

APPROVED BY
BUREAU OF EXPLOSIVES

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DATE 6/4/2000

LOADING AND BRACING IN SIDE OPENING ISO CONTAINERS OF PROPELLING CHARGES PACKED IN CYLINDRICAL METAL CONTAINERS

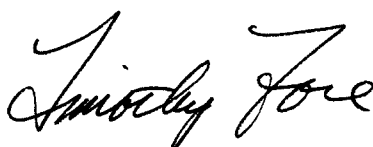

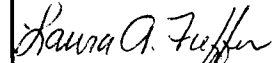
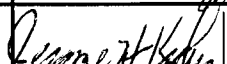
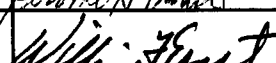
M18 SERIES CONTAINERS

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LOADING AND BRACING SPECIFICATIONS SET FORTH WITHIN THIS DRAWING ARE APPLICABLE TO LOADS THAT ARE TO BE SHIPPED BY TRAILER/CONTAINER-ON-FLATCAR (T/COFC) RAIL CARRIER SERVICE. THESE SPECIFICATIONS MAY ALSO BE USED FOR LOADS THAT ARE TO BE MOVED BY MOTOR OR WATER CARRIERS.

U.S. ARMY MATERIEL COMMAND DRAWING

APPROVED, U.S. ARMY INDUSTRIAL OPERATIONS COMMAND 	ENGINEER	BASIC	MICHAEL SARDONE	DO NOT SCALE				
		REV.		WEBSITE: HTTP://WWW.DAC.ARMY.MIL				
	TECHNICIAN	BASIC		DECEMBER 1998				
	REV.							
	DRAFTSMAN	BASIC						
		REV.						
APPROVED BY ORDER OF COMMANDING GENERAL, U.S. ARMY MATERIEL COMMAND 	TRANSPORTATION ENGINEERING DIVISION							
	VALIDATION ENGINEERING DIVISION			TESTED	CLASS	DIVISION	DRAWING	FILE
	LOGISTICS ENGINEERING OFFICE				19	48	4264/ 5	15PM1003
U.S. ARMY DEFENSE AMMUNITION CENTER	PROJECT <u>CA 27715-92</u>							

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 OUTLOADING PROCEDURES SPECIFIED IN THIS DRAWING ARE APPLICABLE FOR THE M18 SERIES PROPELLING CHARGE CONTAINER ASSEMBLED ON THE 40" X 48" 4-WAY ENTRY PALLET. SEE THE PICTORIAL VIEWS ON PAGE 3 FOR SIZES AND WEIGHTS. SEE U. S. ARMY MATERIEL COMMAND DRAWING 19-48-4042A/5-20PM1001 FOR UNITIZATION PROCEDURES FOR THE M18 SERIES CONTAINERS. CAUTION: REGARDLESS OF THE QUANTITY OF UNITS TO BE SHIPPED, THE "MAXIMUM GROSS WEIGHT" OF THE SIDE OPENING ISO CONTAINER MUST NOT BE EXCEEDED.
- C. THE LOADS AS SHOWN ARE BASED ON 6,050 POUND 20' LONG BY 8' WIDE BY 8'-6" HIGH SIDE OPENING ISO CONTAINER WITH INSIDE DIMENSIONS OF 19'-4" LONG BY 89" WIDE BY 88" HIGH AND A MAXIMUM GROSS WEIGHT OF 52,910 POUNDS. THE LOAD IS DESIGNED FOR TRAILER/CONTAINER-ON-FLATCAR (T/COFC) SHIPMENT, HOWEVER, THE LOAD AS DESIGNED CAN ALSO BE MOVED BY MOTOR OR WATER CARRIERS. NOTICE: OTHER CONTAINERS OF THE SAME DESIGN CONFIGURATION CAN ALSO BE USED.
- D. WHEN LOADING THE 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 CRIB FILL ASSEMBLIES. NAIL EACH ADDITIONAL PIECE TO THE HORIZONTAL PIECE W/1 APPROPRIATELY SIZED NAIL EVERY 12". ADDITIONALLY, THE THICKNESS AND QUANTITY OF THE DUNNAGE LUMBER USED MAY BE ADJUSTED AS REQUIRED TO FACILITATE VARIANCE IN THE SIZE OF THE CONTAINER.
- E. DUNNAGE LUMBER SPECIFIED IS OF NOMINAL SIZE. FOR EXAMPLE, 1" X 6" MATERIAL IS ACTUALLY 3/4" THICK BY 5-1/2" 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 ENDWALLS. PIECES OF DUNNAGE MATERIAL MUST BE LAMINATED TO THE BUFFER PIECES ON THE FORWARD BLOCKING ASSEMBLY 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 ENDWALLS 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. CAUTION: DO NOT NAIL DUNNAGE MATERIAL TO THE CONTAINER WALLS OR FLOOR. ALL NAILING WILL BE WITHIN THE DUNNAGE. PORTIONS OF THE CONTAINER DEPICTED WITHIN THIS DRAWING, SUCH AS THE SIDE DOORS, HAVE NOT BEEN SHOWN IN THE LOAD VIEW FOR CLARITY PURPOSES.
- J. 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.

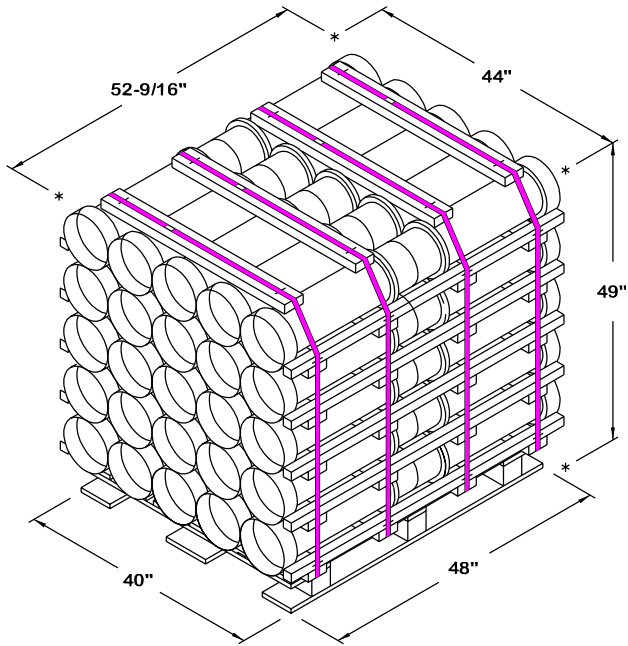
(GENERAL NOTES CONTINUED)

- 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) IN TERMODAL LOADING GUIDE 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 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. 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.
- O. THE QUANTITY OF PALLET UNITS SHOWN IN THE LOAD ON PAGES 4, 6, 8, AND 10 MAY BE REDUCED FOR SHIPMENT, IF DESIRED. SEE THE OMITTED UNIT ASSEMBLY ON PAGE 14.
- P. ANTI-CHAFING MATERIAL MAY BE INSTALLED AT POINTS OF CONTACT BETWEEN CONTAINERS AND THE SIDE OPENING CONTAINER, IF DESIRED, TO PREVENT CHAFING DAMAGE TO CONTAINER PAINT AND MARKINGS.

