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# LOADING AND BRACING<sup>⊕</sup> IN END OPENING ISO CONTAINERS OF 2.75" HYDRA ROCKETS PACKED IN PA151 CYLINDRICAL METAL CON- TAINERS, ON METAL PALLETS

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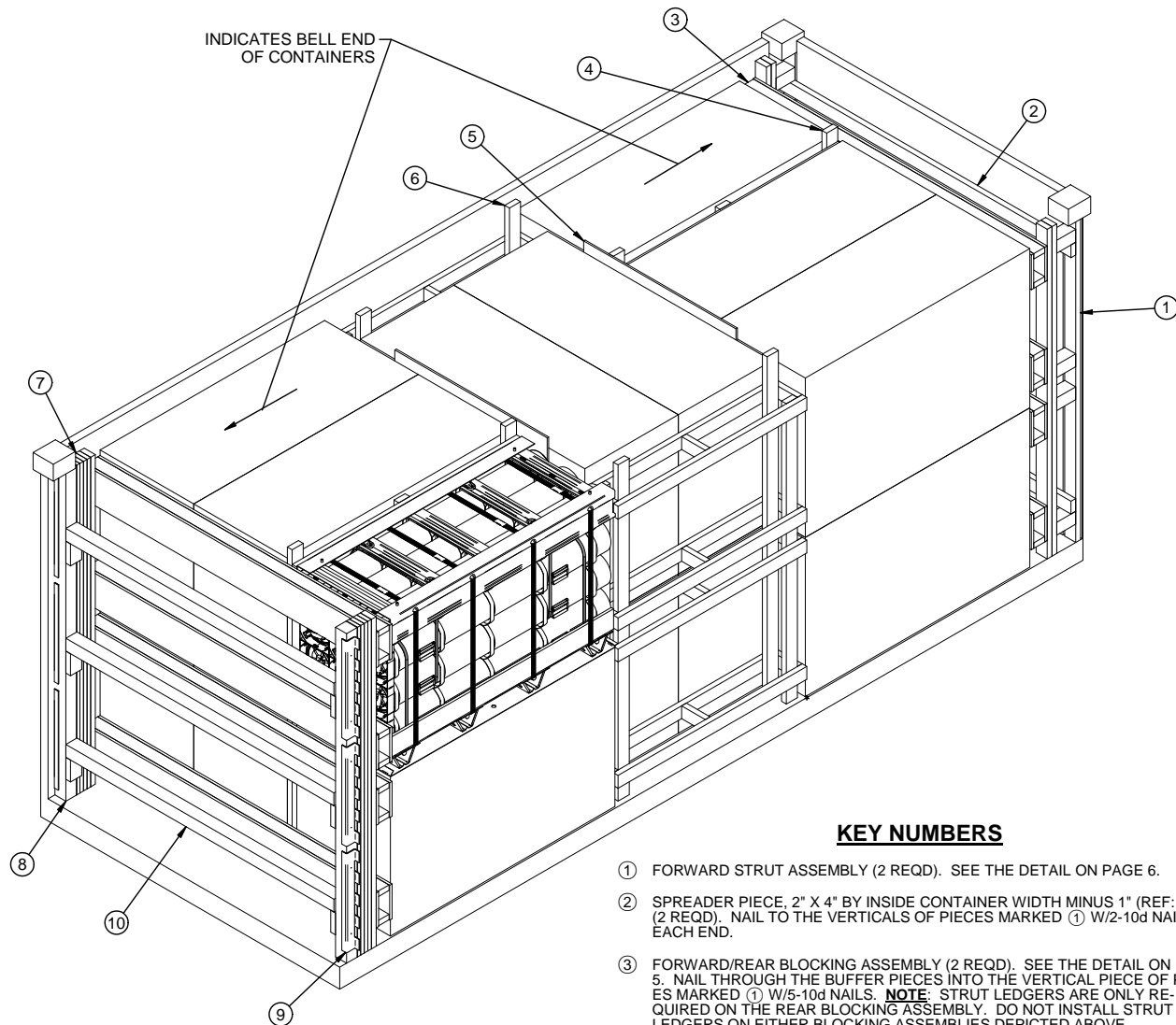
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⊕ THE PROCEDURES SHOWN HEREIN ARE APPLICABLE TO LOADS THAT ARE TO BE SHIPPED  
BY TRAILER/CONTAINER-ON-FLATCAR (T/COFC) RAIL, MOTOR, OR WATER CARRIERS.

## U.S. ARMY MATERIEL COMMAND DRAWING

<p>APPROVED, U.S. ARMY JOINT MUNITIONS COMMAND</p> <p>RUS.ALLEN.J .1230354282</p> <small>Digitally signed by RUS.ALLEN.J.1230354282 DN: cn=US, ou=U.S. Government, ou=DoD, ou=PKI, ou=USA, cn=RUS.ALLEN.J.1230354282 Date: 2011.06.02 13:30:59 -05'00'</small>		<p><b>CAUTION: VERIFY PRIOR TO USE AT WWW.DAC.ARMY.MIL THAT THIS IS THE MOST CURRENT VERSION OF THIS DOCUMENT. THIS IS PAGE 1 OF 10.</b></p>			
		<p><b>DO NOT SCALE</b></p>		<p><b>JUNE 1998</b></p>	
		<p>ENGINEER OR TECHNICIAN</p>	<p>BASIC REV.</p>	<p>LAURA FIEFFER MADELINE BANKS</p>	<p>REVISION NO. 1</p>
<p>APPROVED BY ORDER OF COMMANDING GENERAL, U.S. ARMY MATERIEL COMMAND</p> <p>CARNEY.GARY.BURTON.1038708038</p> <small>Digitally signed by CARNEY.GARY.BURTON.1038708038 DN: cn=US, ou=U.S. Government, ou=DoD, ou=PKI, ou=USA, cn=CARNEY.GARY.BURTON.1038708038 Date: 2011.06.06 07:06:05 -05'00'</small>		<p>TRANSPORTATION ENGINEERING DIVISION</p>	<p>FIEFFER.LAUR A.A.1230375727</p> <small>Digitally signed by FIEFFER.LAURA.A.1230375727 DN: cn=US, ou=U.S. Government, ou=DoD, ou=PKI, ou=USA, cn=FIEFFER.LAURA.A.1230375727 Date: 2011.05.04 09:43:23 -05'00'</small>	<p>SEE THE REVISION LISTING ON PAGE 2</p>	
		<p>VALIDATION ENGINEERING DIVISION</p>	<p>BARICKMAN. PHILIP.W.123 0202202</p> <small>Digitally signed by BARICKMAN.PHILIP.W.123020202 DN: cn=US, ou=U.S. Government, ou=DoD, ou=PKI, ou=USA, cn=BARICKMAN.PHILIP.W.123020202 Date: 2011.05.11 10:37:45 -05'00'</small>	<p>TESTED</p>	<p>CLASS</p>
<p>U.S. ARMY DEFENSE AMMUNITION CENTER</p>		<p>ENGINEERING DIRECTORATE</p>	<p>BEAVER.JERRY .W.1230949952</p> <small>Digitally signed by BEAVER.JERRY.W.1230949952 DN: cn=US, ou=U.S. Government, ou=DoD, ou=PKI, ou=USA, cn=BEAVER.JERRY.W.1230949952 Date: 2011.05.12 14:42:08 -05'00'</small>	<p>DIVISION</p>	<p>DRAWING</p>
				<p>FILE</p>	<p>19</p>
					<p>48</p>
					<p>4245/61</p>
					<p>15PM1009</p>



