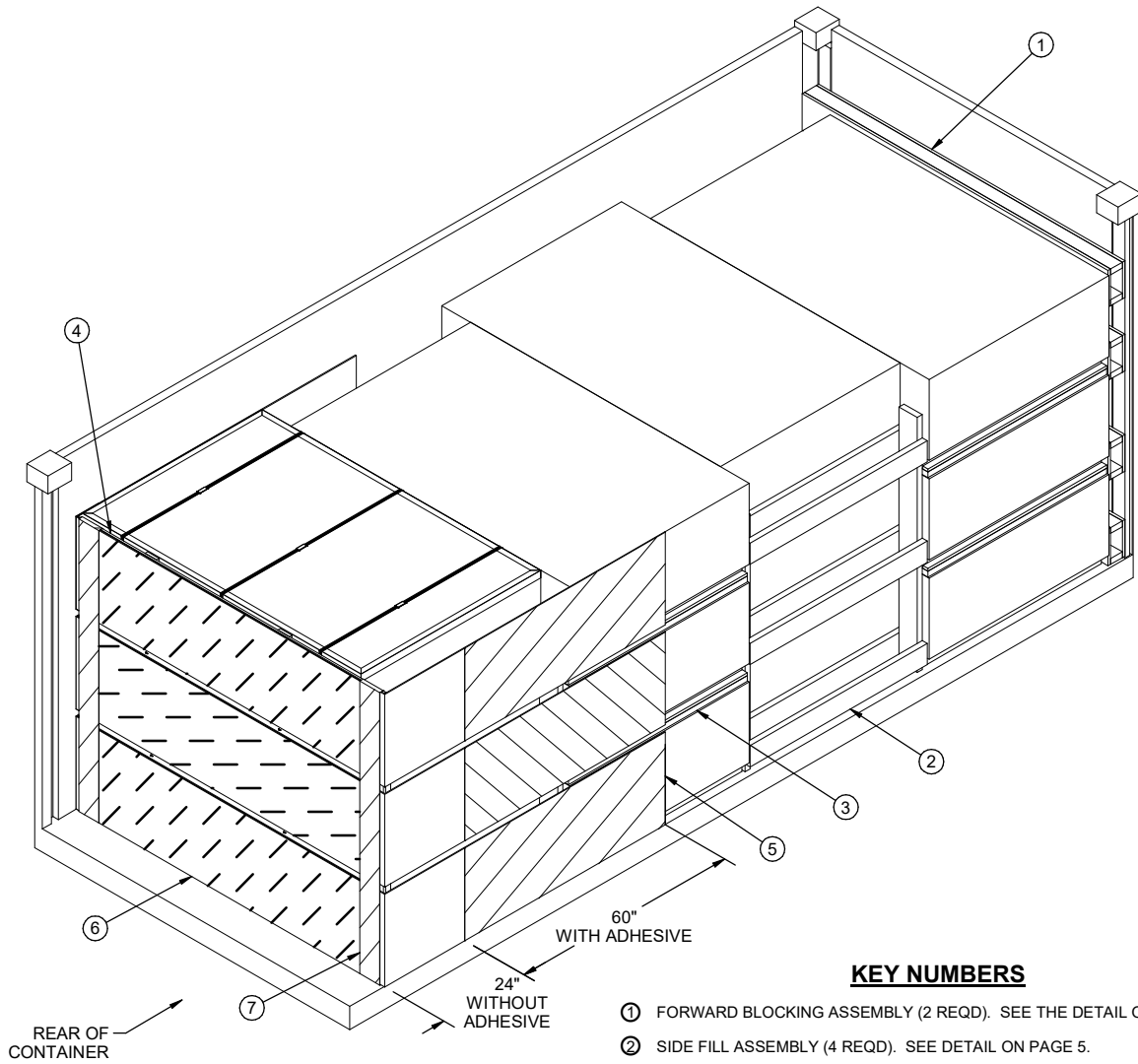
**DISTRIBUTION STATEMENT A:**

APPROVED FOR PUBLIC RELEASE  
DISTRIBUTION IS UNLIMITED.

® THE PROCEDURES SHOWN HEREIN ARE APPLICABLE TO LOADS THAT ARE TO  
BE SHIPPED BY TRAILER/CONTAINER-ON-FLATCAR (T/COFC) RAIL, MOTOR, OR  
WATER CARRIERS.

## U.S. ARMY MATERIEL COMMAND DRAWING

APPROVED, U.S. ARMY JOINT MUNITIONS COMMAND		<b>CAUTION: VERIFY PRIOR TO USE AT <a href="https://www.dau.edu/cop/ammo/Pages/Default.aspx">https://www.dau.edu/cop/ammo/Pages/Default.aspx</a> THAT THIS IS THE MOST CURRENT VERSION OF THIS DOCUMENT. THIS IS PAGE 1 OF 8.</b>			
WARD.GINA. M.1369379808	Digitally signed by WARD.GINA.M.1369379808 Date: 2022.10.21 10:10:31 -05'00'	<b>DO NOT SCALE</b>		<b>OCTOBER 2022</b>	
	ENGINEER OR TECHNICIAN	BASIC REV.	SPENCER HOVEY		
APPROVED BY ORDER OF COMMANDING GENERAL, U.S. ARMY MATERIEL COMMAND	ENGINEERING DIVISON	FIEFFER.LAUR A.A.1230375727	Digitally signed by FIEFFER.LAURA.A.1230375727 Date: 2022.10.14 11:02:50 -05'00'		
BRAILSFORD.KEITH H.ANTHONY.10286 55661	TEST ENGINEER	FELICIANO.AD IN.1259200373	Digitally signed by FELICIANO.ADIN.1259200373 Date: 2022.10.14 11:05:08 -05'00'		
	TEST REPORT	NA	CLASS	DIVISION	DRAWING
DEFENSE AMMUNITION CENTER	EXPLOSIVE SAFETY DIRECTORATE	FIEFFER.LAUR A.A.1230375727	19	48	4269A
		Digitally signed by FIEFFER.LAURA.A.1230375727 Date: 2022.10.14 11:12:00 -05'00'			FILE 15J1000