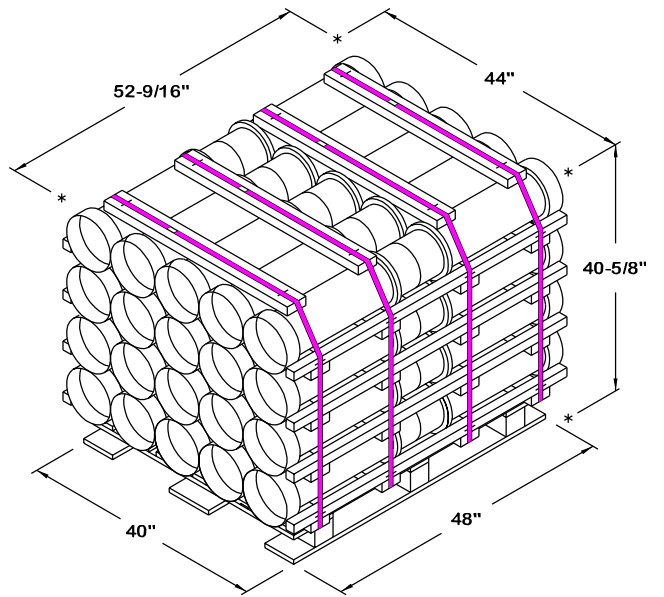
MATERIAL SPECIFICATIONS

- 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.



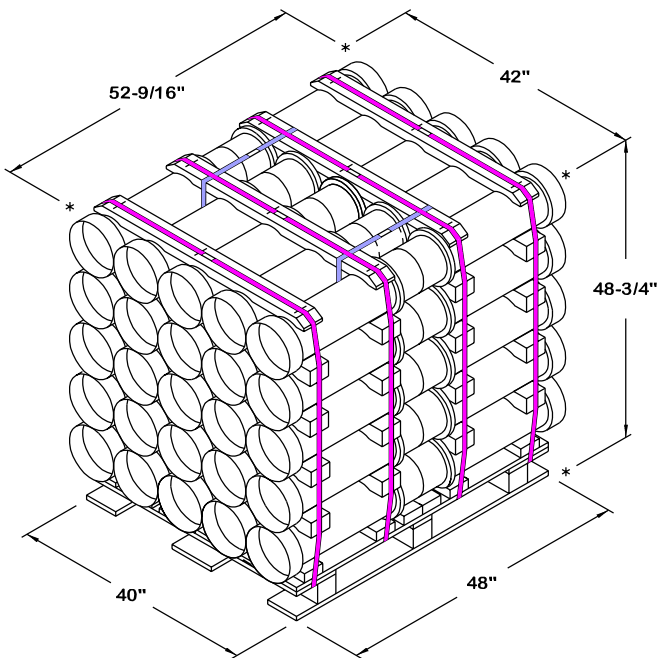
FLAT DUNNAGE METHOD UNIT (BASIC HEIGHT)

CONTAINER - - - - - 50 EACH @ 31 LBS (APPROX)
 CUBE - - - - - 65.6 CUBIC FEET (APPROX)
 GROSS WEIGHT - - - - - 1,779 POUNDS (APPROX)



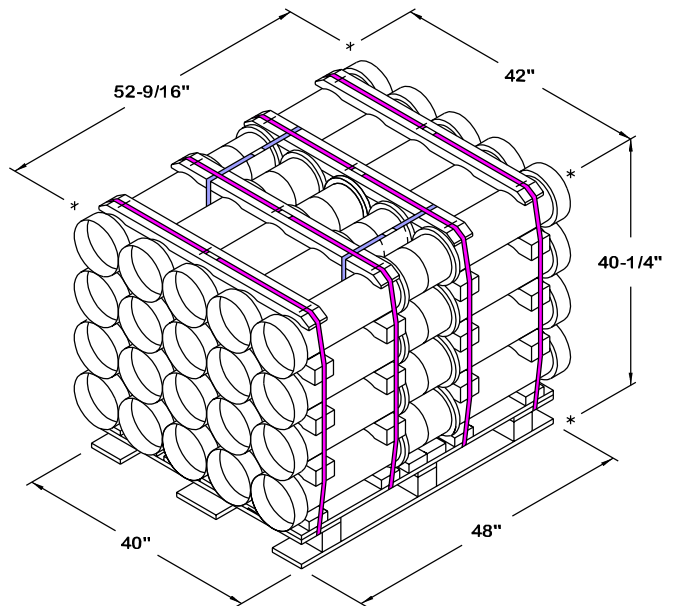
FLAT DUNNAGE METHOD UNIT (DECREASED HEIGHT)

CONTAINER - - - - - 40 EACH @ 31 LBS (APPROX)
 CUBE - - - - - 54.4 CUBIC FEET (APPROX)
 GROSS WEIGHT - - - - - 1,443 POUNDS (APPROX)