**ISOMETRIC VIEW**

**KEY NUMBERS**

- ① FORWARD STRUT ASSEMBLY (2 REQD). SEE THE DETAIL ON PAGE 6.
- ② SPREADER PIECE, 2" X 4" BY INSIDE CONTAINER WIDTH MINUS 1" (REF: 7'-7") (2 REQD). NAIL TO THE VERTICALS OF PIECES MARKED ① W/2-10d NAILS AT EACH END.
- ③ FORWARD/REAR BLOCKING ASSEMBLY (2 REQD). SEE THE DETAIL ON PAGE 5. NAIL THROUGH THE BUFFER PIECES INTO THE VERTICAL PIECE OF PIECES MARKED ① W/5-10d NAILS. **NOTE:** STRUT LEDGERS ARE ONLY REQUIRED ON THE REAR BLOCKING ASSEMBLY. DO NOT INSTALL STRUT LEDGERS ON EITHER BLOCKING ASSEMBLIES DEPICTED ABOVE.
- ④ CENTER FILL ASSEMBLY (2 REQD). SEE THE DETAIL ON PAGE 6.
- ⑤ SEPARATOR (2 REQD). INSTALL WITH THE HOLD DOWN PIECES TOWARDS THE CROSSWISE PALLET UNITS. SEE THE DETAIL ON PAGE 7.
- ⑥ SIDE FILL ASSEMBLY A (2 REQD). SEE THE DETAIL ON PAGE 7.
- ⑦ FILL MATERIAL, 4" WIDE BY 7'-7" LONG MATERIAL (AS REQD). NAIL THE FIRST PIECE TO THE REAR BLOCKING ASSEMBLY W/6 NAILS OF A SUITABLE SIZE (10d FOR 2" THICK MATERIAL). NAIL EACH ADDITIONAL PIECE TO THE PREVIOUS PIECE IN A SIMILAR MANNER. **NOTE:** MULTIPLE PIECES MAY BE LAMINATED TOGETHER FIRST AND THEN TOENAILED TO THE REAR BLOCKING ASSEMBLY. SEE THE "DETAIL A" ON PAGE 7.
- ⑧ DOOR POST VERTICAL (2 REQD). SEE THE DETAIL ON PAGE 5, "DETAIL A" ON PAGE 6, AND GENERAL NOTE "Q" ON PAGE 3.
- ⑨ UNIVERSAL LOAD RETAINER (6 REQD, 3 PER SIDE). NAIL THROUGH THE HOLES INTO THE DOOR POST VERTICAL W/2-10d NAILS. SEE DEPARTMENT OF ARMY DRAWING DA-116, "DETAIL A" ON PAGE 6, AND GENERAL NOTE "Q" ON PAGE 3.
- ⑩ DOOR SPANNER, 4" X 4" MATERIAL CUT TO A LENGTH THAT WILL PROVIDE A DRIVE FIT (REF:7'-1-1/4") (3 REQD). TOENAIL TO THE DOOR POST VERTICAL W/2-12d NAILS AT EACH END. SEE THE "BEVEL-CUT" DETAIL ON PAGE 6.

BILL OF MATERIAL		
LUMBER	LINEAR FEET	BOARD FEET
2" X 4"	368	246
2" X 6"	122	122
4" X 4"	4	6
NAI LS	NO. REQD	POUNDS
6d (2")	352	2-1/4
10d (3")	346	5-1/2
12d (3-1/4")	32	3/4
PLYWOOD, 1/2" - 156.06 SQ FT REQD - - 214.58 LBS		
UNI VERSAL LOAD RETAI NER - 6 REQD - - 39.00 LBS		

**LOAD AS SHOWN**

ITEM	QUANTI TY	WEI GHT (APPROX)
PALLET UNI T - - - - -	16 - - - - -	32,464 LBS
DUNNAGE - - - - -	- - - - -	1,006 LBS
CONTAI NER - - - - -	- - - - -	4,700 LBS
TOTAL WEIGHT - - - - -		38,170 LBS (APPROX)

