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# LOADING AND BRACING<sup>⊕</sup> IN SIDE OPENING ISO CONTAINERS OF MINIATURE AIR LAUNCHED DECOY (MALD), ADM-160, PACKED IN CNU- 683 SHIPPING AND STORAGE CON- TAINERS

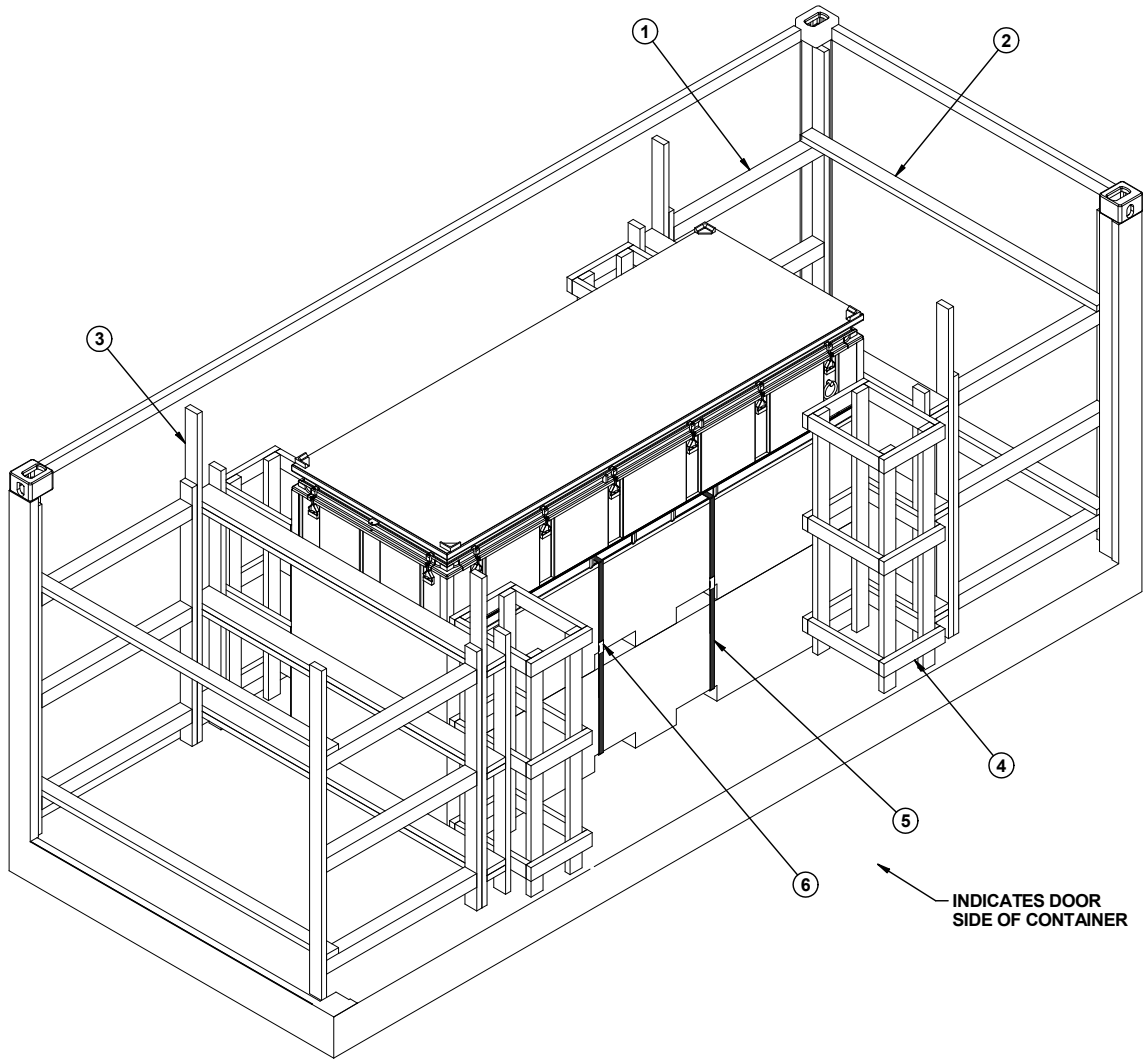
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⊕ THE PROCEDURES SHOWN HEREIN ARE APPLICABLE TO LOADS THAT ARE TO BE SHIPPED BY TRAILER/CONTAINER-ON-FLATCAR (T/COFC) RAIL, MOTOR, OR WATER CARRIERS.

