

APPROVED BY
BUREAU OF EXPLOSIVES

D. M. Hardy

DATE 2/22/95

LOADING AND BRACING WITH WOODEN DUNNAGE IN SIDE OPENING ISO CONTAINERS OF GUIDED BOMB UNITS, COMPLETE ROUND (2,000 POUND)

⊙ THIS DRAWING INCLUDES PROCEDURES FOR GBU-10, GBU-15, GBU-24, AND GBU-27 BOMB CONFIGURATIONS.

● 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 ARMAMENT, MUNITIONS AND CHEMICAL COMMAND

Timothy R. Fore

APPROVED BY ORDER OF COMMANDING GENERAL, U.S. ARMY MATERIEL COMMAND

William J. Ernst

U.S. ARMY DEFENSE AMMUNITION CENTER AND SCHOOL

DRAFTSMAN

TECHNICIAN

ENGINEER

R. HAYNES

VALIDATION ENGINEERING DIVISION

TRANSPORTATION ENGINEERING DIVISION

LOGISTICS ENGINEERING OFFICE

J. W. Friedrichs WJ Ernst

MARCH 1995

CLASS

DIVISION

DRAWING

FILE

19

48

7113

SP15M5

DO NOT SCALE

PROJECT SP 161-88

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 COMPLETE ROUND LOADS OF 2,000 POUND BOMBS. SEE PAGE 3 FOR DETAILS OF THE ITEMS TO BE SHIPPED. 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. EACH LOAD AS SHOWN IS BASED ON A 6,050 POUND 20' LONG BY 8' WIDE BY 8'-6" HIGH SIDE OPENING INTERMODAL CONTAINER WITH INSIDE DIMENSIONS OF 19'-4" LONG BY 89" WIDE BY 88" HIGH. EACH LOAD IS DESIGNED FOR TRAILER/CONTAINER-ON-FLAT-CAR (T/COFC) SHIPMENT, HOWEVER, EACH 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, ITEMS ARE TO BE POSITIONED SO AS TO ACHIEVE A TIGHT LOAD (TIGHT AGAINST THE DUNNAGE ASSEMBLIES). ALTHOUGH A TOTAL OF 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 A MINIMUM. EXCESSIVE SLACK CAN BE ELIMINATED FROM A LOAD BY LAMINATING ADDITIONAL PIECES OF APPROPRIATE THICKNESS TO THE HORIZONTAL PIECES ON THE CENTER GATE ASSEMBLY. NAIL EACH ADDITIONAL PIECE W/1 APPROPRIATELY SIZED NAIL EVERY 12". ADDITIONALLY, THE THICKNESS AND/OR QUANTITY OF THE VERTICAL AND HORIZONTAL PIECES IN THE CENTER GATE ASSEMBLY MAY BE ADJUSTED AS REQUIRED TO FACILITATE VARIANCE IN THE CONTAINER SIZE.
- 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" 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 END BLOCKING 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". THIS PIECE IS NOT REQUIRED WHEN THE CORNER PORTIONS OF THE CONTAINER ENDWALLS ARE SMOOTH AND FLAT.
- H. CAUTION: DO NOT NAIL DUNNAGE MATERIAL TO THE CONTAINER WALLS OR FLOOR. ALL NAILING WILL BE WITHIN THE DUNNAGE.
- J. PORTIONS OF THE CONTAINER DEPICTED WITHIN THIS DRAWING, SUCH AS THE SIDE DOORS, HAVE NOT BEEN SHOWN IN THE LOAD VIEWS FOR CLARITY PURPOSES.