## GENERAL NOTES

## (GENERAL NOTES CONTINUED)

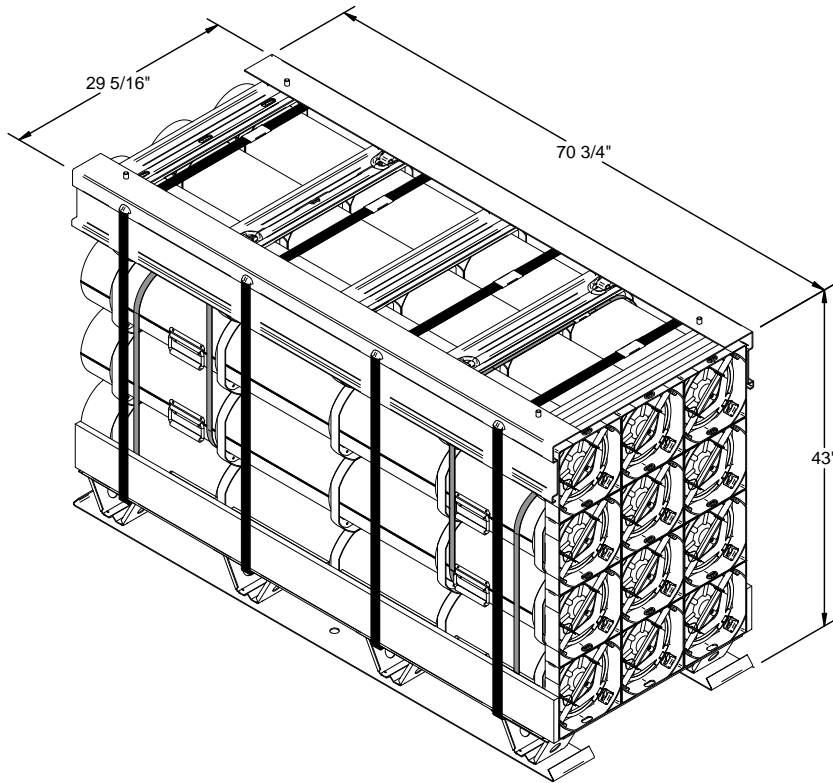
- A. THIS DOCUMENT HAS BEEN PREPARED AND ISSUED IN ACCORDANCE WITH AR 740-1 AND AUGMENTS TM 743-200-1 (CHAPTER 5).
- B. THE SPECIFIED OUTLOADING PROCEDURES ARE APPLICABLE TO LOADS OF 2.75" HYDRA ROCKETS PACKED IN PA151 CYLINDRICAL METAL CONTAINERS. SUBSEQUENT REFERENCE TO PALLET UNIT HEREIN MEANS THE PALLET UNIT WITH AMMUNITION ITEMS. SEE PAGE 4 AND AMC DRAWING 19-48-4231/61-20PM1006 FOR DETAILS OF THE PALLET UNIT. **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 PALLET UNITS, THEY ARE TO BE POSITIONED SO AS TO ACHIEVE A TIGHT LOAD (TIGHT AGAINST THE DUNNAGE ASSEMBLIES). THE UNBLOCKED 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 HORIZONTAL PIECES ON THE CENTER FILL ASSEMBLIES OR THE LONGITUDINAL PIECES ON THE SIDE FILL ASSEMBLIES. NAIL EACH ADDITIONAL PIECE W/1 APPROPRIATELY SIZED NAIL EVERY 12". ADDITIONALLY, THE THICKNESS AND/OR QUANTITY OF THE VERTICAL OR HORIZONTAL PIECES IN THE CENTER FILL ASSEMBLIES OR THE LENGTH OF THE LATERAL PIECES IN THE SIDE FILL ASSEMBLIES MAY BE ADJUSTED AS REQUIRED TO FACILITATE VARIANCE IN THE SIZE OF THE PALLET UNIT.
- E. 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.
- 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 ASSEMBLY 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. PORTIONS OF THE CONTAINER DEPICTED WITHIN THIS DRAWING, SUCH AS THE SIDEWALL, HAVE NOT BEEN SHOWN IN THE LOAD VIEWS FOR CLARITY PURPOSES.
- L. **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.
- M. 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.

- N. 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.
- O. 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.
- P. THE QUANTITY OF PALLET UNITS SHOWN IN THE LOADS ON PAGES 2 AND 8 MAY BE REDUCED FOR SHIPMENT, IF DESIRED. SEE THE "LESS-THAN-FULL-LOAD PROCEDURE" ON PAGE 10.
1. IF A LOAD IS REDUCED BY ONLY A SMALL AMOUNT (ONE OR TWO LADING UNITS), LADING UNITS NORMALLY MAY BE ELIMINATED FROM THE CENTER OF THE LOAD. SEE THE "FILLER ASSEMBLY" DETAIL ON PAGE 10.
  2. IF A LOAD IS REDUCED BY A LARGE AMOUNT (MORE THAN TWO LADING UNITS), LADING UNITS SHOULD BE ELIMINATED AS REQUIRED AND THE TOTAL LOAD SHIFTED FORE OR AFT, AS NECESSARY, TO ACHIEVE A SYMMETRICAL WEIGHT DISTRIBUTION. THE DEPICTED PROCEDURES WILL BE FOLLOWED AS CLOSELY AS POSSIBLE, MAKING ONLY THOSE ADJUSTMENTS TO THE DUNNAGE WHICH ARE REQUIRED TO ACCOMMODATE THE NUMBER OF UNITS TO BE SHIPPED.
- Q. SIX UNIVERSAL LOAD RETAINERS, AS DEPICTED IN THE LOADS ON PAGES 2, 8 AND 10, ARE REQUIRED WHEN LOADING TWO LAYERS OF PALLET UNITS, FOUR ARE REQUIRED WHEN LOADING ONE LAYER OF PALLET UNITS. REFER TO DAC DRAWING ACV00682 FOR DETAILS OF THE UNIVERSAL LOAD RETAINER CONSTRUCTION, AND TO DEPARTMENT OF THE ARMY DRAWING DA-116 FOR DETAILS FOR INSTALLATION TO THE DOOR POST VERTICAL, PLACEMENT INTO THE CONTAINER, AND FOR OTHER METHODS OF REAR-OF-LOAD RESTRAINT.

## MATERIAL SPECIFICATIONS

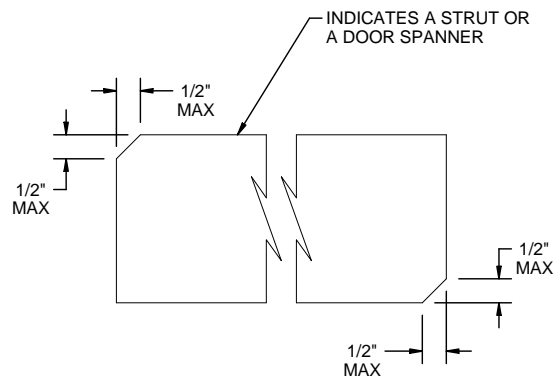
- LUMBER** - - - - - : SEE TM 743-200-1 (DUNNAGE LUMBER) AND VOLUNTARY PRODUCT STANDARD PS 20.
- NAILS** - - - - - : ASTM F1667; COMMON STEEL NAIL (NLCMS OR NLCMMS).
- PLYWOOD** - - - - - : COMMERCIAL ITEM DESCRIPTION A-A-55057, INDUSTRIAL PLYWOOD, INTERIOR WITH EXTERIOR GLUE, GRADE C-D. IF SPECIFIED GRADE IS NOT AVAILABLE, A BETTER INTERIOR OR AN EXTERIOR GRADE MAY BE SUBSTITUTED.
- WIRE, CARBON STEEL** - : ASTM A853; ANNEALED AT FINISH, BLACK OXIDE FINISH, 0.0800" DIA, GRADE 1006 OR BETTER.
- STAPLE** - - - - - : ASTM F1667; STFC5-189 OR STFC5-207, 15/16" OR 1" CROWN WIDTH X 3/4" LEG LENGTH FOR 3/4" STRAPPING, OR STFC5-224, 1-17/32" CROWN WIDTH X 3/4" LEG LENGTH FOR 1-1/4" STRAPPING.
- ANTI-CHAFING MATERIAL** - - - - - : MIL-PRF-121 (OR EQUAL); NEUTRAL BARRIER MATERIAL.
- STEEL, STRUCTURAL** - - - - - : ASTM A36; 36,000 PSI MINIMUM YIELD OR BETTER.