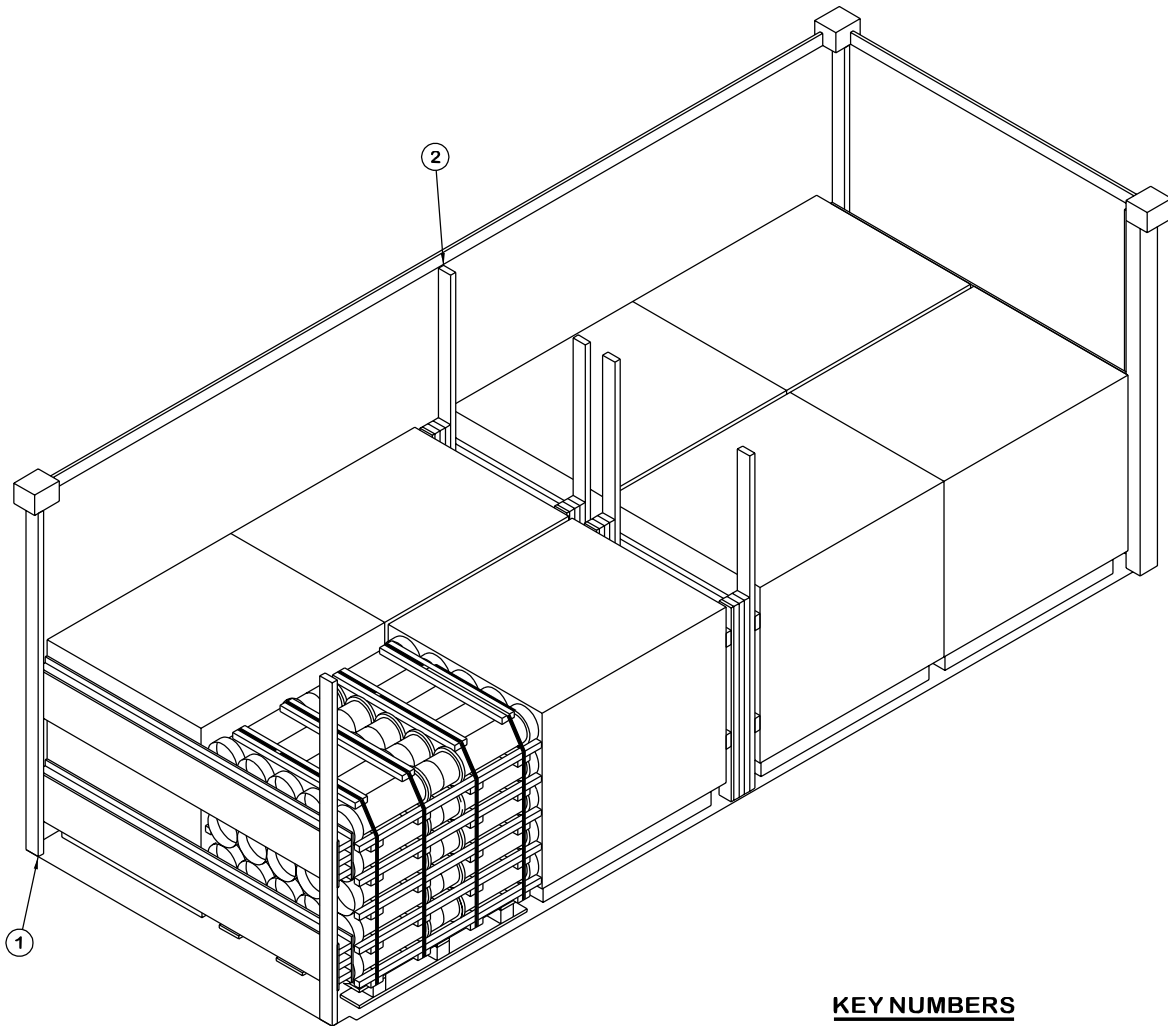
ROUTED DUNNAGE METHOD UNIT (BASIC HEIGHT)

CONTAINER - - - - - 50 EACH @ 31 LBS (APPROX)
 CUBE - - - - - 62.3 CUBIC FEET (APPROX)
 GROSS WEIGHT - - - - - 1,792 POUNDS (APPROX)



ROUTED DUNNAGE METHOD UNIT (DECREASED HEIGHT)

CONTAINER - - - - - 40 EACH @ 31 LBS (APPROX)
 CUBE - - - - - 51.4 CUBIC FEET (APPROX)
 GROSS WEIGHT - - - - - 1,453 POUNDS (APPROX)



ISOMETRIC VIEW

KEY NUMBERS

- ① END BLOCKING ASSEMBLY (2 REQD). SEE THE DETAIL AND CHART ON PAGE 12.
- ② CENTER FILL ASSEMBLY (1 REQD). SEE THE DETAIL AND CHART ON PAGE 13.

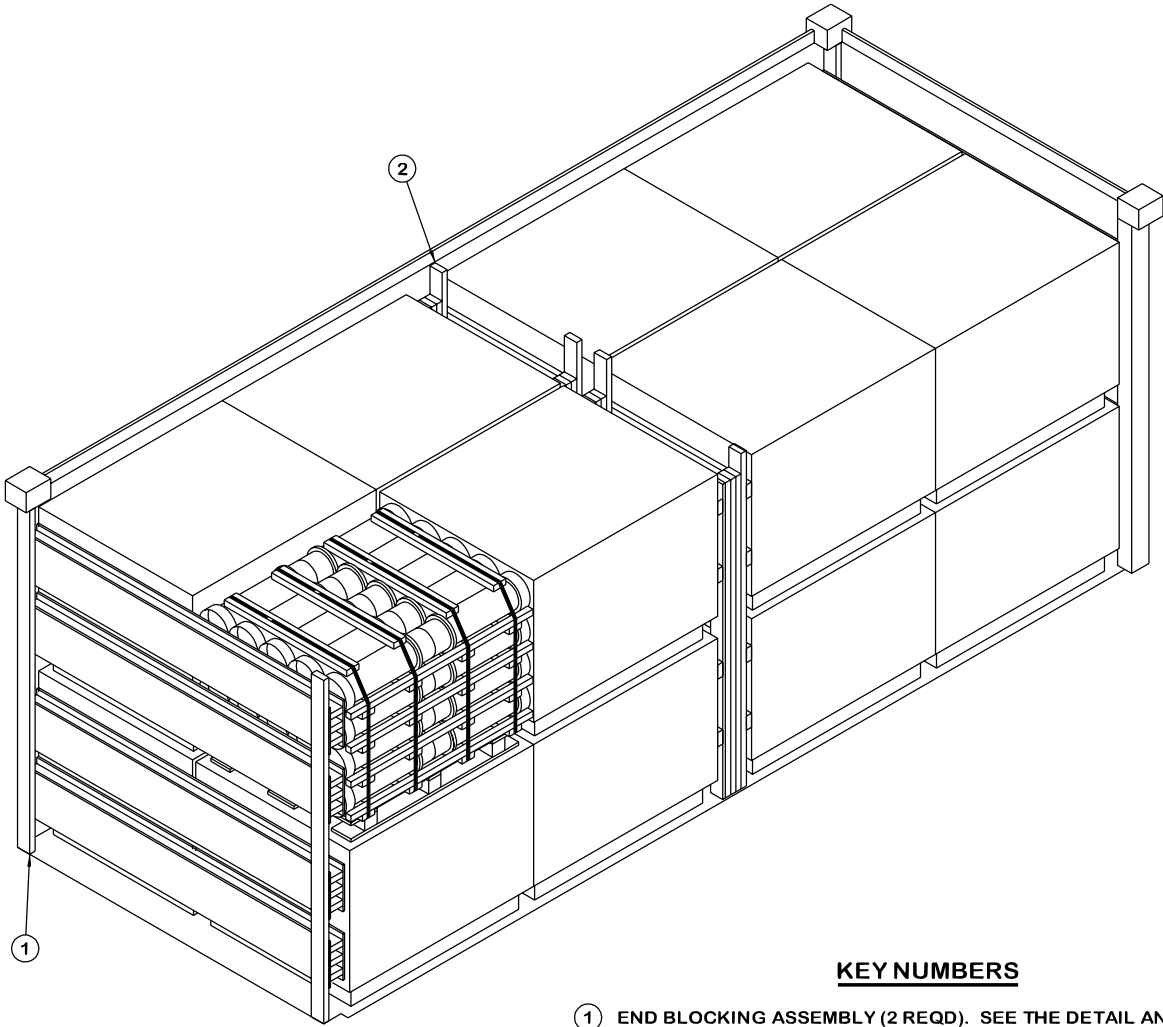
RECOMMENDED SEQUENTIAL LOADING PROCEDURES