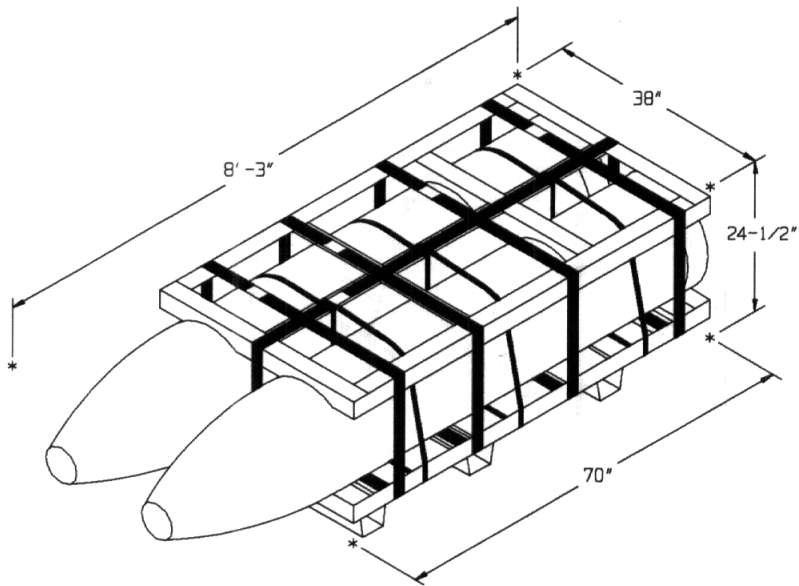
(CONTINUED AT RIGHT)

MATERIAL SPECIFICATIONS

LUMBER	---	SEE TM 743-200-1 (DUNNAGE LUMBER) AND FED SPEC MM-L-751.
NAILS	---	FED SPEC FF-N-105; COMMON.
PLYWOOD	---	COMMERCIAL ITEM DESCRIPTION A-A-55057, TYPE A, CONSTRUCTION AND 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.
SEAL, STRAP	---	ASTM D3953; CLASS H, FINISH A, B (GRADE 2) OR C, DOUBLE NOTCH TYPE, STYLE I, II, OR IV.
STRAPPING, STEEL	--	ASTM D3953; FLAT STRAPPING, TYPE 1, HEAVY DUTY, FINISH A, B (GRADE 2), OR C.
ANTI-CHAFING MATERIAL	---	MIL-B-121 (OR EQUAL); NEUTRAL BARRIER MATERIAL.

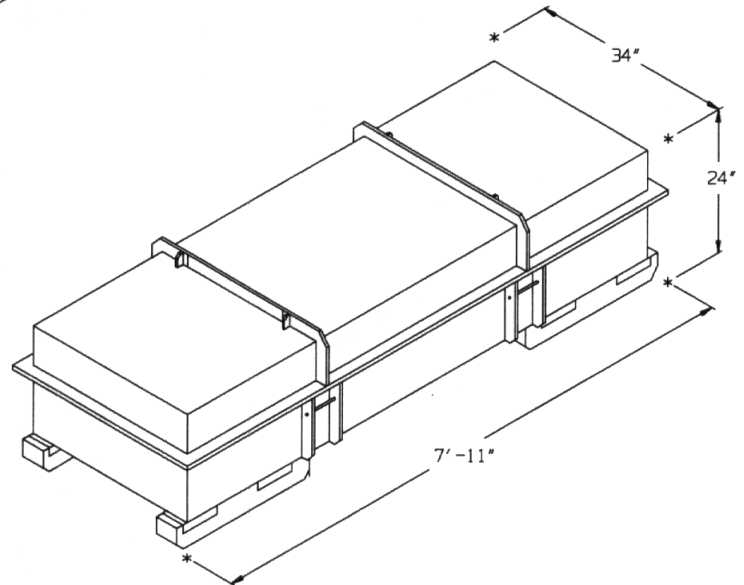
(GENERAL NOTES CONTINUED)