## U.S. ARMY MATERIEL COMMAND DRAWING

<p>APPROVED, U.S. ARMY JOINT MUNITIONS COMMAND</p> <p>NESBITT. RICHARD. L.1230413831</p> <p>Digitally signed by NESBITT. RICHARD.L.1230413831 DN: c=US, o=U.S. Government, ou=DoD, ou=PKI, ou=USA, cn=NESBITT.RICHARD. L.1230413831 Date: 2008.08.19 12:33:15 -05'00'</p>		<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 6.</b></p>						
		<p><b>DO NOT SCALE</b></p>			<p><b>AUGUST 2008</b></p>			
		<p>ENGINEER OR TECHNICIAN</p>	<p>BASIC REV.</p>	<p>LAURA A. FIEFFER</p>				
		<p>TRANSPORTATION ENGINEERING DIVISION</p>	<p>FIEFFER.LAURA. A.1230375727</p> <p>Digitally signed by FIEFFER.LAURA.A.1230375727 DN: c=US, o=U.S. Government, ou=DoD, ou=PKI, ou=USA, ou=FIEFFER.LAURA.A.1230375727 W.1230375727 Date: 2008.08.12 12:05:51 -05'00'</p>					
<p>APPROVED BY ORDER OF COMMANDING GENERAL, U.S. ARMY MATERIEL COMMAND</p> <p>CARNEY.GARY. BURTON.10387 08038</p> <p>Digitally signed by CARNEY.GARY. BURTON.1038708038 DN: c=US, o=U.S. Government, ou=DoD, ou=PKI, ou=USA, cn=CARNEY.GARY. BURTON.1038708038 Date: 2008.08.25 06:53:08 -05'00'</p>		<p>VALIDATION ENGINEERING DIVISION</p>	<p>BARICKMAN. PHILIP. W.1230202202</p> <p>Digitally signed by BARICKMAN. PHILIP.W.1230202202 DN: c=US, o=U.S. Government, ou=DoD, ou=PKI, ou=USA, ou=BARICKMAN.PHILIP. W.1230202202 Date: 2008.08.18 13:44:48 -05'00'</p>	<p>TESTED</p>	<p>CLASS</p>	<p>DIVISION</p>	<p>DRAWING</p>	<p>FILE</p>
<p>U.S. ARMY DEFENSE AMMUNITION CENTER</p>		<p>ENGINEERING DIRECTORATE</p>	<p>BEAVER.JERRY. W.1230949952</p> <p>Digitally signed by BEAVER.JERRY. W.1230949952 DN: c=US, o=U.S. Government, ou=DoD, ou=PKI, ou=USA, ou=BEAVER.JERRY. W.1230949952 Date: 2008.08.12 12:34:04 -05'00'</p>		<p>19</p>	<p>48</p>	<p>8867</p>	<p>SP15J171</p>



**ISOMETRIC VIEW**

INDICATES DOOR SIDE OF CONTAINER

**KEY NUMBERS**

- ① STRUT ASSEMBLY (4 REQD). SEE THE DETAIL ON PAGE 5.
- ② SPREADER PIECE, 2" X 4" BY INSIDE CONTAINER WIDTH MINUS 1" (REF: 7'-2-3/4") (4 REQD). NAIL TO THE TOP AND BOTTOM STRUTS OF PIECES MARKED ① W/2-10d NAILS AT EACH END.
- ③ END BLOCKING ASSEMBLY (2 REQD). SEE THE DETAIL ON PAGE 6. NAIL THROUGH THE BUFFER PIECES INTO THE VERTICAL PIECE OF PIECES MARKED ① W/5-10d NAILS.
- ④ SIDE FILL ASSEMBLY (4 REQD). SEE THE DETAIL ON PAGE 5. NAIL STRUTS TO END BLOCKING ASSEMBLY VERTICAL PIECE W/2-10d NAILS AT EACH LOCATION.
- ⑤ STACK UNITIZING STRAP, 1-1/4" X .035" OR .031" X 17'-0" LONG STEEL STRAPPING (2 REQD). INSTALL THROUGH FORKLIFT OPENINGS OF FIRST AND THIRD LAYER CONTAINERS, AS FAR APART AS ALLOWABLE.
- ⑥ SEAL FOR 1-1/4" STEEL STRAPPING (2 REQD, 1 PER STRAP). DOUBLE NOTCH EACH SEAL.