1. PRE-FABRICATE TWO END BLOCKING ASSEMBLIES. THE CENTER FILL ASSEMBLY MAY BE PARTIALLY ASSEMBLED AT THIS TIME BUT CANNOT BE COMPLETED UNTIL THE REQUIRED NUMBER OF VERTICAL PIECES IS DETERMINED.
2. INSTALL ONE END BLOCKING ASSEMBLY AND LOAD TWO PALLET UNITS.
3. REPEAT STEP 2.
4. MEASURE THE VOID BETWEEN THE PALLET UNITS AT THE CENTER OF THE CONTAINER AND COMPLETE THE ASSEMBLY AND INSTALLATION OF THE CENTER FILL ASSEMBLY.
5. LOAD FOUR PALLET UNITS.

BILL OF MATERIAL		
LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	16	6
2" X 4"	221	148
NAILS	NO. REQD	POUNDS
6d (2")	284	1-3/4
10d (3")	172	2-3/4
PLYWOOD, 1/2" - - - 57.94 SQ FT REQD - - - 75-3/4 LBS		

LOAD AS SHOWN

<u>ITEM</u>	<u>QUANTITY</u>	<u>WEIGHT (APPROX)</u>
PALLET UNIT - - - - -	8 - - - - -	14,232 LBS
DUNNAGE - - - - -		389 LBS
CONTAINER - - - - -		6,050 LBS
TOTAL WEIGHT - - - - -		20,671 LBS (APPROX)



ISOMETRIC VIEW

KEY NUMBERS

- ① END BLOCKING ASSEMBLY (2 REQD). SEE THE DETAIL AND CHART ON PAGE 12.
- ② CENTER FILL ASSEMBLY (1 REQD). SEE THE DETAIL AND CHART ON PAGE 13.

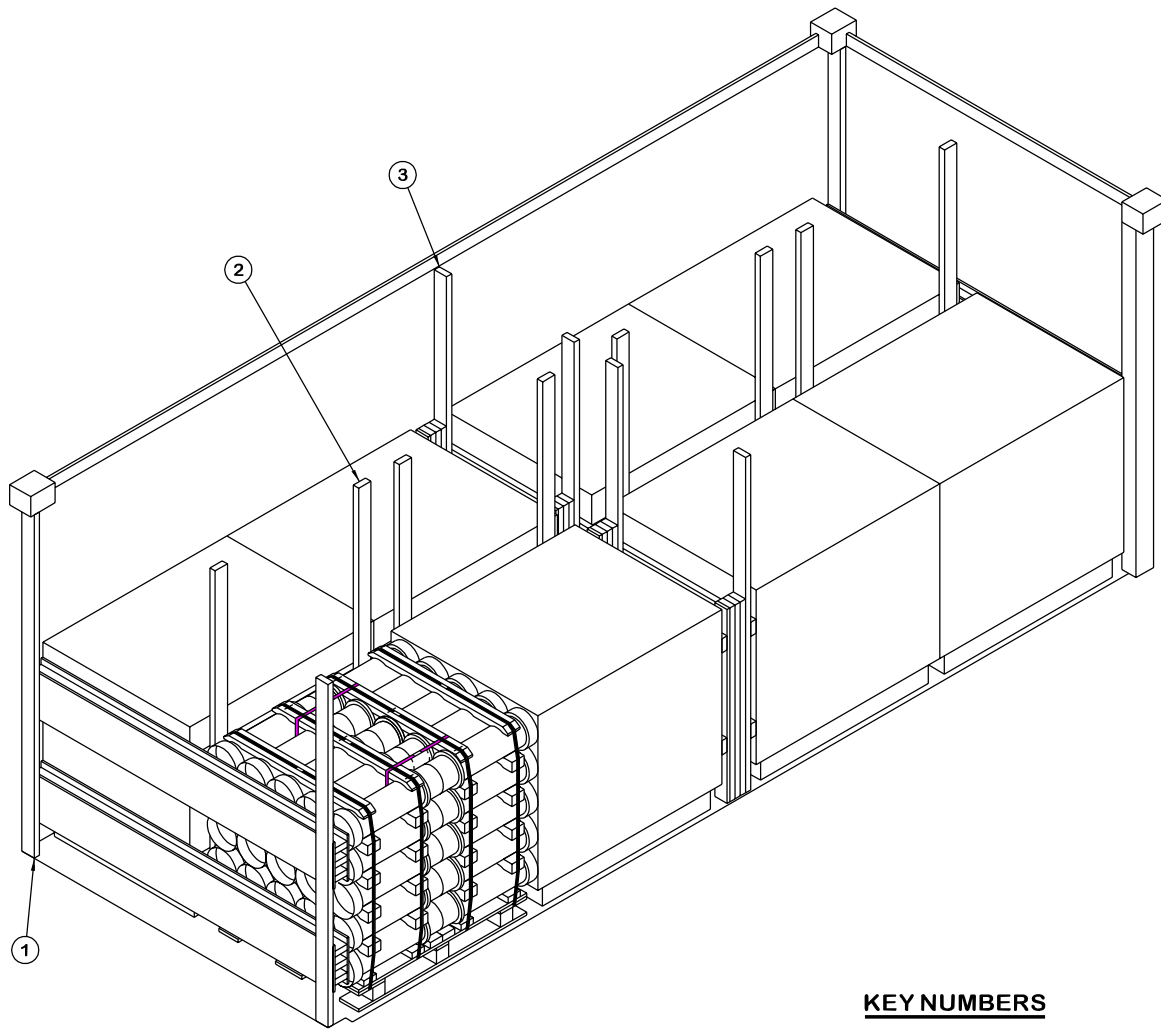
RECOMMENDED SEQUENTIAL LOADING PROCEDURES