- K. REQUIREMENTS CITED WITHIN THE BUREAU OF EXPLOSIVES PAMPHLET 6C APPLY WHEN THE SHIPMENT MOVES BY TRAILER/CONTAINER-ON-FLAT-CAR (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.
- L. 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.
- M. 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 0.454KG.
- N. 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 A" AND "STRAP JOINT B" DETAILS ON PAGE 9.
- P. ALTHOUGH THIS DRAWING ONLY DEPICTS PROCEDURES FOR TWO COMPLETE ROUND LOADS, OTHER CONFIGURATIONS OF COMPLETE ROUNDS MAY BE TRANSPORTED USING THESE OR SIMILAR BLOCKING AND BRACING PROCEDURES. SEE PAGE 11 FOR OTHER LOAD CONFIGURATIONS.
- Q. NOTICE: ALL LOADS SHIPPED IN ACCORDANCE WITH THE PROCEDURES DELINEATED HEREIN MUST CONFORM TO THE REQUIREMENTS SET FORTH WITHIN TITLE 49 CODE OF FEDERAL REGULATIONS FOR THE SHIPMENT OF HAZARDOUS MATERIALS. SHOULD THE LOAD TO BE SHIPPED CONSIST OF INCOMPATIBLE ITEMS, AN EXEMPTION OR WAIVER MUST BE OBTAINED FROM THE APPROPRIATE REGULATORY AGENCY OR AGENCIES.



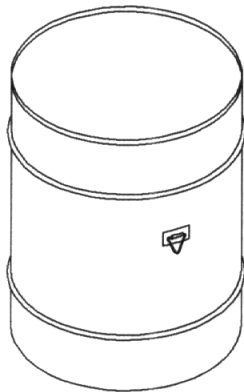
BLU-109 BOMB PALLET UNIT

BOMB - - - - 2 EACH @ 1,930 LBS (APPROX)
 CUBE - - - - - 55.5 CU FT (APPROX)
 GROSS WEIGHT - - - - - 4,133 LBS (APPROX)



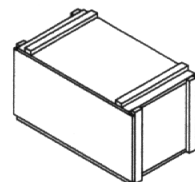
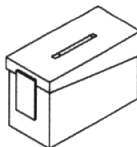
GUIDANCE SECTION, MAU-169

CNU-203/E CONTAINER
 GROSS WEIGHT - - 672 LBS (APPROX)
 CUBE - - - - - 44.9 CU FT (APPROX)