(CONTINUED AT RIGHT)



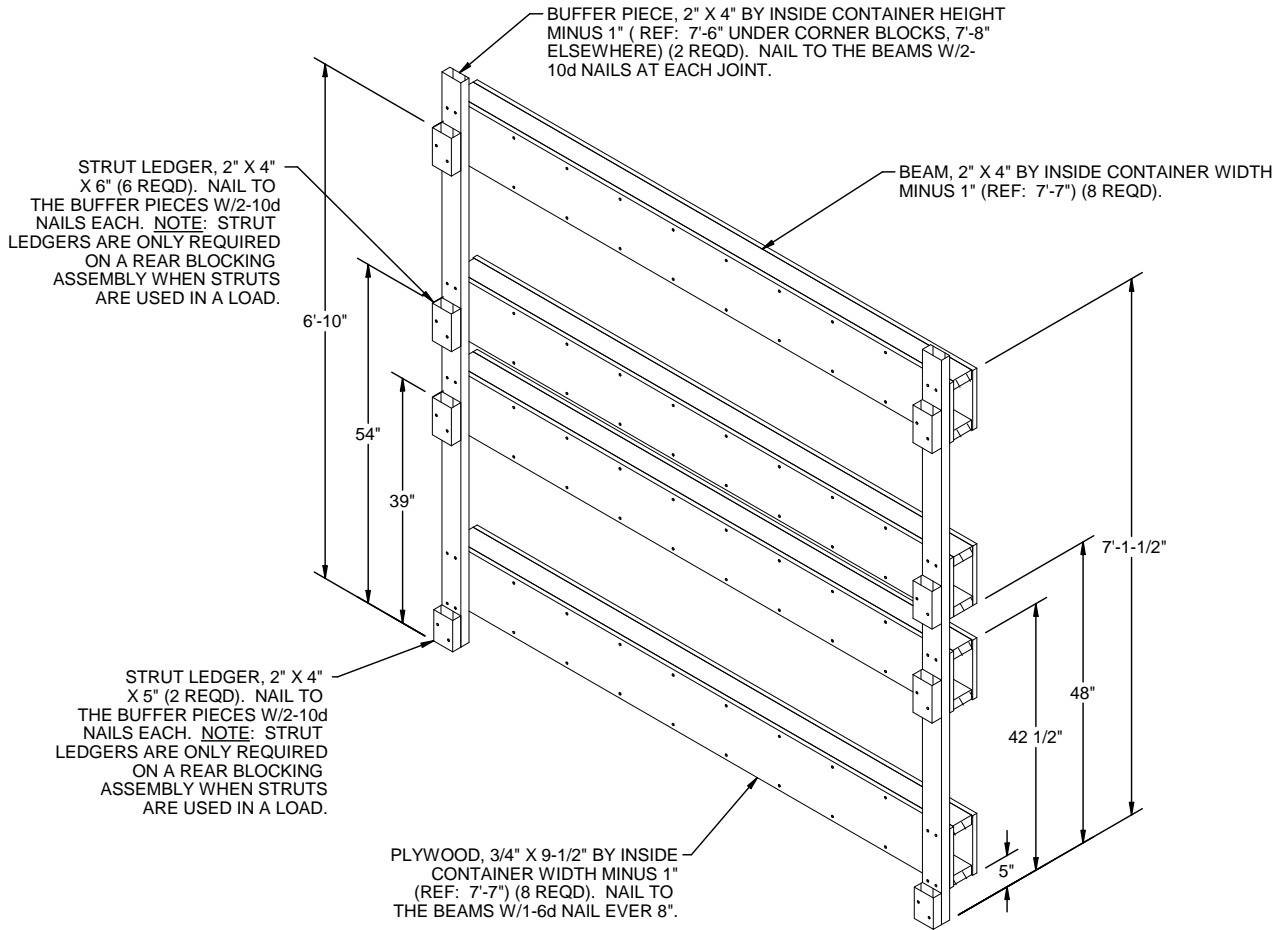
**PALLET UNIT DATA**

GROSS WEIGHT - - - - - 2,029 LBS (APPROX)  
 CUBE - - - - - 51.6 CU FT (APPROX)



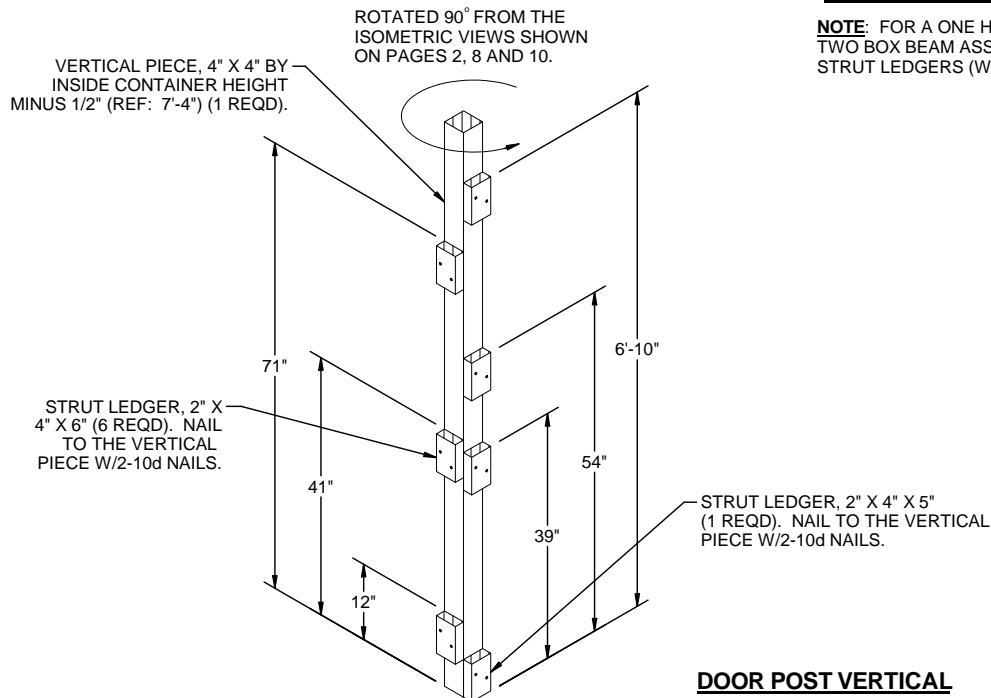
**BEVEL CUT**

IF DESIRED, EACH END OF A STRUT OR SPANNER MAY BE BEVEL-CUT AS SHOWN ABOVE TO FACILITATE INSTALLING THE STRUTS WITH A "DRIVE" FIT.