**BILL OF MATERIAL**

LUMBER	LINEAR FEET	BOARD FEET
2" X 4"	289	193
2" X 6"	89	89
4" X 4"	45	59
NAILS	NO. REQD	POUNDS
10d (3")	390	6
12d (3-1/4")	48	1
STEEL STRAPPING, 1-1/4" - 34' REQD - -		4.86 LBS
SEAL FOR 1-1/4" STRAPPING - 2 REQD - -		0.09 LBS

**LOAD AS SHOWN**

ITEM	QUANTITY	WEIGHT (APPROX)
CNU-683 - - - - -	3 - - - - -	3,555 LBS
DUNNAGE - - - - -	- - - - -	692 LBS
CONTAINER - - - - -	- - - - -	6,050 LBS
<b>TOTAL WEIGHT - - - - -</b>		<b>10,297 LBS (APPROX)</b>

## 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 SPECIFIED OUTLOADING PROCEDURES ARE APPLICABLE TO LOADS OF MINIATURE AIR LAUNCHED DECOY (MALD), ADM-160, PACKED IN CNU-683 CONTAINER. SUBSEQUENT REFERENCE TO CONTAINER HEREIN MEANS THE CONTAINER WITH AMMUNITION ITEMS. SEE PAGE 4 AND RAYTHEON DRAWING 2280133 FOR DETAILS OF THE CONTAINER. **CAUTION:** REGARDLESS OF THE QUANTITY OF CONTAINERS TO BE SHIPPED, THE "MAXIMUM GROSS WEIGHT" OF THE SIDE OPENING ISO CONTAINER MUST NOT BE EXCEEDED.
- C. THE LOAD AS SHOWN IS BASED ON A 6,050 POUND 20' LONG BY 8' WIDE BY 8'-6" HIGH SIDE OPENING ISO CONTAINER WITH INSIDE DIMENSIONS OF 19'-5-1/4" LONG BY 89'-3/4" WIDE BY 88" HIGH, WITH A MAXIMUM GROSS WEIGHT OF 52,910 POUNDS. OLDER/OTHER CONTAINERS MAY HAVE DIFFERENT INSIDE MEASUREMENTS, VERIFY INSIDE CONTAINER DIMENSIONS 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 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 INCREASING THE LENGTH OF THE STRUTS IN THE SIDE FILL ASSEMBLIES.
- 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 ENDWALL. PIECES OF DUNNAGE MATERIAL MUST BE LAMINATED TO THE BUFFER PIECE ON THE 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 PRECLUDES 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 ENDWALLS, ONLY THE CORNER POSTS OF THE CONTAINER SHOULD BE USED FOR 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.

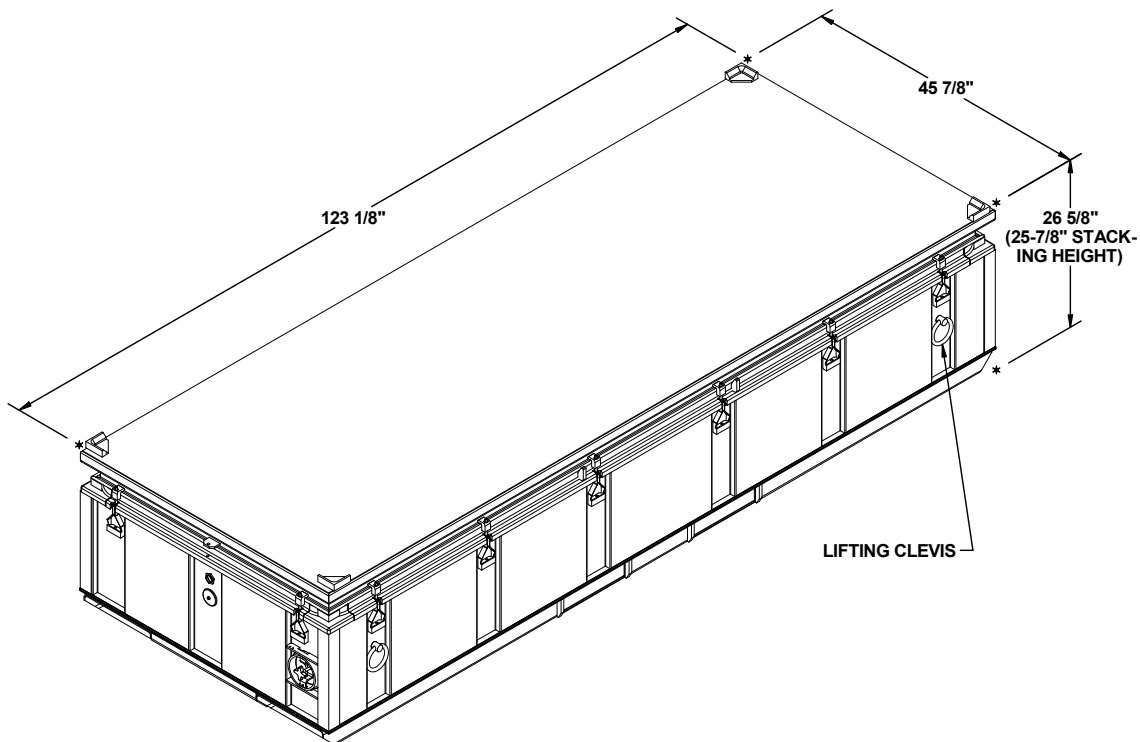
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## (GENERAL NOTES CONTINUED)