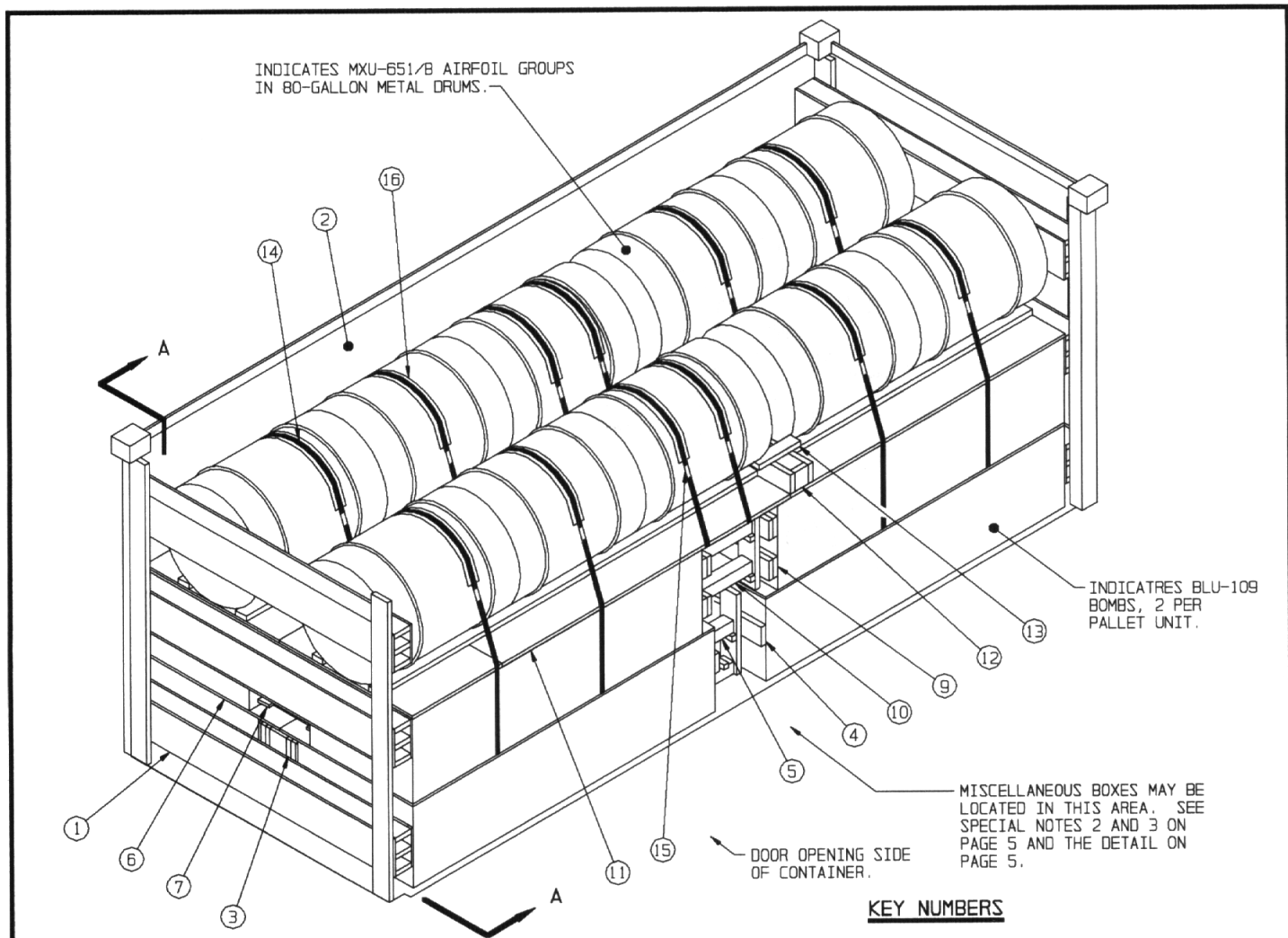
AIRFOIL GROUP, MXU-651

33-1/8" DIA BY 41-1/2" HIGH
 CUBE - - - - - 20.7 CU FT (APPROX)
 GROSS WEIGHT - - 288 LBS (APPROX)



TYPICAL COMPONENT BOXES

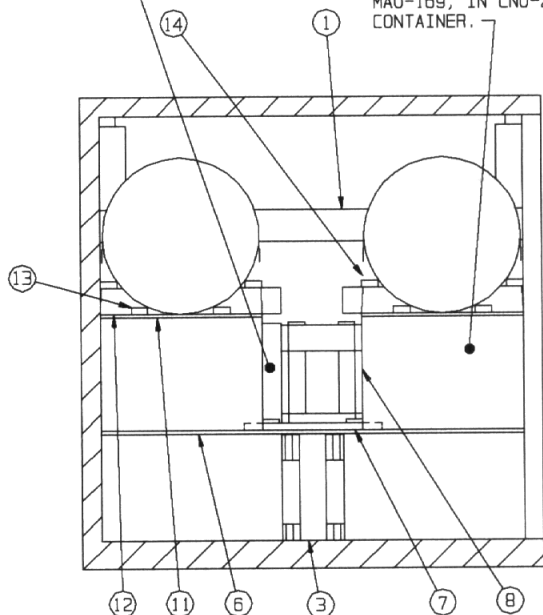
VARIOUS SIZES AND WEIGHTS.



ISOMETRIC VIEW

INDICATES BLU-109 BOMBS, 2 PER PALLET UNIT.

INDICATES GUIDANCE SECTION, MAU-169, IN CNU-203/E CONTAINER.