1. PRE-FABRICATE TWO END BLOCKING ASSEMBLIES. THE CENTER FILL ASSEMBLY MAY BE PARTIALLY ASSEMBLED AT THIS TIME BUT CANNOT BE COMPLETED UNTIL THE REQUIRED NUMBER OF VERTICAL PIECES IS DETERMINED.
2. INSTALL ONE END BLOCKING ASSEMBLY AND LOAD FOUR PALLET UNITS.
3. REPEAT STEP 2.
4. MEASURE THE VOID BETWEEN THE PALLET UNITS AT THE CENTER OF THE CONTAINER AND COMPLETE THE ASSEMBLY AND INSTALLATION OF THE CENTER FILL ASSEMBLY.
5. LOAD EIGHT PALLET UNITS.

BILL OF MATERIAL		
LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	26	9
2" X 4"	366	244
NAILS	NO. REQD	POUNDS
6d (2")	556	3-1/2
10d (3")	308	4-3/4
PLYWOOD, 1/2" - - 109.89 SQ FT REQD - - 151-1/4 LBS		

LOAD AS SHOWN

<u>ITEM</u>	<u>QUANTITY</u>	<u>WEIGHT (APPROX)</u>
PALLET UNIT - - - - -	16 - - - - -	23,088 LBS
DUNNAGE - - - - -		666 LBS
CONTAINER - - - - -		6,050 LBS
TOTAL WEIGHT - - - - -		29,804 LBS (APPROX)



ISOMETRIC VIEW

KEY NUMBERS

- ① END BLOCKING ASSEMBLY (2 REQD). SEE THE DETAIL AND CHART ON PAGE 12.
- ② CRIB FILL (4 REQD). SEE THE DETAIL ON PAGE 13.
- ③ CENTER FILL ASSEMBLY (1 REQD). SEE THE DETAIL AND CHART ON PAGE 13.

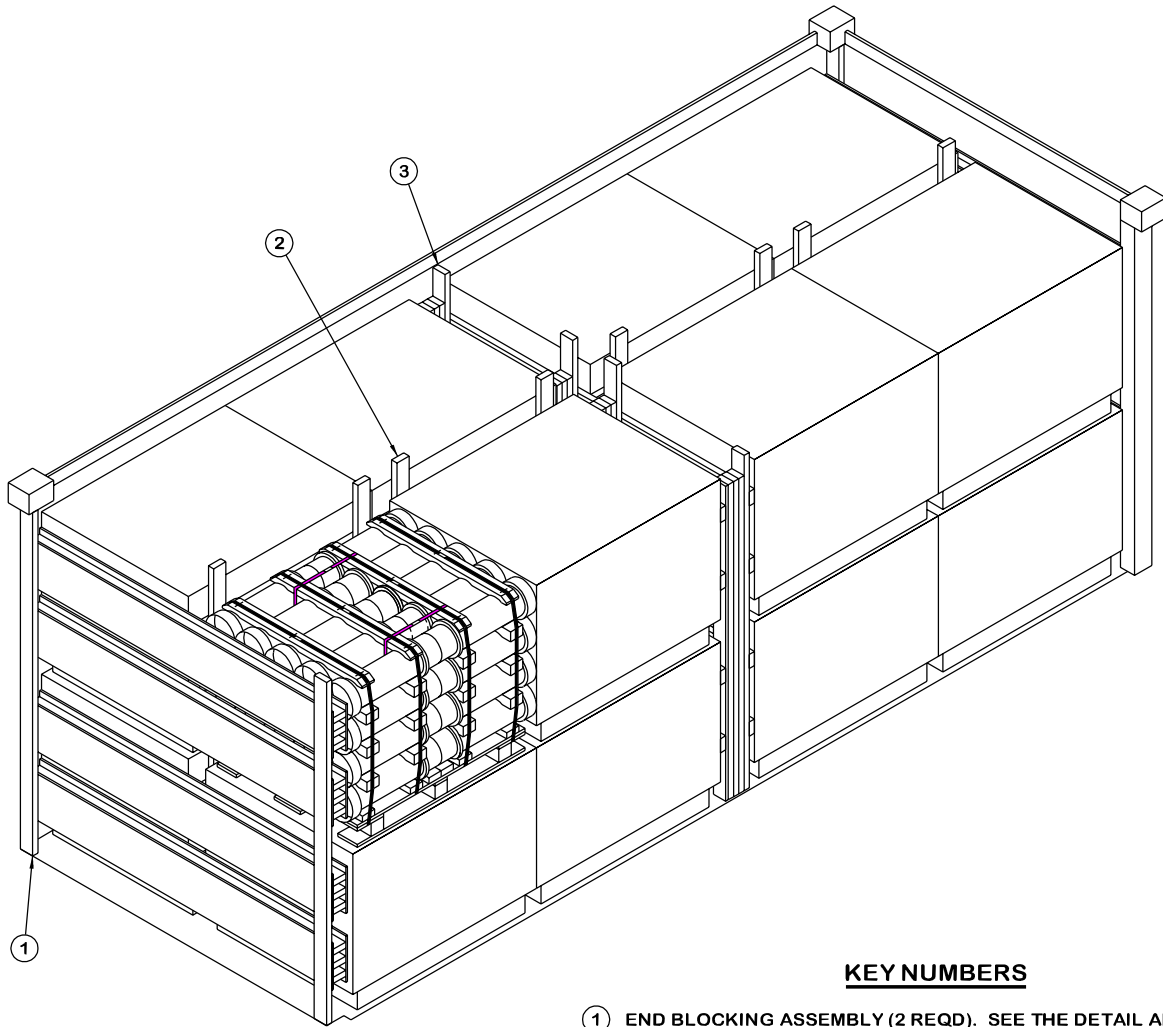
RECOMMENDED SEQUENTIAL LOADING PROCEDURES