- 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 CONTAINERS SHOWN IN THE LOAD ON PAGE 2 MAY BE REDUCED FOR SHIPMENT, IF DESIRED, BY ELIMINATING ONE OR TWO LAYERS.
- Q. AS REQUIRED BY THE ASSOCIATION OF AMERICAN RAILROADS (AAR), ALL 1-1/4" AND 2" STEEL STRAPPING USED FOR LOAD RESTRAINT MUST BE MARKED AS SPECIFIED WITHIN THE APPLICABLE AAR RULES GOVERNING LOADING, BLOCKING AND BRACING OF FREIGHT WITHIN THE CONVEYANCE. FOR THE SPECIFIC MARKING SIZE, FREQUENCY, ETC., REQUIRED, REFER TO THE APPROPRIATE AAR LOADING RULES.
- R. WHEN STEEL STRAPPING IS SEALED AT AN END-OVER-END LAP JOINT, A MINIMUM OF ONE SEAL WITH TWO PAIR OF NOTCHES WILL BE USED TO SEAL THE JOINT WHEN A NOTCH-TYPE SEALER IS BEING USED. A MINIMUM OF TWO SEALS, BUTTED TOGETHER WITH TWO PAIR OF CRIMPS PER SEAL WILL BE USED TO SEAL THE JOINT WHEN A CRIMP-TYPE SEALER IS BEING USED. REFER TO THE STRAP JOINT DETAILS ON PAGE 6 FOR GUIDANCE.
- S. ANTI-CHAFING MATERIAL MAY BE INSTALLED AT POINTS OF CONTACT BETWEEN CONTAINERS, AND BETWEEN CONTAINERS AND STEEL STRAPPING, IF DESIRED, TO PREVENT CHAFING DAMAGE TO CONTAINER PAINT AND MARKINGS.
- T. **RECOMMENDED SEQUENTIAL LOADING PROCEDURES:**
1. PREFABRICATE FOUR STRUT ASSEMBLIES, TWO END BLOCKING ASSEMBLIES, AND FOUR SIDE FILL ASSEMBLIES.
  2. INSTALL TWO STRUT ASSEMBLIES AND TWO SPREADER PIECES AT ONE END OF THE CONTAINER.
  3. INSTALL ONE END BLOCKING ASSEMBLY AGAINST THE STRUT ASSEMBLIES, NAILING IN PLACE.
  4. INSTALL ONE SIDE FILL ASSEMBLY AGAINST THE FAR WALL OF THE CONTAINER, NAILING TO THE END BLOCKING ASSEMBLY.
  5. REPEAT STEPS 2 THROUGH 4 AT THE OPPOSITE END OF THE CONTAINER.
  6. INSTALL TWO UNITIZING STRAPS AROUND THE THREE CNU-683 CONTAINERS AND SEAL.
  7. LOAD THREE CNU-683 CONTAINERS.
  8. INSTALL TWO SIDE FILL ASSEMBLIES ON THE DOOR SIDE OF THE CONTAINER, NAILING TO THE END BLOCKING ASSEMBLIES.