**ISOMETRIC VIEW**

**KEY NUMBERS**

- ① FORWARD BLOCKING ASSEMBLY (2 REQD). SEE THE DETAIL ON PAGE 5.
- ② SIDE FILL ASSEMBLY (4 REQD). SEE DETAIL ON PAGE 5.
- ③ COVER SPANNER ASSEMBLY (16 REQD). POSITION TWO ON COVER OF FIRST-LAYER CONTAINER, TO BE LOCATED UNDER SKIDS OF SECOND-LAYER CONTAINER. REPEAT FOR SECOND AND THIRD LAYERS. SEE THE DETAIL ON PAGE 6.
- ④ END GATE (1 REQD). SEE THE DETAIL ON PAGE 6.
- ⑤ TY-GARD DS FLEXIBLE BARRIER, 24" WIDE X 12'-0" LONG (6 REQD). APPLY EACH TY-GARD PIECE IN ACCORDANCE WITH TY-GARD DS INSTALLATION INSTRUCTIONS. PRE-MARK THE CONTAINER SIDEWALL 7'-0" FROM THE EXPECTED REARMOST EDGE OF THE LOAD AT THE REQUIRED HEIGHT. INSTALL THE TY-GARD WITH THE 5 FOOT ADHESIVE SECTION FURTHEST FROM THE REAR OF THE LOAD, AT THE PRE-MARKED LOCATION.
- ⑥ TY-PATCH DS, 24" WIDE X 7'-0" LONG (3 REQD). APPLY EACH TY-PATCH PIECE IN ACCORDANCE WITH TY-GARD DS INSTALLATION INSTRUCTIONS, FORMING A PATCH OVER TWO PIECES OF TY-GARD MATERIAL AFTER CINCHING THEM TIGHT.
- ⑦ TY-TAPE DS, 72" LONG (2 REQD). APPLY EACH TY-TAPE PIECE IN ACCORDANCE WITH TY-GARD DS INSTALLATION INSTRUCTIONS.

**BILL OF MATERIAL**

LUMBER	LINEAR FEET	BOARD FEET
1" X 2"	143	24
2" X 2"	18	6
2" X 3"	1	1
2" X 4"	76	51
2" X 6"	151	151
2" X 8"	71	95
NAILS	NO. REQD	POUNDS
6d (2")	480	3
10d (3")	164	2-1/2
PLYWOOD, 3/4"	95.7 SQ FT REQD	197.50 LBS
TY-GARD	72 FT REQD	12.1 LBS
TY-PATCH	21 FT REQD	4.7 LBS
TY-TAPE	12 FT REQD	0.8 LBS

**LOAD AS SHOWN**

ITEM	QUANTITY	WEIGHT (APPROX)
CONTAINER	12	34,800 LBS
DUNNAGE		873 LBS
CONTAINER		4,700 LBS
<b>TOTAL WEIGHT</b>		<b>40,373 LBS (APPROX)</b>

**GENERAL NOTES**

**(GENERAL NOTES CONTINUED)**

- A. THIS DOCUMENT HAS BEEN PREPARED AND ISSUED IN ACCORDANCE WITH AR 740-1 AND AUGMENTS TM 743-200-1 (CHAPTER 5).
- B. THE SPECIFIED OUTLOADING PROCEDURES ARE APPLICABLE TO LOADS OF LINEAR DEMOLITION CHARGES, HE M58A3/A4 AND PRACTICE M68A2, PACKED IN METAL SHIPPING AND STORAGE CONTAINERS USING TY-GARD MATERIALS FOR AFT RESTRAINT. SUBSEQUENT REFERENCE TO CONTAINER HEREIN MEANS THE CONTAINER WITH AMMUNITION ITEMS. SEE PAGE 4 AND DRAWING 5854656 FOR DETAILS OF THE CONTAINER. FOR ALL NON-TY-GARD SHIPMENTS REFER TO DRAWING 19-48-4296-15J1000. **CAUTION:** REGARDLESS OF THE QUANTITY OF CONTAINERS TO BE SHIPPED, THE "MAXIMUM GROSS WEIGHT" OF THE END OPENING ISO CONTAINER MUST NOT BE EXCEEDED.
- C. THE LOAD AS SHOWN IS BASED ON A 4,700 POUND 20' LONG BY 8' WIDE BY 8'-6" HIGH END OPENING ISO CONTAINER WITH INSIDE DIMENSIONS OF 19'-4" LONG BY 92" WIDE BY 93" HIGH, WITH A MAXIMUM GROSS WEIGHT OF 52,910 POUNDS. OLDER/OTHER CONTAINERS MAY HAVE A TOTAL INSIDE HEIGHT OF 95", BUT A CLEAR HEIGHT UNDER THE ROOF BOWS OF 93". VERIFY INSIDE CONTAINER HEIGHT PRIOR TO FABRICATING DUNNAGE. 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. **NOTICE:** OTHER CONTAINERS OF THE SAME DESIGN CONFIGURATION CAN BE USED.
- D. WHEN LOADING CONTAINERS, THEY ARE TO BE POSITIONED SO AS TO ACHIEVE A TIGHT LOAD (TIGHT AGAINST THE DUNNAGE ASSEMBLIES). THE UNLOCKED SPACE ACROSS THE WIDTH OF A LOAD BAY IS NOT TO EXCEED 1-1/2". EXCESSIVE SLACK CAN BE ELIMINATED FROM A LOAD BY LAMINATING ADDITIONAL PIECES OF APPROPRIATE THICKNESS TO THE BEARING PIECES ON THE SIDE FILL ASSEMBLIES. NAIL EACH ADDITIONAL PIECE W/1 APPROPRIATELY SIZED NAIL EVERY 12". THE LOADS MUST BE AS TIGHT AS POSSIBLE LONGITUDINALLY, BUT THE VOID MUST NOT EXCEED 3/4" OVERALL. EXCESSIVE SLACK CAN BE ELIMINATED BY APPLYING THE TY-GARD SYSTEM TIGHT AGAINST THE REAR OF THE LOAD.
- E. THIS DRAWING DEPICTS A 12-UNIT MAXIMUM CONFIGURATION, WITH A LADING WEIGHT OF 40,369 POUNDS. DUE TO RESTRICTIONS ENACTED BY THE SURFACE DEPLOYMENT AND DISTRIBUTION COMMAND AND THE JOINT MUNITIONS COMMAND, ANY ISO CONTAINER DESTINED TO BE MOVED OVER CONUS HIGHWAYS CAN NOT EXCEED 40,000 POUNDS GROSS WEIGHT. IN ORDER TO COMPLY WITH THIS RESTRICTION, ONE CONTAINER MUST BE ELIMINATED FROM THE 12-UNIT MAXIMUM LOAD. THIS WILL RESULT IN AN 11-UNIT LOAD WITH A GROSS WEIGHT OF 37,469 POUNDS. SEE THE "LESS-THAN-FULL-LOAD PROCEDURE" ON PAGE 7 FOR DETAILS.
- F. A STAGGERED NAILING PATTERN WILL BE USED WHENEVER 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.
- G. IN SOME CONTAINERS THERE IS A SLOT AT THE CORNERS OF THE FORWARD WALL. PIECES OF DUNNAGE MATERIAL MUST BE LAMINATED TO THE BUFFER PIECES ON THE FORWARD BLOCKING OR FORWARD STRUT ASSEMBLIES TO PROVIDE A FLAT SURFACE FOR THE 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". NOTE THAT SOME CONTAINERS ARE EQUIPPED WITH "TIE-BARS" IN THE CORNER SLOT, WHICH PRECLUDE THE USE OF A FULL HEIGHT FILL PIECE. WHEN "TIE-BARS" ARE PRESENT, THE FILL PIECE MUST BE INSTALLED IN SEGMENTS DESIGNED TO FIT BETWEEN THE "TIE-BARS" VERTICALLY. THE FILL PIECE(S) IS NOT REQUIRED WHEN THE CORNER PORTIONS OF THE CONTAINER FORWARD WALL ARE SMOOTH AND FLAT. DO NOT ALLOW ANY DUNNAGE ASSEMBLY TO CONTACT THE CONTAINER FORWARD WALL, ONLY THE CORNER POSTS OF THE CONTAINER SHOULD BE USED FOR FORWARD LONGITUDINAL BLOCKING.
- H. WHETHER A CONTAINER IS FULL OR IS LOADED WITH A REDUCED QUANTITY OF LADING UNITS, THE LENGTHWISE CENTER OF GRAVITY OF THE LOAD MUST BE WITHIN 12", IN EITHER DIRECTION, OF THE MID-POINT OF THE CONTAINER.
- J. **CAUTION:** DO NOT NAIL DUNNAGE MATERIAL TO THE CONTAINER WALLS OR FLOOR. ALL NAILING WILL BE WITHIN THE DUNNAGE.