1. PRE-FABRICATE TWO END BLOCKING ASSEMBLIES AND FOUR CRIB FILL ASSEMBLIES. THE CENTER FILL ASSEMBLY MAY BE PARTIALLY ASSEMBLED AT THIS TIME BUT CANNOT BE COMPLETED UNTIL THE REQUIRED NUMBER OF VERTICAL PIECES IS DETERMINED.
2. INSTALL ONE END BLOCKING ASSEMBLY, LOAD TWO PALLET UNITS, AND INSTALL TWO CRIB FILL ASSEMBLIES.
3. REPEAT STEP 2.
4. MEASURE THE VOID BETWEEN THE PALLET UNITS AT THE CENTER OF THE CONTAINER AND COMPLETE THE ASSEMBLY AND INSTALLATION OF THE CENTER FILL ASSEMBLY.
5. LOAD FOUR PALLET UNITS.

BILL OF MATERIAL		
LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	16	6
2" X 4"	349	233
NAILS	NO. REQD	POUNDS
6d (2")	284	1-3/4
10d (3")	236	3-3/4
PLYWOOD, 1/2" - - - 57.94 SQ FT REQD - - - 75-3/4 LBS		

LOAD AS SHOWN

<u>ITEM</u>	<u>QUANTITY</u>	<u>WEIGHT (APPROX)</u>
PALLET UNIT - - - - -	8 - - - - -	14,336 LBS
DUNNAGE - - - - -	- - - - -	559 LBS
CONTAINER - - - - -	- - - - -	6,050 LBS
TOTAL WEIGHT - - - - -		20,945 LBS (APPROX)



ISOMETRIC VIEW

KEY NUMBERS

- ① END BLOCKING ASSEMBLY (2 REQD). SEE THE DETAIL AND CHART ON PAGE 12.
- ② CRIB FILL (4 REQD). SEE THE DETAIL ON PAGE 13.
- ③ CENTER FILL ASSEMBLY (1 REQD). SEE THE DETAIL AND CHART ON PAGE 13.

RECOMMENDED SEQUENTIAL LOADING PROCEDURES

1. PRE-FABRICATE TWO END BLOCKING ASSEMBLIES AND FOUR CRIB FILL ASSEMBLIES. THE CENTER FILL ASSEMBLY MAY BE PARTIALLY ASSEMBLED AT THIS TIME BUT CANNOT BE COMPLETED UNTIL THE REQUIRED NUMBER OF VERTICAL PIECES IS DETERMINED.
2. INSTALL ONE END BLOCKING ASSEMBLY, LOAD FOUR PALLET UNITS AND INSTALL TWO CRIB FILL ASSEMBLIES.
3. REPEAT STEP 2.
4. MEASURE THE VOID BETWEEN THE PALLET UNITS AT THE CENTER OF THE CONTAINER AND COMPLETE THE ASSEMBLY AND INSTALLATION OF THE CENTER FILL ASSEMBLY.
5. LOAD EIGHT PALLET UNITS.

BILL OF MATERIAL		
LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	26	9
2" X 4"	564	376
NAILS	NO. REQD	POUNDS
6d (2")	556	3-1/2
10d (3")	436	6-3/4
PLYWOOD, 1/2" - - 109.89 SQ FT REQD - - 151-1/4 LBS		

LOAD AS SHOWN

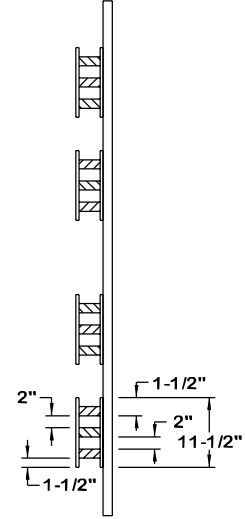
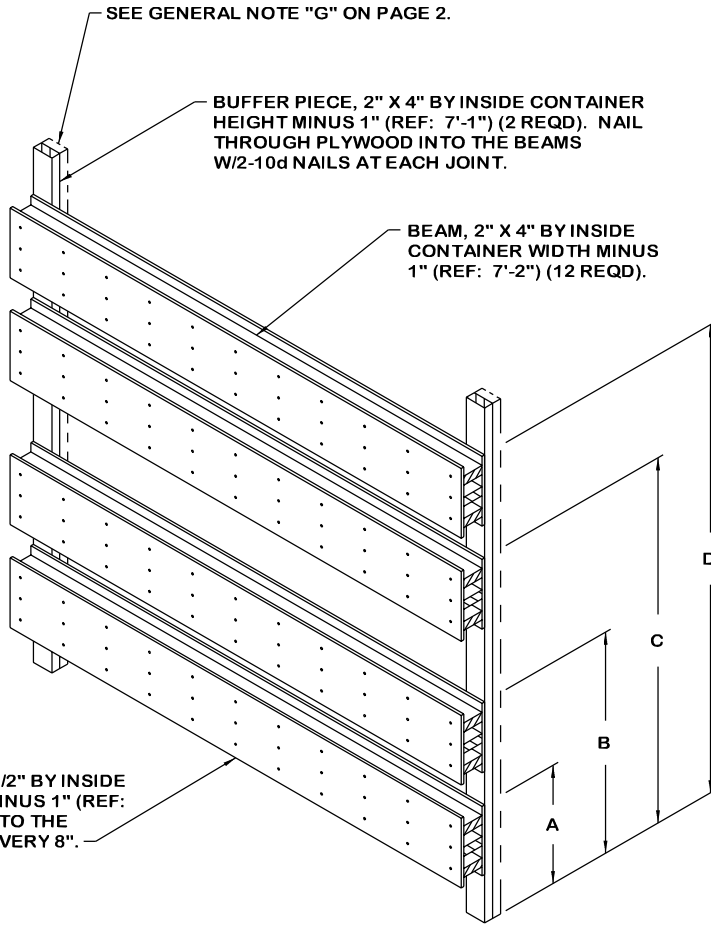
<u>ITEM</u>	<u>QUANTITY</u>	<u>WEIGHT (APPROX)</u>
PALLET UNIT - - - - -	16 - - - - -	23,248 LBS
DUNNAGE - - - - -		932 LBS
CONTAINER - - - - -		6,050 LBS
TOTAL WEIGHT - - - - -		30,230 LBS (APPROX)

SEE GENERAL NOTE "G" ON PAGE 2.