## MATERIAL SPECIFICATIONS

- LUMBER - - - - - : SEE TM 743-200-1 (DUNNAGE LUMBER) AND VOLUNTARY PRODUCT STANDARD PS 20.
- NAILS - - - - - : ASTM F1667; COMMON STEEL NAIL NLCS OR NLCSMS).
- STRAPPING, STEEL - - : ASTM D3953; FLAT STRAPPING, TYPE 1, HEAVY DUTY, FINISH A, B (GRADE 2), OR C.
- SEAL, STRAP - - - - - : ASTM D3953; CLASS H, FINISH A, B (GRADE 2), OR C, DOUBLE NOTCH TYPE, STYLE I, II, OR IV.
- ANTI-CHAFING MATERIAL - - - - - : MIL-PRF-121 (OR EQUAL); NEUTRAL BARRIER MATERIAL.



### **CNU-683 CONTAINER**

GROSS WEIGHT - - - - - 1,185 LBS (APPROX)  
 CUBE - - - - - 87.0 CU FT (APPROX)

### **UNITIZATION AND HANDLING GUIDANCE**

(UNITIZATION AND HANDLING GUIDANCE CONTINUED)

#### 1. STACKING CONTAINERS FOR LOADING:

- A. AN UPPER CONTAINER SHOULD BE PLACED AS CLOSE AS POSSIBLE IN VERTICAL ALIGNMENT WITH THE NEXT LOWER CONTAINER.
- B. POSITION THE FORWARD END OF AN UPPER CONTAINER ABOVE THE FORWARD END OF THE NEXT LOWER CONTAINER.
- C. THE CONTAINER SKIDS OF AN UPPER CONTAINER SHOULD BE FULLY SEATED AGAINST THE SKID LOCATOR PIECES ON THE COVER OF THE NEXT LOWER CONTAINER.

#### 2. INSTALLATION OF UNITIZING STRAPS:

- A. STRAPS WILL BE POSITIONED SO AS TO ENIRCLE THE CONTAINERS AND SO THAT THE STRAPPING LAYS FLAT AND STRAIGHT WITH THE BODY SURFACE OF THE CONTAINER; I.E., VERTICAL ALONG THE SIDES AND FLAT ACROSS THE TOP AND BOTTOM OF THE STACK.
- B. PLACE ANTI-CHAFING NEUTRAL BARRIER MATERIAL UNDER THE STRAPPING AT ALL POINTS OF CONTACT WITH THE CONTAINER, IF DESIRED, AND SECURE TO PREVENT DISLODGE MENT DURING AND AFTER STRAP APPLICATION. STRIPS OF ANTI-CHAFING MATERIAL MAY BE TAPED OR STRING-TIED TO THE CONTAINER OR STRAPPING, OR IT CAN BE FORMED INTO STRAP ENCIRCLING TUBES BY WINDING THE MATERIAL AROUND THE STRAPPING TO FORM A SELF-HOLDING UNIT.
- C. STRAPPING WILL BE FIRMLY TENSIONED AND EACH END-OVER-END LAP JOINT WILL BE SEALED WITH TWO DOUBLE CRIPL ED STRAP SEALS. SEE GENERAL NOTE "R" ON PAGE 2. THE LAP JOINTS WILL BE MADE ALONG THE SIDE OF THE STACK AS SHOWN. DURING STRAP TENSIONING, CARE SHOULD BE EXERCISED TO ENSURE THAT THE CONTAINERS ARE NOT DAMAGED. EXCESS STRAPPING (STRAP ENDS) SHOULD BE CUT OFF OR BROKEN OFF NEAR THE JOINT SEALS.

#### 3. CONTAINER OR CONTAINER STACK HANDLING:

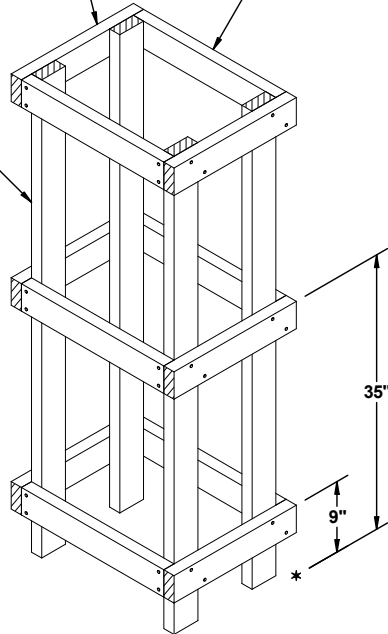
- A. ONLY APPROVED AND APPROPRIATELY SIZED MATERIAL HANDLING EQUIPMENT WILL BE USED FOR HANDLING THE DEPICTED CONTAINERS. APPROVED MATERIAL HANDLING EQUIPMENT (FORKLIFT TRUCKS, CRANES, HAND TRUCKS, DOLLIES, ROLLER ASSEMBLIES, SLINGS, SPREADER BARS, ETC.) IS SPECIFIED ELSEWHERE.
- B. PRECAUTIONARY HANDLING 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.