**K. MAXIMUM LOAD WEIGHT CRITERIA:**

THE MAXIMUM LOAD WEIGHTS ARE CONTROLLED BY EQUIPMENT CAPABILITY FACTORS. 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. 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 INTERMODAL CONTAINER SYSTEM.

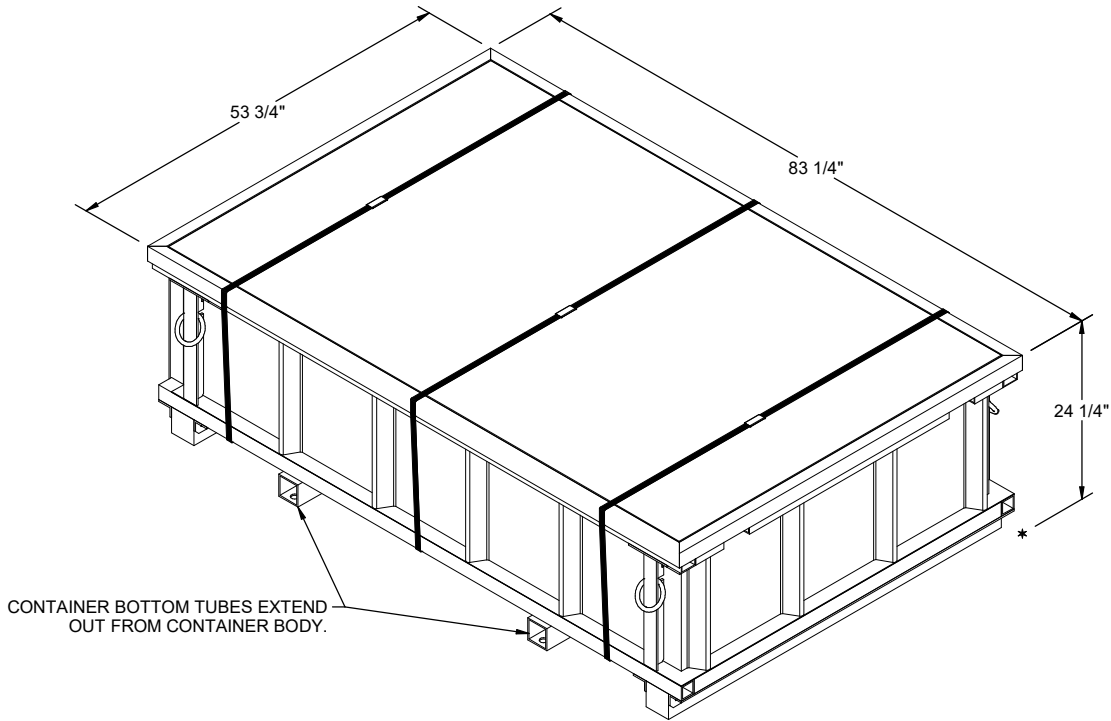
- L. REQUIREMENTS CITED WITHIN THE ASSOCIATION OF AMERICAN RAILROADS (AAR) INTERMODAL LOADING GUIDE APPLY WHEN THE SHIPMENT MOVES BY TRAILER/CONTAINER-ON-FLATCAR (T/COFC). SPECIAL T/COFC NOTES FOLLOW:
  1. A LOADED CONTAINER MUST BE ON A CHASSIS EQUIPPED WITH TWO BOGIE ASSEMBLIES WHEN BEING MOVED IN TOFC SERVICE.
  2. THE LOAD LIMIT OF A T/COFC RAILCAR 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.