BUFFER PIECE, 2" X 4" BY INSIDE CONTAINER HEIGHT MINUS 1" (REF: 7'-1") (2 REQD). NAIL THROUGH PLYWOOD INTO THE BEAMS W/2-10d NAILS AT EACH JOINT.

BEAM, 2" X 4" BY INSIDE CONTAINER WIDTH MINUS 1" (REF: 7'-2") (12 REQD).

PLYWOOD, 1/2" X 11-1/2" BY INSIDE CONTAINER WIDTH MINUS 1" (REF: 7'-2") (8 REQD). NAIL TO THE BEAMS W/1-6d NAIL EVERY 8".



VIEW A

VIEW A

END BLOCKING ASSEMBLY

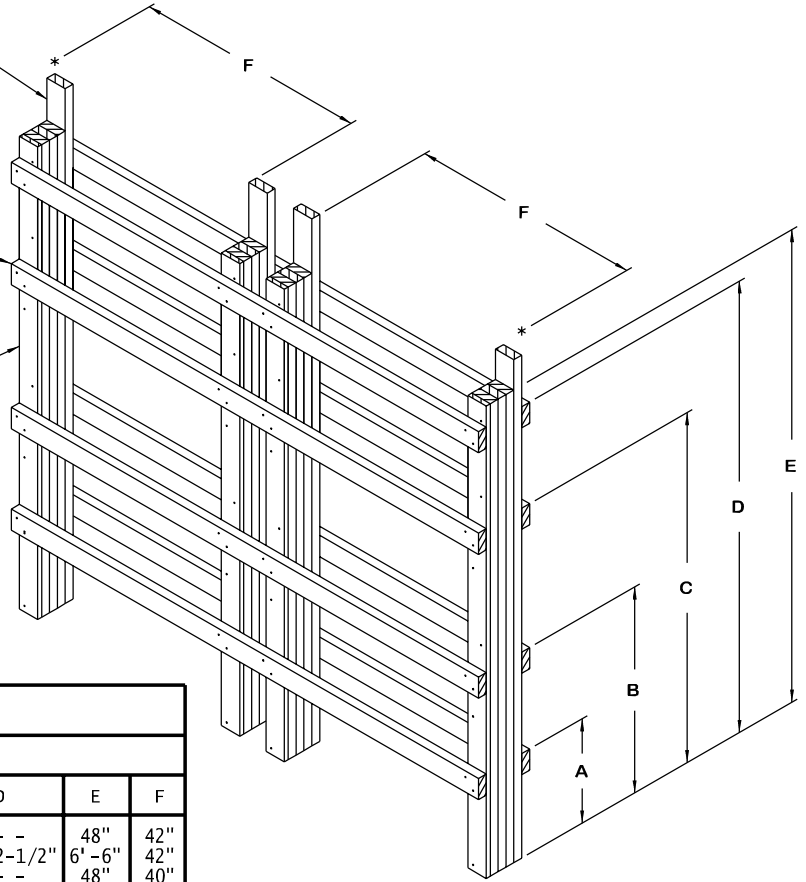
NOTE: FOR A ONE-HIGH LOAD, ELIMINATE THE TOP TWO BOX BEAM ASSEMBLIES.

END BLOCKING CHART				
PALLET UNIT	DIMENSION			
	A	B	C	D
FLAT (BASIC)	19-1/2"	44-1/2"	- -	- -
FLAT (DECREASED)	19-1/2"	36-1/2"	60-1/4"	6' -5-1/4"
ROUTED (BASIC)	19-1/2"	44-1/2"	- -	- -
ROUTED (DECREASED)	19-1/2"	36-1/2"	60"	6' -4-3/4"

VERTICAL PIECE, 2" X 4" BY INSIDE CONTAINER HEIGHT MINUS 1" (REF: 7'-1" ON FAR SIDE OF CONTAINER, 6'-11" ON DOOR SIDE OF CONTAINER AND 7'-3" IN CENTER OF CONTAINER (2 REQD).

LOAD BEARING PIECE, 2" X 4" BY INSIDE CONTAINER WIDTH MINUS 1" (REF: 7'-4") (8 SHOWN). NAIL TO THE VERTICAL PIECES W/2-10d NAILS AT EACH JOINT.

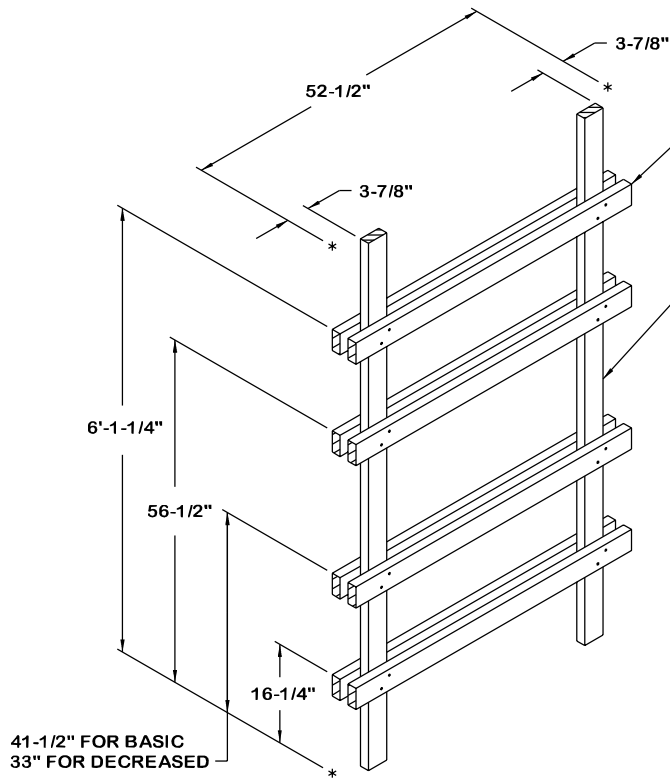
VERTICAL PIECE, 4" WIDE BY DIMENSION "E" LONG MATERIAL (AS REQD). LAMINATE THE FIRST PIECE TO THE TALL VERTICAL PIECE W/1 NAIL OF A SUITABLE SIZE EVERY 12" (10d FOR 2" THICK MATERIAL). LAMINATE EACH ADDITIONAL PIECE IN A LIKE MANNER.