SECTION A-A

- ① END BLOCKING ASSEMBLY (2 REQD). SEE THE "END BLOCKING ASSEMBLY A" DETAIL ON PAGE 6. SEE GENERAL NOTES "F" AND "G" ON PAGE 2.
- ② SIDEWALL LINER, PLYWOOD, 3/8" THICK (AS REQD). POSITION SO AS TO BE BETWEEN THE LADING AND THE CONTAINER SIDEWALL OR THE CONTAINER DOORS, AS APPLICABLE.
- ③ CRIB FILL (2 REQD). SEE THE "CRIB FILL A" DETAIL ON PAGE 7. POSITION BETWEEN THE LATERALLY ADJACENT PALLET UNITS OF BOMBS.
- ④ CENTER GATE (2 REQD). SEE THE "CENTER GATE A" DETAIL ON PAGE 6. POSITION BETWEEN LONGITUDINALLY ADJACENT PALLET UNITS OF BOMBS.
- ⑤ STRUT, 4" X 4" BY LENGTH TO SUIT (REF: 12-3/4") (8 REQD). POSITION SO AS TO BE BETWEEN THE CENTER GATES, PIECES MARKED ④. TOENAIL TO THE CENTER GATES W/2-16d NAILS AT EACH END.
- ⑥ DECKING, PLYWOOD, 1/2" THICK BY 44" WIDE BY LENGTH TO SUIT (4 REQD). POSITION ON TOP OF THE BOMB PALLET UNITS AS SHOWN.
- ⑦ ANTI-SWAY BRACE (1 REQD). SEE THE "ANTI-SWAY BRACE" DETAIL ON PAGE 7. POSITION BETWEEN THE LATERALLY ADJACENT CNU-203 CONTAINERS.
- ⑧ CRIB FILL (1 REQD). SEE THE "CRIB FILL B" DETAIL ON PAGE 8. POSITION BETWEEN THE LATERALLY ADJACENT CNU-203 CONTAINER AND THE BOMB PALLET UNIT. SEE SPECIAL NOTE 3 ON PAGE 5.
- ⑨ CENTER GATE (4 REQD). SEE THE "CENTER GATE B" DETAIL ON PAGE 8.
- ⑩ STRUT, 4" X 4" BY LENGTH TO SUIT (REF: 19" AND 15") (8 REQD, 4 EACH LENGTH). POSITION SO AS TO BE BETWEEN THE CENTER GATES, PIECES MARKED ⑨. TOENAIL TO THE CENTER GATES W/2-16d NAILS AT EACH END.

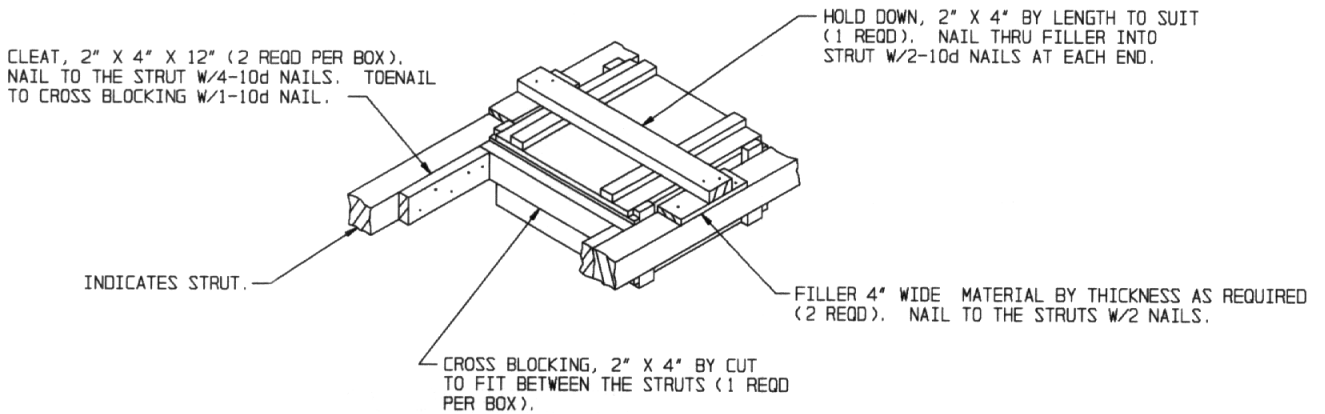
(CONTINUED ON PAGE 5)