- M. DURING INTRASTATE AND/OR INTERSTATE MOVES BY MOTOR CARRIER, A PROPER CHASSIS OR MODIFIED FLATBED TRAILER MUST BE USED TO PRECLUDE VIOLATION OF ONE OR MORE "WEIGHT LAWS" APPLICABLE TO THE STATE OR STATES INVOLVED.
- N. PORTIONS OF THE CONTAINER DEPICTED WITHIN THIS DRAWING, SUCH AS THE SIDEWALL, HAVE NOT BEEN SHOWN IN THE LOAD VIEWS FOR CLARITY PURPOSES.
- O. THE QUANTITY OF CONTAINERS SHOWN IN THE LOAD ON PAGE 2 MAY BE REDUCED FOR SHIPMENT, IF DESIRED. SEE THE FILLER ASSEMBLY AND THE "LESS-THAN-FULL-LOAD PROCEDURE" ON PAGE 7.
- P. DUNNAGE LUMBER SPECIFIED IS OF 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.
- Q. ANTI-CHAFING MATERIAL MAY BE INSTALLED AT POINTS OF CONTACT BETWEEN CONTAINERS, AND BETWEEN CONTAINERS AND THE END OPENING CONTAINER, IF DESIRED, TO PREVENT CHAFING DAMAGE TO CONTAINER PAINT AND MARKINGS.
- R. A COMPLETE SET OF TY-GARD RESTRAINTS WILL CONSIST OF TWO SECTIONS OF TY-GARD DS AND ONE SECTION OF TY-PATCH DS. EACH COMPLETE SET IS CAPABLE OF RESTRAINING A MAXIMUM OF 13,200 POUNDS. SEE THE CHART ON PAGE 4 FOR ALLOWABLE LOADING WEIGHTS. EACH LAYER OF CONTAINERS WITHIN A LOAD MUST HAVE A MINIMUM OF ONE COMPLETE SET OF TY-GARD RESTRAINTS.
- S. MARK CONTAINER SIDEWALLS FOR PROPER LOCATION OF TY-GARD. PEEL AND ADHERE TY-GARD TO PRE-MARKED LOCATIONS, TAKING CARE TO FOLLOW THE CONTOUR OF THE CONTAINER CORRUGATIONS. CARE MUST BE USED TO ENSURE A CONSISTENT PRESSURE (APPROXIMATELY 16 PSI) IS APPLIED WHEN AFFIXING THE TY-GARD TO THE ISO CONTAINER. TENSION THE LOAD WITH THE TY-TOOL AND SEAL THE TY-GARD WITH THE TY-PATCH. TY-TAPE WILL THEN BE APPLIED TO VERTICALLY SPAN ALL TY-GARD LAYERS IN AT LEAST TWO LOCATIONS. REFER TO TY-GARD MANUAL 1419090 FOR COMPLETE INSTALLATION INSTRUCTIONS.
- T. IF NECESSARY DUE TO LOAD HEIGHT AND WEIGHT RESTRICTIONS, ONE SET OF TY-GARD DS RESTRAINTS MAY VERTICALLY OVERLAP ANOTHER SET, HOWEVER, OVERLAP WILL NOT EXCEED 6". ALSO, IT MAY BE NECESSARY TO EXTEND THE TY-GARD DS RESTRAINTS ABOVE THE TOP OF THE LOADED PALLET UNIT/SKIDS. THIS EXTENSION IS LIMITED TO 6" ABOVE THE TOP OF THE LOADED UNITS, AND MUST BE SUPPORTED BY THE PLYWOOD GATE.
- U. LOAD HEIGHT MAY EXTEND ABOVE THE PLYWOOD GATE AND TY-GARD MATERIAL, HOWEVER, ONE-HALF OF THE CONTAINER MUST BE CAPTURED BY THE GATE.
- V. IF THE INTERIOR OF THE ISO CONTAINER BEING LOADED HAS TIEDOWN RINGS ALONG THE BASE OF THE SIDE WALLS, THE BOTTOM SET OF TY-GARD RESTRAINTS CAN BE ADJUSTED UPWARD TO CLEAR THE RINGS. IF NECESSARY TO ACHIEVE THIS, OVERLAP TY-GARD SETS OR ADD TO THE HEIGHT OF THE END GATE. SEE GENERAL NOTE "T" FOR DETAILS.
- W. FILLER ASSEMBLIES MUST NOT BE PLACED IN ROWS THAT CONTACT END GATES.
- X. 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 0.454 KG.

**MATERIAL SPECIFICATIONS**

<u>LUMBER</u>	- - - - -	: SEE TM 743-200-1 (DUNNAGE LUMBER) AND VOLUNTARY PRODUCT STANDARD PS 20.
<u>NAILS</u>	- - - - -	: ASTM F1667; COMMON STEEL NAIL (NLCMS OR NLCMS).
<u>PLYWOOD</u>	- - - - -	: COMMERCIAL ITEM DESCRIPTION A-A-55057, 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.
<u>TY-GARD DS®</u>	- - - - -	: 8135-01-585-0512, 24" WIDE.
<u>TY-PATCH DS®</u>	- - - - -	: 8135-01-584-6017, 24" WIDE.
<u>TY-TAPE DS®</u>	- - - - -	: 8135-17-123-0568.
<u>TY-TOOL DS®</u>	- - - - -	: 5120-17-123-0567, 3 PIECES.
<u>ANTI-CHAFING MATERIAL</u>	- - - - -	: MIL-PRF-121 (OR EQUAL); NEUTRAL BARRIER MATERIAL.