CENTER FILL CHART						
PALLET UNIT	DIMENSION					
	A	B	C	D	E	F
FLAT (BASIC)	17-1/4"	42-1/2"	--	--	48"	42"
FLAT (DECREASED)	17-1/4"	34"	57-3/4"	6'-2-1/2"	6'-6"	42"
ROUTED (BASIC)	16-1/4"	41-1/2"	--	--	48"	40"
ROUTED (DECREASED)	16-1/4"	33"	56-1/2"	6'-1-1/4"	6'-6"	40"

CENTER FILL ASSEMBLY

FOR A ONE-HIGH LOAD, ELIMINATE THE TOP FOUR LOAD BEARING PIECES AND SHORTEN THE SHORTER VERTICAL PIECES APPROPRIATELY.



HORIZONTAL PIECE, 2" X 4" X 52-1/2" (8 SHOWN). NAIL TO THE VERTICAL PIECES W/2-10d NAILS AT EACH JOINT.

VERTICAL PIECE, 2" X 4" BY INSIDE CONTAINER HEIGHT MINUS 1" (REF: 7'-3") (2 REQD).

CRIB FILL ASSEMBLY

FOR A ONE-HIGH LOAD, ELIMINATE THE TOP FOUR HORIZONTAL PIECES.

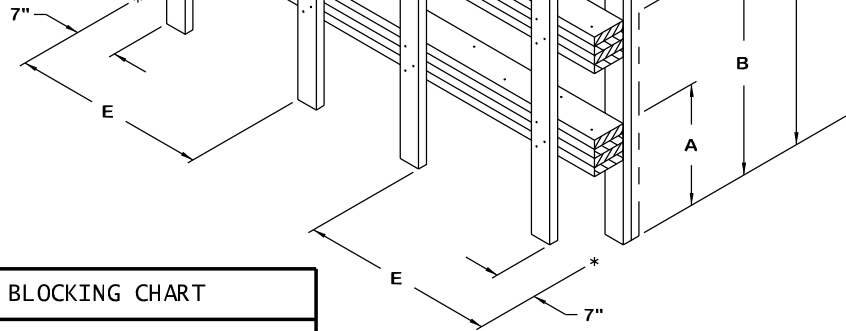
DETAILS

SEE GENERAL NOTE "G" ON PAGE 2.

BEAM ASSEMBLY, 2" X 6" BY INSIDE CONTAINER WIDTH MINUS 1" (REF: 7'-2") (QUADRUPLED) (4 SHOWN). LAMINATE EACH PIECE TO THE PREVIOUS PIECE W/11-10d NAILS.

BUFFER PIECE, 2" X 4" BY INSIDE CONTAINER HEIGHT MINUS 1" (REF: 7'-1") (2 REQD). NAIL TO THE BEAM ASSEMBLIES W/2-10d NAILS AT EACH JOINT.

LOAD BEARING PIECE, 2" X 4" BY HEIGHT OF THE TOP BEAM PLUS 6" (4 REQD). NAIL TO THE BEAM ASSEMBLIES W/3-10d NAILS AT EACH JOINT.



ALTERNATIVE END BLOCKING CHART

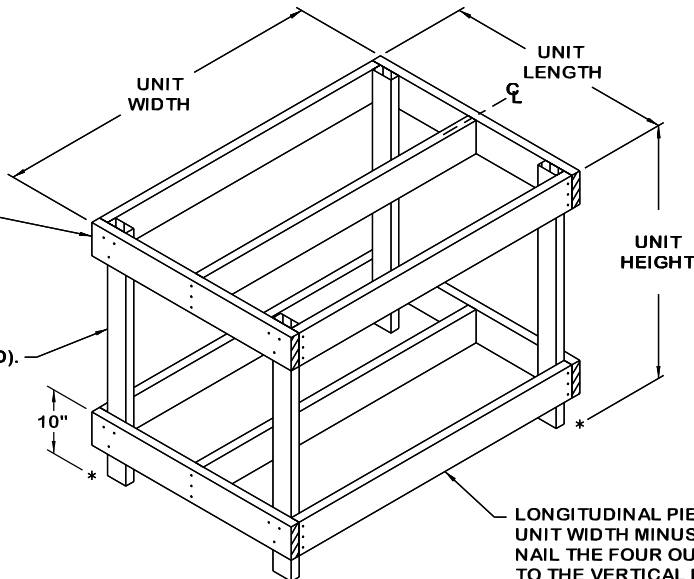
PALLET UNIT	DIMENSION				
	A	B	C	D	E
FLAT (BASIC)	18-1/2"	40-1/2"	--	--	32"
FLAT (DECREASED)	18-1/2"	35-1/4"	59"	6'-4"	32"
ROUTED (BASIC)	17-1/2"	39-3/4"	--	--	31"
ROUTED (DECREASED)	17-1/2"	34-1/4"	58-1/4"	6'-3"	31"

ALTERNATIVE END BLOCKING ASSEMBLY

FOR A ONE-HIGH LOAD, ELIMINATE THE TOP FOUR LOAD BEARING PIECES AND SHORTEN THE SHORTER VERTICAL PIECES APPROPRIATELY.

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

VERTICAL PIECE, 2" X 4" BY UNIT HEIGHT (4 REQD).



LONGITUDINAL PIECE, 2" X 6" BY UNIT WIDTH MINUS 3" (6 REQD). NAIL THE FOUR OUTER PIECES TO THE VERTICAL PIECES W/3-10d NAILS AT EACH END.

OMITTED UNIT ASSEMBLY

THIS ASSEMBLY IS FOR USE IN PLACE OF AN OMITTED PALLET UNIT. NO MORE THAN THREE OMITTED UNIT ASSEMBLIES MAY BE USED PER LOAD. DO NOT INSTALL AN OMITTED UNIT ASSEMBLY IMMEDIATELY ADJACENT TO ANOTHER OMITTED UNIT ASSEMBLY.