**FORWARD/REAR BLOCKING ASSEMBLY**

**NOTE:** FOR A ONE HIGH LOAD, ELIMINATE THE TOP TWO BOX BEAM ASSEMBLIES AND THE TOP FOUR STRUT LEDGERS (WHERE APPROPRIATE).



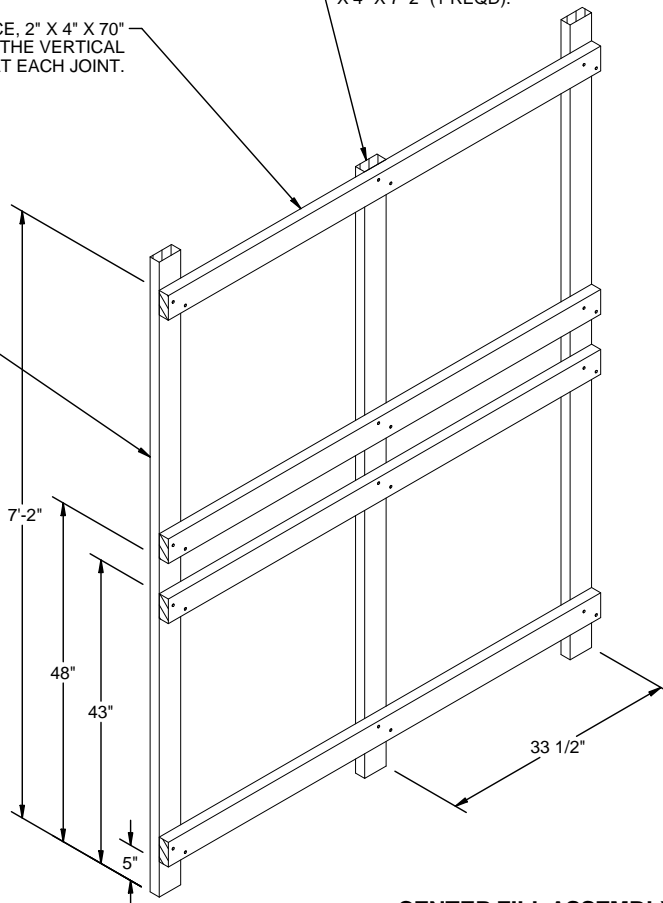
**DOOR POST VERTICAL**

**NOTE:** FOR A ONE HIGH LOAD, ELIMINATE THE TOP TWO STRUT LEDGERS AND THE TOP DOOR SPANNER LEDGER, AND REPOSITION THE MIDDLE DOOR SPANNER LEDGER AT 32".

HORIZONTAL PIECE, 2" X 4" X 70"  
(4 REQD). NAIL TO THE VERTICAL  
PIECES W/2-10d NAILS AT EACH JOINT.

VERTICAL PIECE, 2"  
X 4" X 7'-2" (1 REQD).

VERTICAL PIECE, 2" X 4" BY  
INSIDE CONTAINER HEIGHT  
MINUS 1" (REF: 7'-8") (2 REQD).



**CENTER FILL ASSEMBLY**

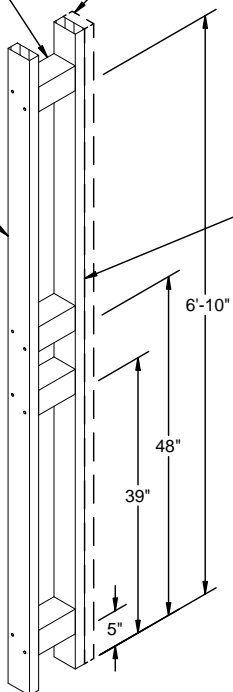
**NOTE:** FOR A ONE HIGH LOAD, ELIMINATE THE TOP  
TWO HORIZONTAL PIECES, SHORTEN THE CENTER  
VERTICAL PIECE TO 43".

STRUT, 4" X 4" X 6" FOR  
THE LOAD ON PAGE 2,  
15-1/2" FOR THE LOAD  
ON PAGE 10 (4 REQD).

SEE GENERAL NOTE  
"G" ON PAGE 3.

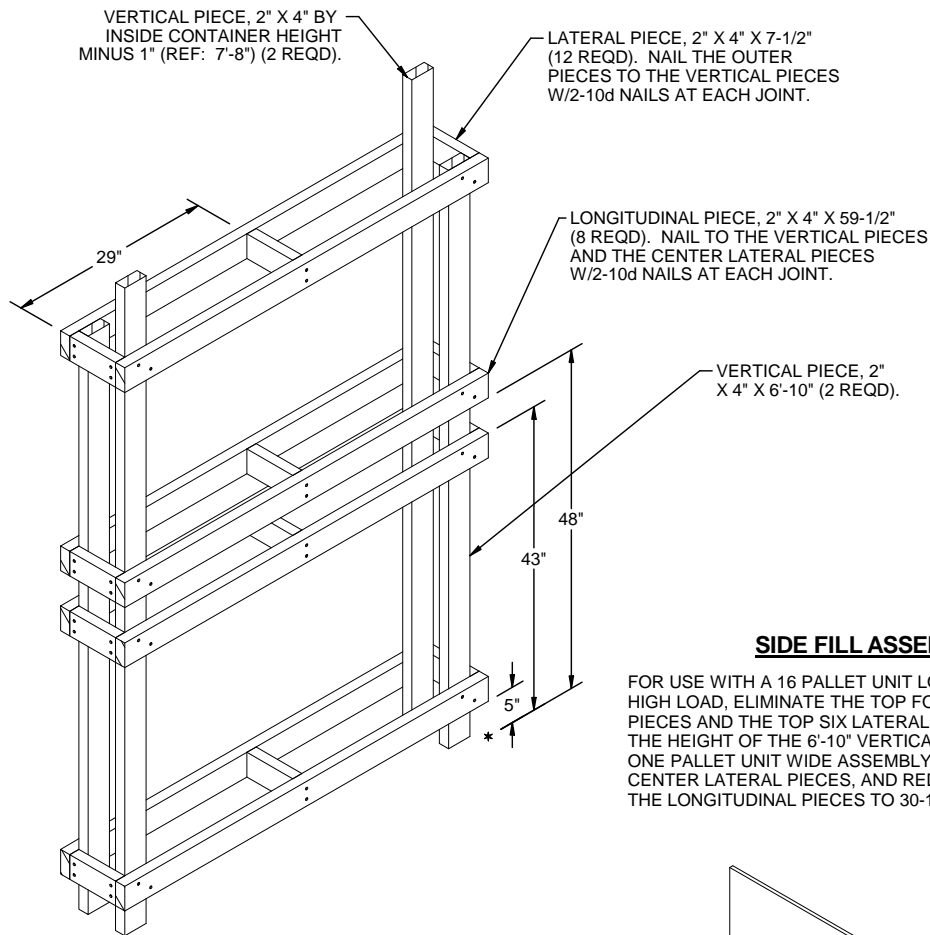
VERTICAL PIECE, 2" X 4"  
X 7'-6" (1 REQD). NAIL  
TO THE STRUTS W/2-12d  
NAILS AT EACH JOINT.