(CONTINUED AT RIGHT)



**SHIPPING AND STORAGE CONTAINER**

GROSS WEIGHT ----- 2,900 LBS (APPROX)  
 CUBE ----- 62.8 CU FT

**NOTE:** CONTAINERS CANNOT BE STACKED UNLESS COVER SPANNER ASSEMBLIES ARE PROVIDED UNDER SKIDS BETWEEN LAYERS

TY-GARD DS STRENGTH RATINGS		
SETS OF TY-GARD	LOAD HEIGHT MIN (INCHES)	ISO CONTAINER CONTENTS MAX (LBS)
1	18	13,200
2	36	26,400
3	54	39,600

**NOTE:** EACH SET CONTAINS TWO SECTIONS OF TY-GARD DS AND ONE SECTION OF TY-PATCH DS. DO NOT CUT TY-GARD DS AND TY-PATCH DS INTO WIDTHS LESS THAN THE STANDARD 24" WIDE.

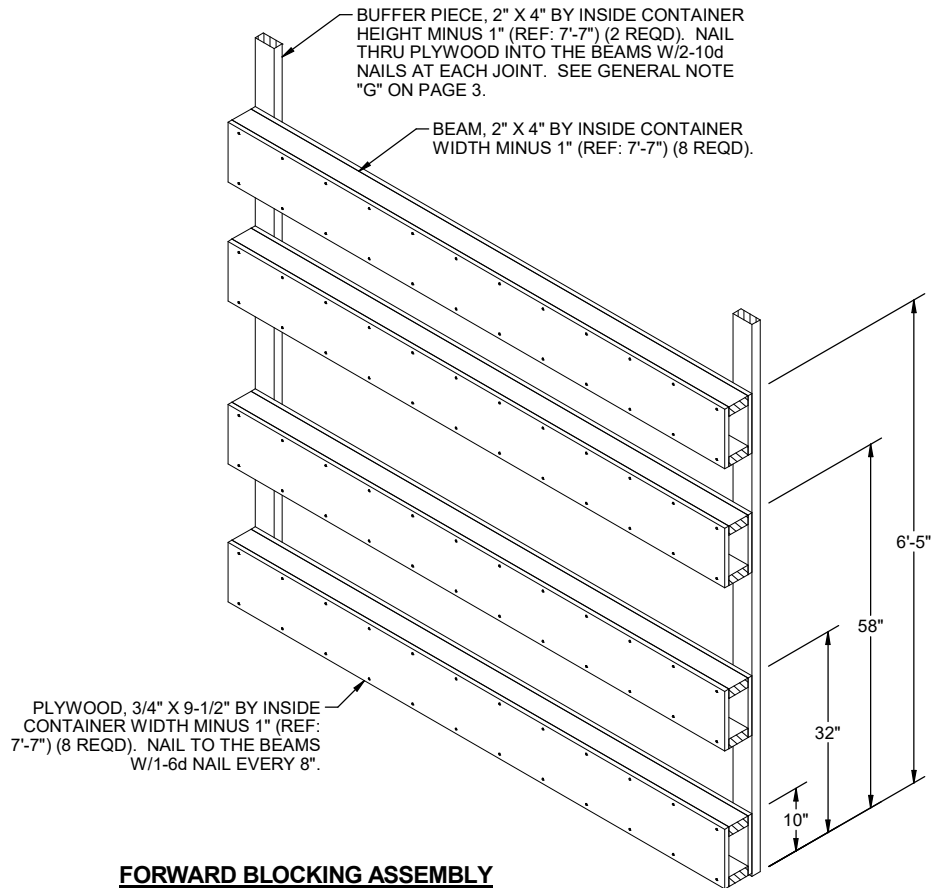
**UNITIZATION AND HANDLING GUIDANCE**

1. STACKING CONTAINERS FOR UNITIZING:
  - A. AN UPPER CONTAINER SHOULD BE PLACED AS CLOSE AS POSSIBLE IN VERTICAL ALIGNMENT WITH THE NEXT LOWER CONTAINER.
  - B. POSITION THE AFT END OF AN UPPER CONTAINER ABOVE THE AFT END OF THE NEXT LOWER CONTAINER.
  - C. THE CONTAINER SKIDS OF AN UPPER CONTAINER SHOULD BE FULLY SEATED UPON TWO COVER SPANNER ASSEMBLIES THAT ARE PLACED ON THE COVER OF THE LOWER CONTAINER.
  - D. STACK THREE CONTAINERS WITH COVER SPANNER ASSEMBLIES. BE SURE TO ALIGN THE STACKING FEATURES.

(CONTINUED AT RIGHT)

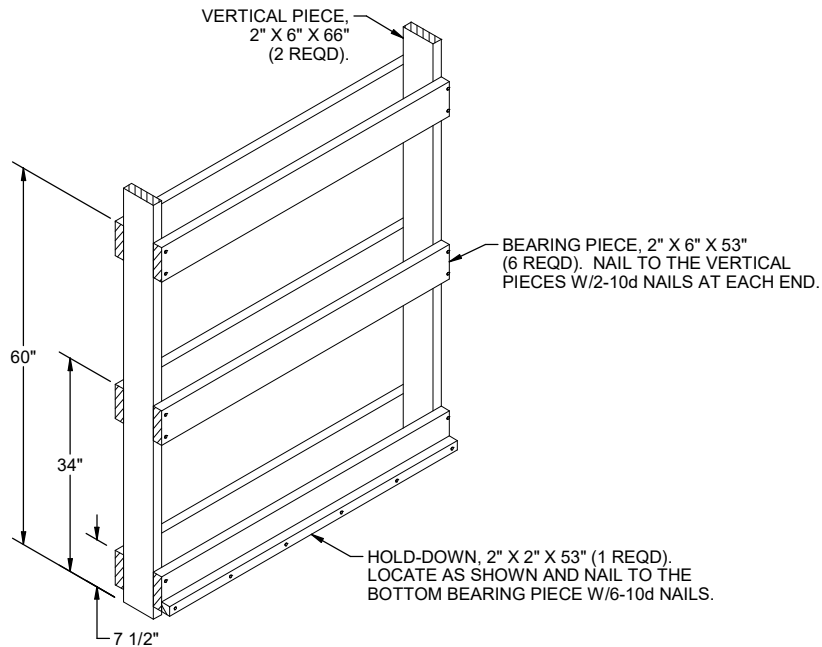
**(UNITIZATION AND HANDLING GUIDANCE CONTINUED)**