(KEY NUMBERS CONTINUED)

- ⑪ DECKING, PLYWOOD, 1/2" THICK (4 REQD). SEE THE DETAIL ON PAGE 9 AND SPECIAL NOTE 5 AT THE RIGHT.
- ⑫ CENTER GATE (2 REQD). SEE THE "CENTER GATE D" DETAIL ON PAGE 10. POSITION BETWEEN LONGITUDINALLY ADJACENT METAL DRUMS AS SHOWN.
- ⑬ HOLD DOWN BLOCK, 2" X 4" BY LENGTH TO SUIT (4 REQD). NAIL TO THE CENTER GATE, PIECE MARKED ⑫, W/2-10d NAILS AT EACH JOINT.
- ⑭ STRAP, 1-1/4" X .035" OR .031" BY LENGTH TO SUIT STEEL STRAPPING (12 REQD). INSTALL SO AS TO ENCIRCLE THE DRUMS AND THE DECK, PIECE MARKED ⑪, AND /OR THE SECOND LAYER OF UNITS AS SHOWN.
- ⑮ SEAL FOR 1-1/4" STRAPPING (12 REQD, 1 PER STRAP). CRIMP EACH SEAL WITH TWO PAIR OF NOTCHES. SEE GENERAL NOTE "N" ON PAGE 2.
- ⑯ ANTI-CHAFING MATERIAL (AS REQD). POSITION UNDER ALL STEEL STRAPPING AT POINTS OF CONTACT WITH THE LADING.

SPECIAL NOTES:

- 1. THE LOAD AS SHOWN ON PAGE 4 DEPICTS A 10 COMPLETE ROUND LOAD OF 2,000 POUND GBU-10 BOMBS, INCLUDING 5 PALLETS OF BOMBS, 3 CNU-203/E CONTAINERS WITH MAU-169 FINS, 10 DRUMS WITH MXU-651 FINS, AND 8 BOXES CONTAINING FMU-143 FUZES.
- 2. WHEN INSTALLING THE DUNNAGE THAT APPLIES TO THE MISCELLANEOUS BOXES, ADJUSTMENTS TO THE QUANTITY AND SIZE OF MATERIAL MAY BE ADJUSTED AS NECESSARY.
- 3. MISCELLANEOUS BOXES MAY ALSO BE PLACED IN OTHER VOID AREAS WITHIN THE LOAD, SUCH AS BETWEEN LATERALLY ADJACENT LOAD UNITS.
- 4. IT IS RECOMMENDED THAT THE FIFTH PALLET UNIT OF BOMBS BE PLACED IN THE SECOND LAYER, BACK CORNER TO THE RIGHT WHEN VIEWING THE LOAD FROM THE DOOR OPENING SIDE.
- 5. THE PLYWOOD DECKING, SHOWN AS PIECE MARKED ⑪, AND SHOWN IN DETAIL ON PAGE 9, MAY BE ADJUSTED IN SIZE AS NECESSARY.
- 6. FILL MATERIAL THE THICKNESS OF THE TOP FLANGES, WILL BE PLACED ON TOP OF THE CNU-203 CONTAINERS TO PROVIDE A MORE SOLID SURFACE FOR THE DECK TO LAY UPON. SEE THE "DECK" DETAILS ON PAGE 9.



SECUREMENT OF MISCELLANEOUS BOXES

MISCELLANEOUS BOXES MAY ALSO BE PLACED IN THE VOID AREA BETWEEN THE LOAD BEARING PIECES OF THE CRIB FILL ASSEMBLIES. ADJUSTMENTS TO THE ABOVE DETAIL MAY BE MADE SO AS TO PROVIDE FOR SIMILAR SECUREMENT TO THE CRIB FILL ASSEMBLIES.