BUFFER PIECE, 2" X 4" BY  
INSIDE CONTAINER HEIGHT  
MINUS 1" (REF: 7'-7") (1 REQD).  
NAIL TO THE STRUTS W/2-12d  
NAILS AT EACH JOINT.



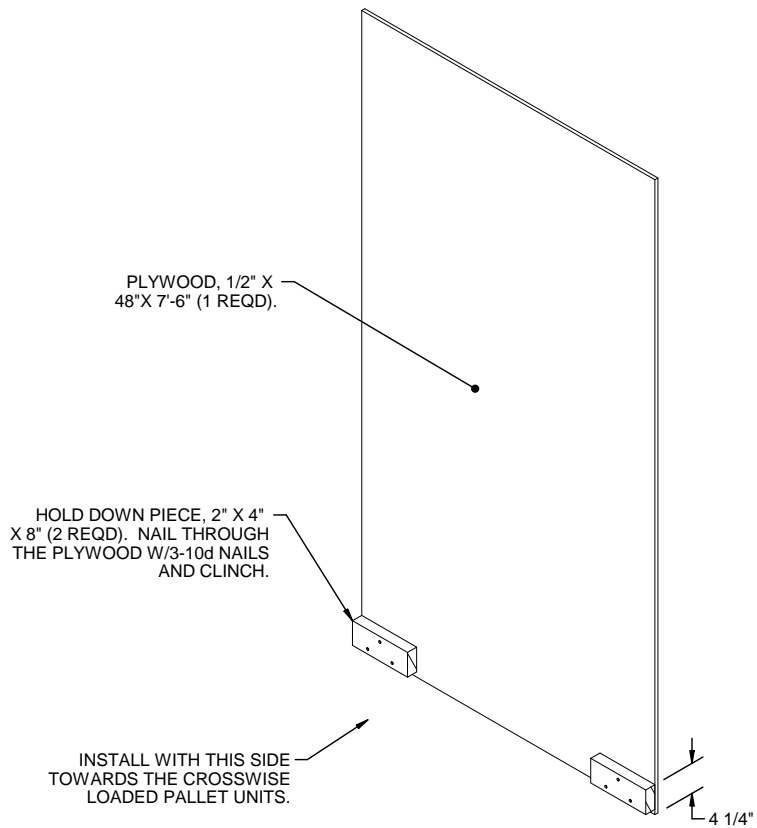
**FORWARD STRUT ASSEMBLY**

**NOTE:** FOR A ONE HIGH LOAD, ELIMINATE THE TOP  
TWO STRUTS AND SHORTEN THE VERTICAL PIECE TO  
48".



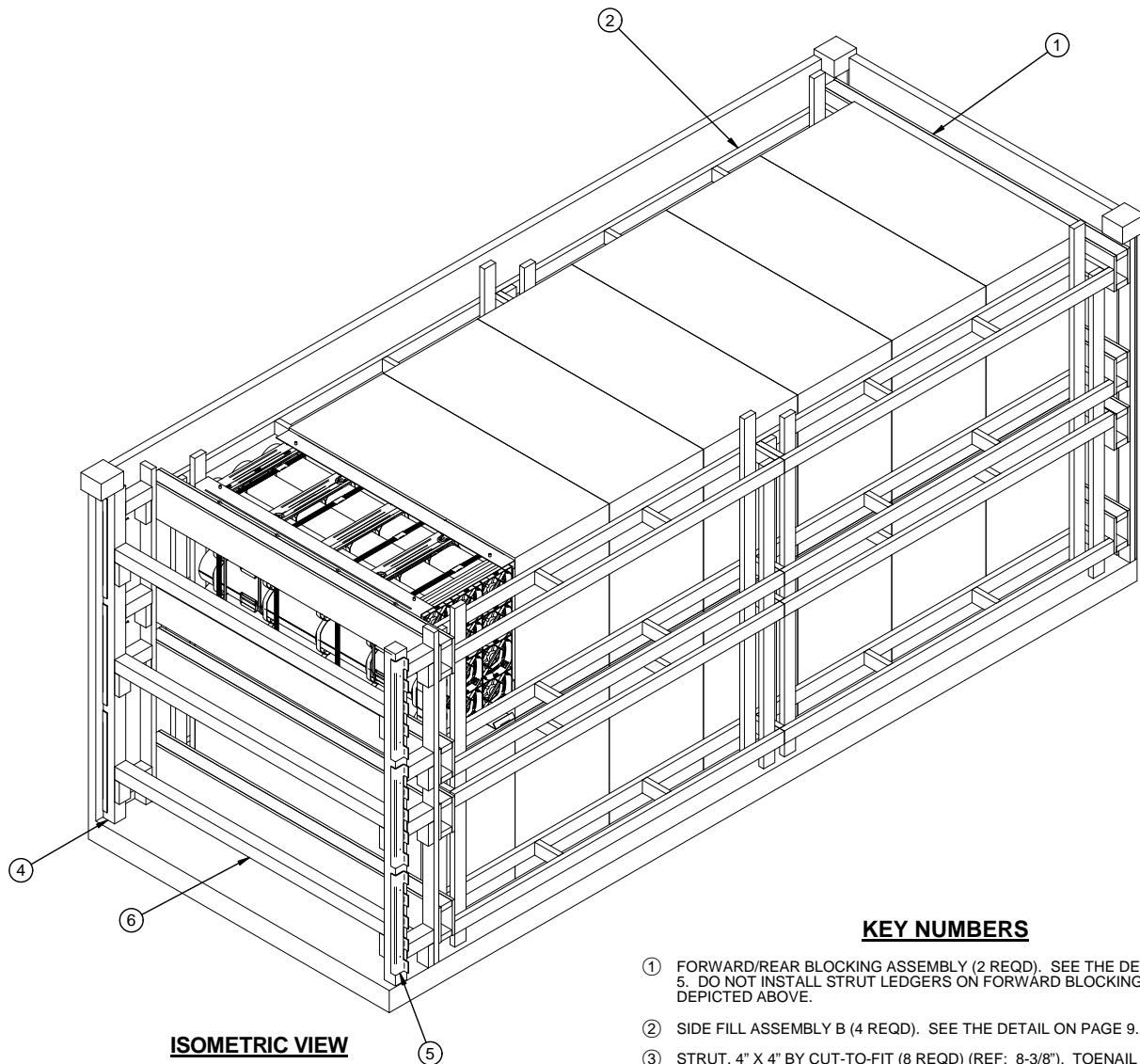
**SIDE FILL ASSEMBLY A**

FOR USE WITH A 16 PALLET UNIT LOAD. **NOTE:** FOR A ONE HIGH LOAD, ELIMINATE THE TOP FOUR LONGITUDINAL PIECES AND THE TOP SIX LATERAL PIECES, AND REDUCE THE HEIGHT OF THE 6'-10" VERTICAL PIECES TO 48". FOR A ONE PALLET UNIT WIDE ASSEMBLY, ELIMINATE THE FOUR CENTER LATERAL PIECES, AND REDUCE THE LENGTH OF THE LONGITUDINAL PIECES TO 30'-1/4".



**SEPARATOR**

**NOTE:** FOR A ONE HIGH LOAD, REDUCE THE HEIGHT OF THE PLYWOOD TO 48".



**ISOMETRIC VIEW**

**KEY NUMBERS**

- ① FORWARD/REAR BLOCKING ASSEMBLY (2 REQD). SEE THE DETAIL ON PAGE 5. DO NOT INSTALL STRUT LEDGERS ON FORWARD BLOCKING ASSEMBLY DEPICTED ABOVE.
- ② SIDE FILL ASSEMBLY B (4 REQD). SEE THE DETAIL ON PAGE 9.