3. CONTAINER OR CONTAINER STACK HANDLING:
  - A. ONLY APPROVED AND APPROPRIATELY SIZED MATERIAL HANDLING EQUIPMENT WILL BE USED FOR HANDLING THE DEPICTED CONTAINERS. APPROVED MATERIAL HANDLING EQUIPMENT (FORKLIFT TRUCKS, CRANES, HAND TRUCKS, DOLLIES, ROLLER ASSEMBLIES, SLINGS, SPREADER BARS, ETC.) IS SPECIFIED ELSEWHERE.
  - B. PRECAUTIONARY HANDLING TECHNIQUES NORMALLY EMPLOYED OR AS SPECIFIED FOR THE TYPE OF COMMODITY INVOLVED WILL BE OBSERVED.
  - C. IF HANDLING IS ACCOMPLISHED WITH A FORKLIFT TRUCK, THE CONTAINERS SHOULD BE HANDLED FROM A SIDE POSITION AS MUCH AS POSSIBLE. CARE MUST BE EXERCISED WHEN INSERTING FORKS UNDER A CONTAINER, TO PREVENT DAMAGE TO THE CONTAINER BY THE FORK TINES OR THE FORKLIFT PACKAGE GUARD. IF ONE CONTAINER IS HANDLED BY SLINGING, THE SLING MAY BE ATTACHED TO THE LIFTING POINTS ON THE CONTAINER. DO NOT HANDLE STACKED CONTAINERS WITH A SLING.



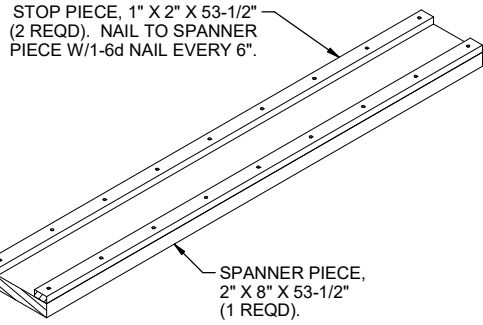
**FORWARD BLOCKING ASSEMBLY**

FOR A TWO HIGH LOAD, ELIMINATE THE TOP BOX BEAM ASSEMBLY AND LOWER THE NEXT HIGHEST BOX BEAM TO 50". FOR A ONE HIGH LOAD, ELIMINATE THE TOP TWO BOX BEAM ASSEMBLIES AND LOWER THE NEXT HIGHEST BOX BEAM TO 24".

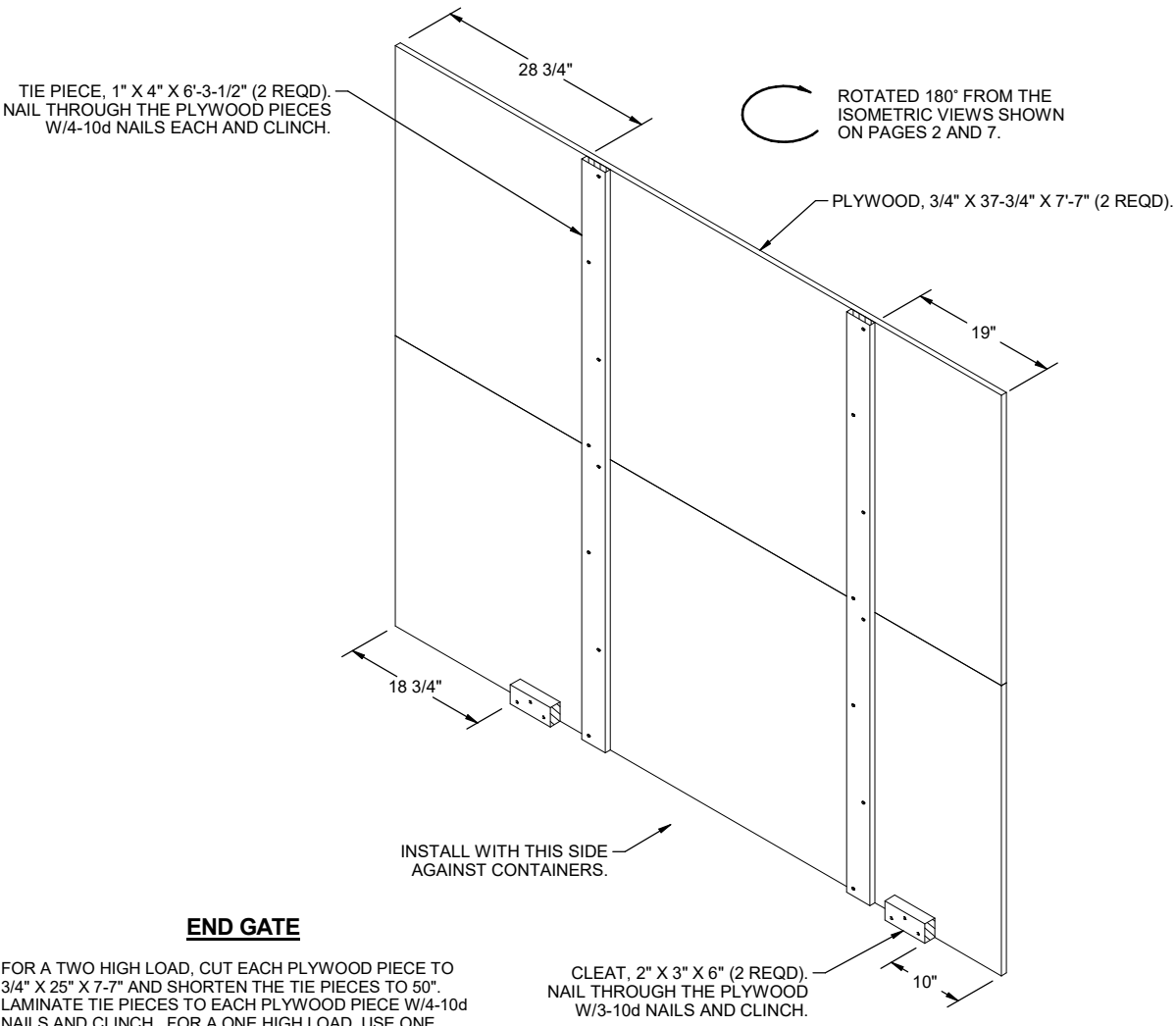


**SIDE FILL ASSEMBLY**

FOR A TWO HIGH LOAD, ELIMINATE THE TOP TWO BEARING PIECES AND SHORTEN THE VERTICAL PIECES TO 41-3/4". FOR A ONE HIGH LOAD, ELIMINATE THE TOP FOUR BEARING PIECES AND SHORTEN THE VERTICAL PIECES TO 17-1/2".