(CONTINUED AT RIGHT)

BUFFER PIECE, 2" X 4" X 18" (6 REQD). NAIL TO VERTICAL PIECES W/2-10d NAILS AT EACH JOINT.

STRUT, 2" X 4" X 21" (6 REQD). NAIL TO VERTICAL PIECES W/2-10d NAILS AT EACH END.

VERTICAL PIECE, 2" X 4" X 61" (4 REQD).



**SIDE FILL ASSEMBLY**

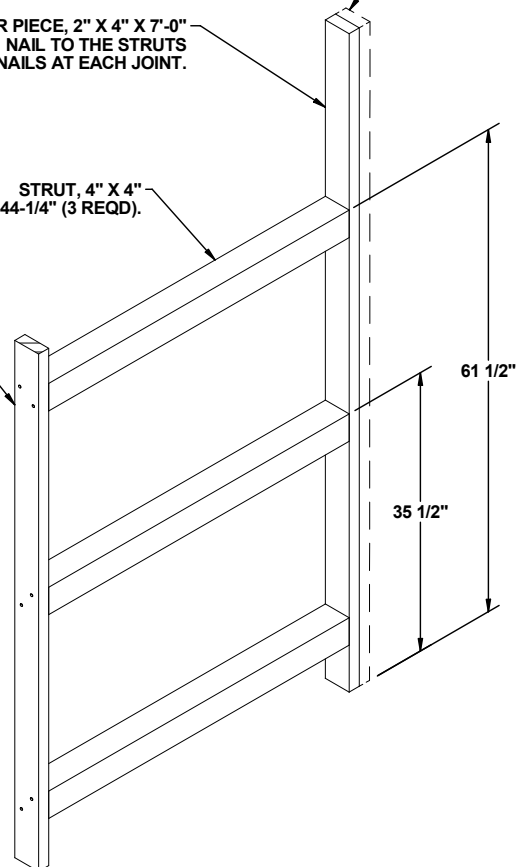
FOR A TWO HIGH LOAD, ELIMINATE THE CENTER STRUTS AND BUFFER PIECES AND REDUCE THE HEIGHT OF THE VERTICAL PIECES FROM 61" TO 35". FOR A ONE HIGH LOAD, ELIMINATE THE CENTER STRUTS AND BUFFER PIECES AND REDUCE THE HEIGHT OF THE VERTICAL PIECES FROM 61" TO 25".

SEE GENERAL NOTE "G" ON PAGE 3.

BUFFER PIECE, 2" X 4" X 7'-0" (1 REQD). NAIL TO THE STRUTS W/2-12d NAILS AT EACH JOINT.