- ③ STRUT, 4" X 4" BY CUT-TO-FIT (8 REQD) (REF: 8-3/8"). TOENAIL TO THE BUFFER PIECES OF THE REAR BLOCKING ASSEMBLY AND DOOR POST VERTICAL W/2-12d NAILS. SEE THE "BEVEL-CUT" DETAIL ON PAGE 4.
- ④ DOOR POST VERTICAL (2 REQD). SEE THE DETAIL ON PAGE 5, "DETAIL A" ON PAGE 6, AND GENERAL NOTE "Q" ON PAGE 3.
- ⑤ UNIVERSAL LOAD RETAINER (6 REQD, 3 PER SIDE). NAIL THROUGH THE HOLES INTO THE DOOR POST VERTICAL W/2-10d NAILS. SEE DEPARTMENT OF ARMY DRAWING DA-116, "DETAIL B" ON PAGE 6, AND GENERAL NOTE "Q" ON PAGE 3.
- ⑥ DOOR SPANNER, 4" X 4" MATERIAL CUT TO A LENGTH THAT WILL PROVIDE A DRIVE FIT (REF:7'-1-1/4") (3 REQD). TOENAIL TO THE DOOR POST VERTICAL W/2-12d NAILS AT EACH END. SEE THE "BEVEL-CUT" DETAIL ON PAGE 4.

BILL OF MATERIAL		
LUMBER	LINEAR FEET	BOARD FEET
2" X 4"	680	453
4" X 4"	38	50
NAI LS	NO. REQD	POUNDS
6d (2")	352	2-1/4
10d (3")	444	7
12d (3-1/4")	12	1/2
PLYWOOD, 3/4"	97.11 SQ FT REQD	200.29 LBS
UNIVERSAL LOAD RETAINER	6 REQD	39.00 LBS

**LOAD AS SHOWN**

ITEM	QUANTI TY	WEI GHT (APPROX)
PALLET UNIT	14	28,406 LBS
DUNNAGE		1,256 LBS
CONTAI NER		4,700 LBS
<b>TOTAL WEIGHT</b>		<b>34,362 LBS (APPROX)</b>