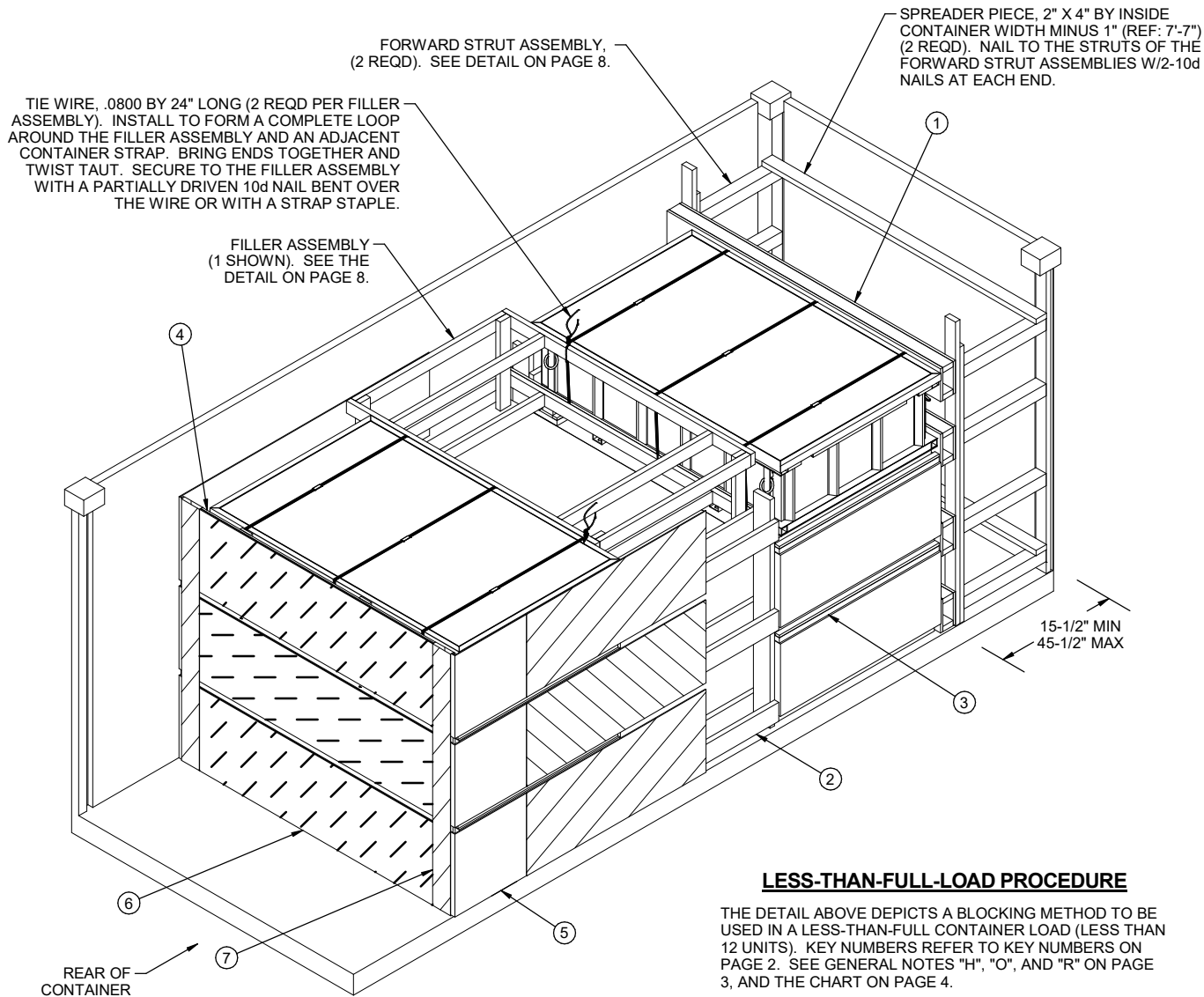


**COVER SPANNER ASSEMBLY**



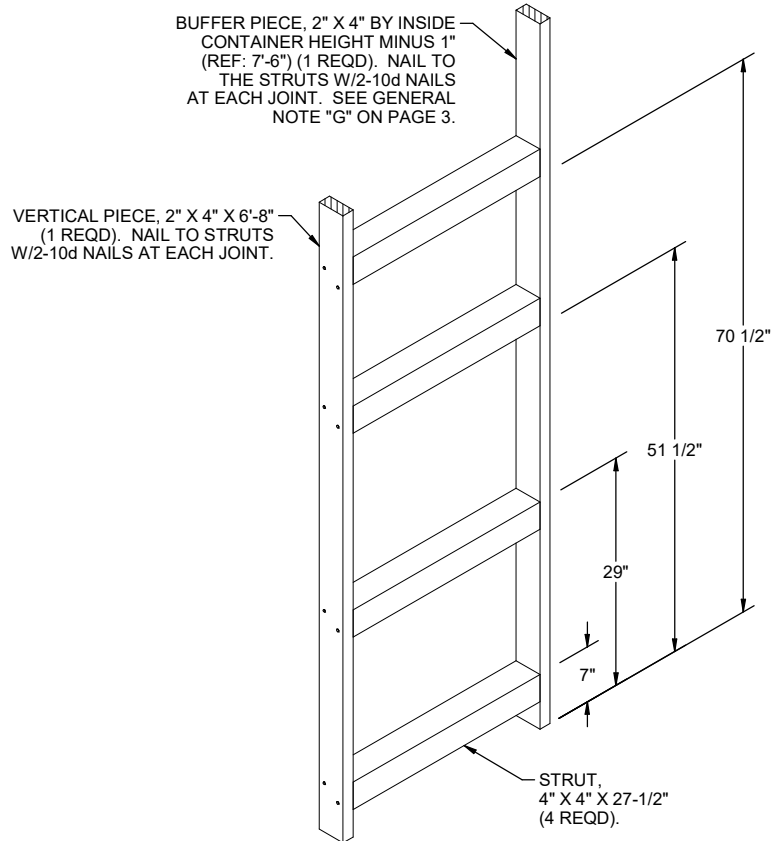
**END GATE**

FOR A TWO HIGH LOAD, CUT EACH PLYWOOD PIECE TO 3/4" X 25" X 7'-7" AND SHORTEN THE TIE PIECES TO 50". LAMINATE TIE PIECES TO EACH PLYWOOD PIECE W/4-10d NAILS AND CLINCH. FOR A ONE HIGH LOAD, USE ONE PLYWOOD PIECE INSTEAD OF TWO. CUT PLYWOOD PIECE TO 3/4" X 25" X 7'-7" AND ELIMINATE THE TIE PIECES.



**LESS-THAN-FULL-LOAD PROCEDURE**

THE DETAIL ABOVE DEPICTS A BLOCKING METHOD TO BE USED IN A LESS-THAN-FULL CONTAINER LOAD (LESS THAN 12 UNITS). KEY NUMBERS REFER TO KEY NUMBERS ON PAGE 2. SEE GENERAL NOTES "H", "O", AND "R" ON PAGE 3, AND THE CHART ON PAGE 4.



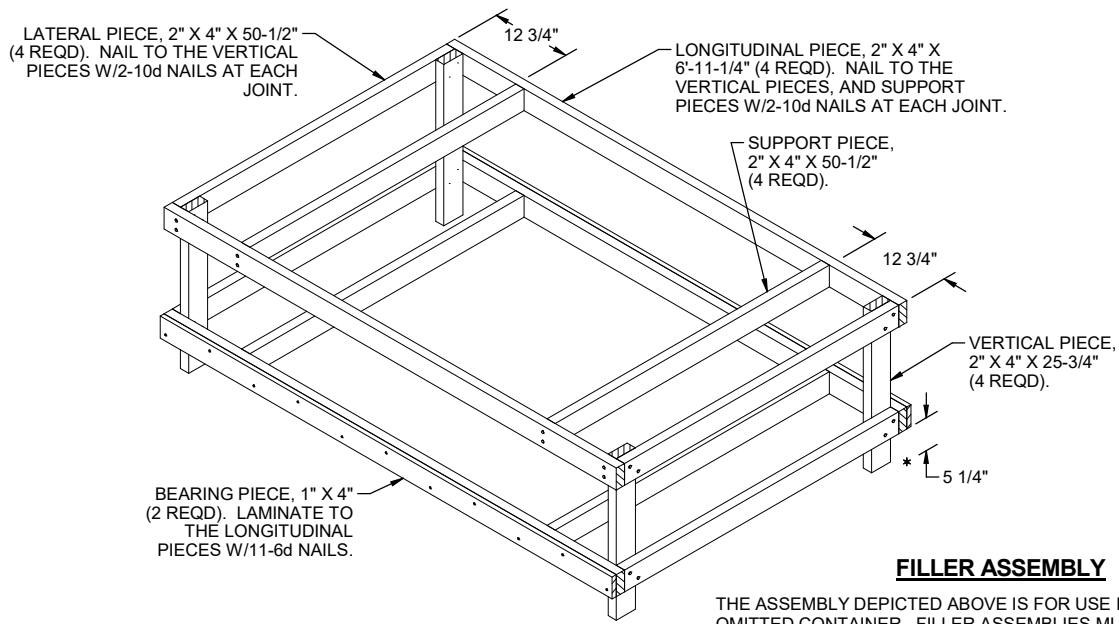
BUFFER PIECE, 2" X 4" BY INSIDE CONTAINER HEIGHT MINUS 1" (REF: 7'-6") (1 REQD). NAIL TO THE STRUTS W/2-10d NAILS AT EACH JOINT. SEE GENERAL NOTE "G" ON PAGE 3.

VERTICAL PIECE, 2" X 4" X 6'-8" (1 REQD). NAIL TO STRUTS W/2-10d NAILS AT EACH JOINT.

STRUT, 4" X 4" X 27'-1/2" (4 REQD).