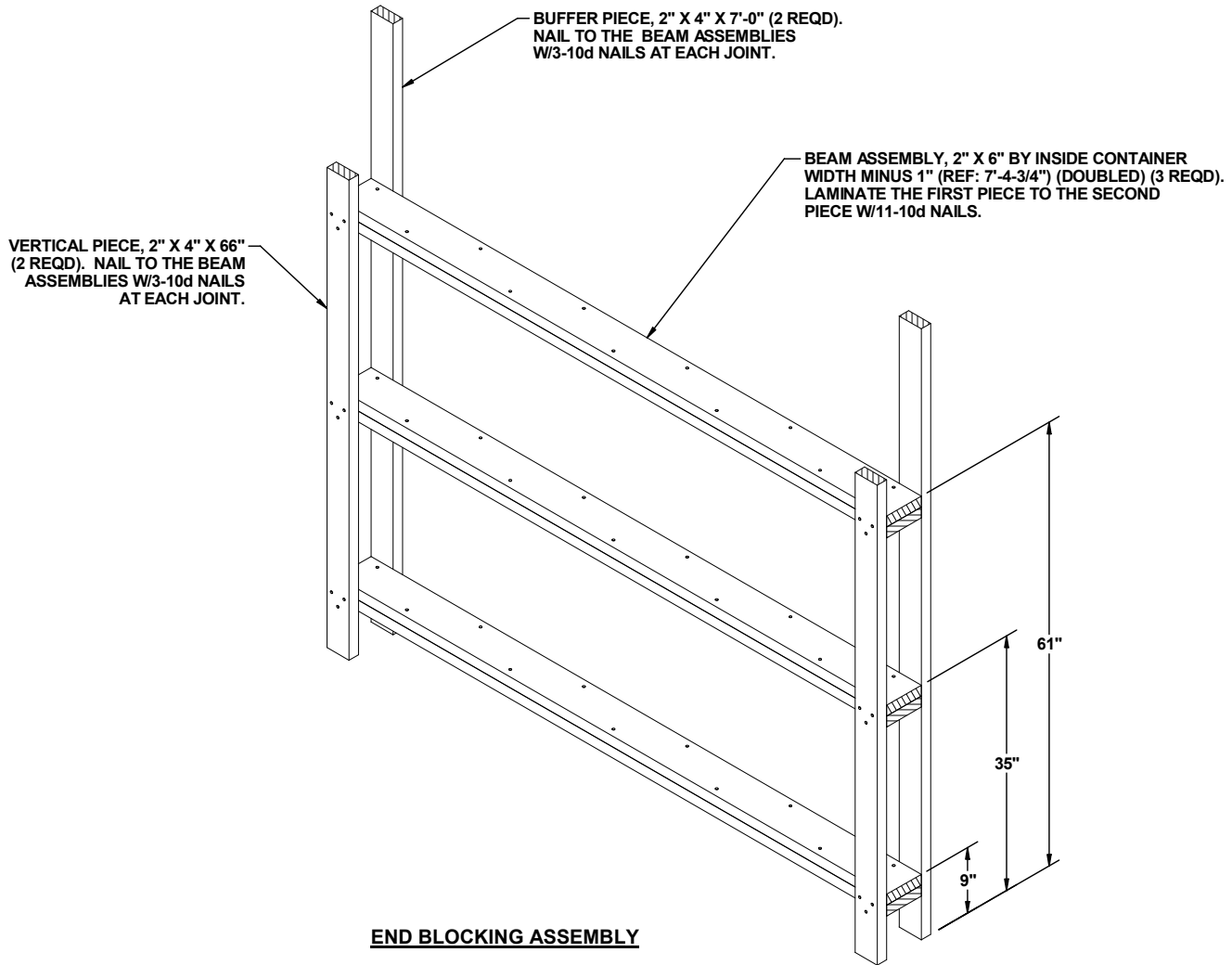
STRUT, 4" X 4" X 44-1/4" (3 REQD).

VERTICAL PIECE, 2" X 4" X 66" (1 REQD). NAIL TO THE STRUTS W/2-12d NAILS AT EACH JOINT.



**STRUT ASSEMBLY**

FOR A TWO HIGH LOAD, ELIMINATE THE CENTER STRUT, REDUCE THE LENGTH OF VERTICAL PIECE FROM 64" TO 39" AND REDUCE THE HEIGHT OF THE UPPER STRUT FROM 61-1/2" TO 39". FOR A ONE HIGH LOAD, ELIMINATE THE CENTER STRUT, REDUCE THE LENGTH OF VERTICAL PIECE FROM 64" TO 28-1/2" AND REDUCE THE HEIGHT OF THE UPPER STRUT FROM 61-1/2" TO 25".



**END BLOCKING ASSEMBLY**

FOR A TWO HIGH LOAD, ELIMINATE THE TOP BEAM ASSEMBLY AND REDUCE THE HEIGHT OF THE VERTICAL PIECES FROM 61" TO 35". FOR A ONE HIGH LOAD, ELIMINATE THE TOP BEAM ASSEMBLY, REDUCE THE HEIGHT OF THE VERTICAL PIECES FROM 61" TO 25", AND REDUCE THE CENTER BEAM ASSEMBLY HEIGHT FROM 35" TO 25".



ONE SEAL WITH TWO PAIR OF NOTCHES.

**STRAP JOINT A**

METHOD OF SECURING A STRAP JOINT WHEN USING A NOTCH-TYPE SEALER.



TWO SEALS, BUTTED TOGETHER, WITH TWO PAIR OF CRIMPS EACH SEAL.

**STRAP JOINT B**

METHOD OF SECURING A STRAP JOINT WHEN USING A CRIMP-TYPE SEALER.

**END-OVER-END LAP JOINT DETAILS**