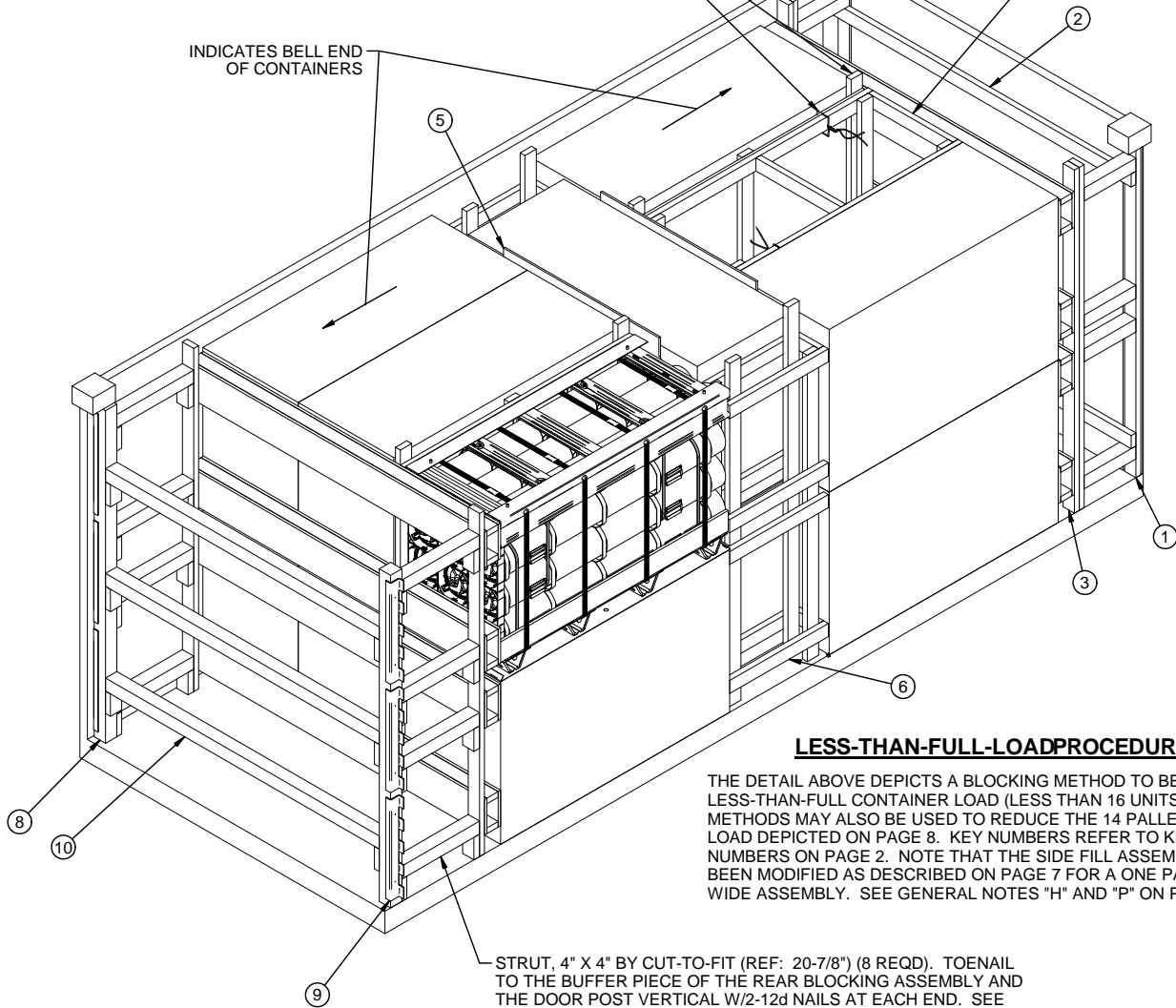




TIE WIRE, 24" LONG (2 REQD PER FILLER ASSEMBLY). INSTALL TO FORM A COMPLETE LOOP AROUND THE FILLER ASSEMBLY AND AN ADJACENT PALLET UNIT STRAP OR CENTER FILL ASSEMBLY. BRING ENDS TOGETHER AND TWIST TAUT. SECURE TO THE FILLER ASSEMBLY WITH A PARTIALLY DRIVEN 10d NAIL BENT OVER THE WIRE OR WITH A STRAP STAPLE.

FILLER ASSEMBLY (1 SHOWN). SEE THE DETAIL BELOW.

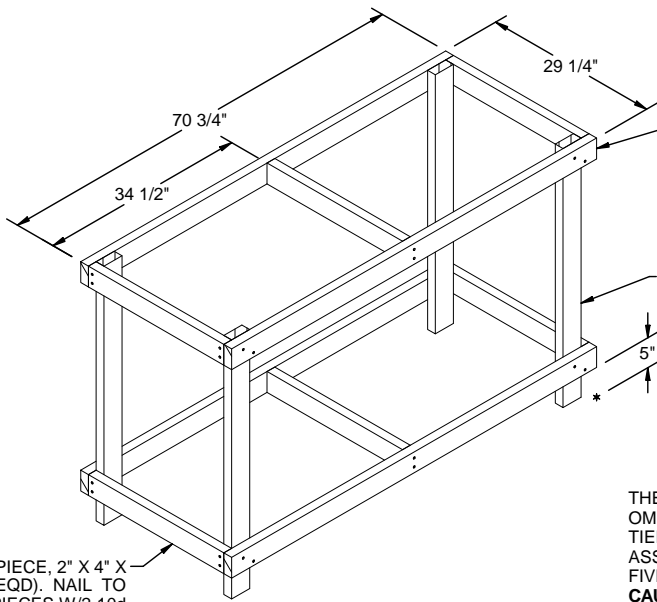
INDICATES BELL END OF CONTAINERS



**LESS-THAN-FULL-LOADPROCEDURE**

THE DETAIL ABOVE DEPICTS A BLOCKING METHOD TO BE USED IN A LESS-THAN-FULL CONTAINER LOAD (LESS THAN 16 UNITS). SIMILAR METHODS MAY ALSO BE USED TO REDUCE THE 14 PALLET UNIT LOAD DEPICTED ON PAGE 8. KEY NUMBERS REFER TO KEY NUMBERS ON PAGE 2. NOTE THAT THE SIDE FILL ASSEMBLIES HAVE BEEN MODIFIED AS DESCRIBED ON PAGE 7 FOR A ONE PALLET UNIT WIDE ASSEMBLY. SEE GENERAL NOTES "H" AND "P" ON PAGE 3.

STRUT, 4" X 4" BY CUT-TO-FIT (REF: 20-7/8") (8 REQD). TOENAIL TO THE BUFFER PIECE OF THE REAR BLOCKING ASSEMBLY AND THE DOOR POST VERTICAL W/2-12d NAILS AT EACH END. SEE THE "BEVEL-CUT" DETAIL ON PAGE 4 AND "DETAIL B" ON PAGE 9.



LONGITUDINAL PIECE, 2" X 4" X 6'-6-3/4" (4 REQD). NAIL TO THE VERTICAL PIECES AND THE CENTER LATERAL PIECE W/2-10d NAILS AT EACH JOINT.

VERTICAL PIECE, 2" X 4" X 43" (4 REQD).

LATERAL PIECE, 2" X 4" X 26-1/4" (6 REQD). NAIL TO THE VERTICAL PIECES W/2-10d NAILS AT EACH END.

**FILLER ASSEMBLY**

THE ASSEMBLY DEPICTED ABOVE IS FOR USE IN PLACE OF AN OMITTED PALLET UNIT. FILLER ASSEMBLIES MUST BE WIRE TIED TO AN ADJACENT PALLET UNIT STRAP OR CENTER FILL ASSEMBLY TO PREVENT UNDUE MOVEMENT. NO MORE THAN FIVE FILLER ASSEMBLIES WILL BE USED IN ANY LOAD. **CAUTION:** DO NOT USE FILLER ASSEMBLIES TO REPLACE CROSSWISE LOADED PALLET UNITS WHEN LOADING IN ACCORDANCE WITH THE PROCEDURES DEPICTED ON PAGE 2.