**FORWARD STRUT ASSEMBLY**

FOR A TWO HIGH LOAD, ELIMINATE THE TOP STRUT AND LOWER THE NEXT HIGHEST STRUT TO 50". SHORTEN THE VERTICAL PIECE TO 56". FOR A ONE HIGH LOAD, ELIMINATE THE TOP TWO STRUTS AND LOWER THE NEXT HIGHEST STRUT TO 24". SHORTEN THE VERTICAL PIECE TO 30".



LATERAL PIECE, 2" X 4" X 50'-1/2" (4 REQD). NAIL TO THE VERTICAL PIECES W/2-10d NAILS AT EACH JOINT.

LONGITUDINAL PIECE, 2" X 4" X 6'-11-1/4" (4 REQD). NAIL TO THE VERTICAL PIECES, AND SUPPORT PIECES W/2-10d NAILS AT EACH JOINT.

SUPPORT PIECE, 2" X 4" X 50'-1/2" (4 REQD).

VERTICAL PIECE, 2" X 4" X 25'-3/4" (4 REQD).

BEARING PIECE, 1" X 4" (2 REQD). LAMINATE TO THE LONGITUDINAL PIECES W/11-6d NAILS.

**FILLER ASSEMBLY**

THE ASSEMBLY DEPICTED ABOVE IS FOR USE IN PLACE OF AN OMITTED CONTAINER. FILLER ASSEMBLIES MUST BE WIRE TIED TO AN ADJACENT CONTAINER STRAP TO PREVENT UNDUE MOVEMENT. NO MORE THAN TWO FILLER ASSEMBLIES WILL BE USED IN ANY LOAD. REDUCE THE VERTICAL PIECE LENGTH TO 24'-1/4" FOR ASSEMBLIES USED IN ONE HIGH LOADS.