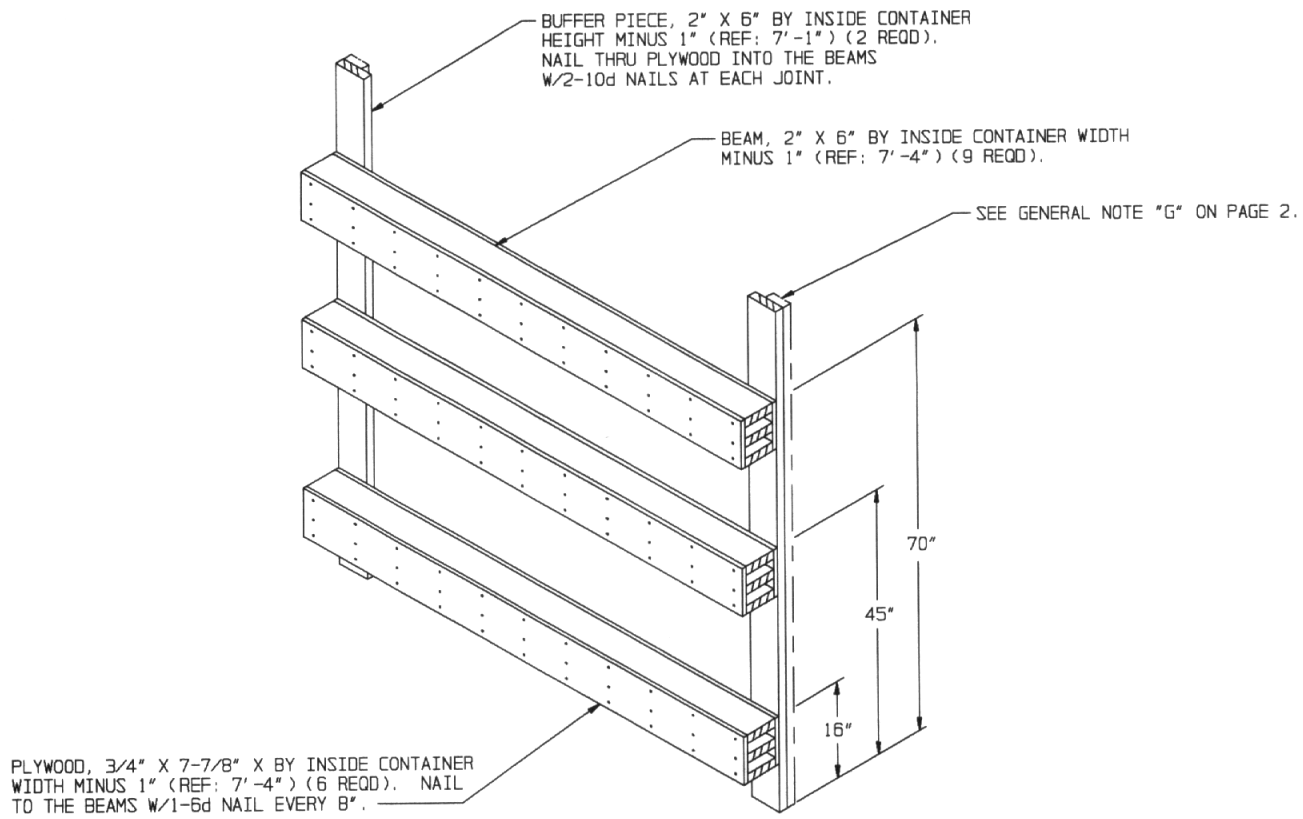
GBU-10 (BLU-109)		
TYPICAL ITEMS AS DEPICTED ON PAGE 4		
DODIC	NOMENCLATURE	QUANTITY
F140	BLU-109 BOMB PALLETS	5
E069	MAU-169 FIN	3
F761	MXU-651 AIRFOIL	10
BY04	FMU-143 FUZE	8

BILL OF MATERIAL		
LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	58	19
2" X 2"	15	5
2" X 4"	218	145
2" X 6"	267	267
4" X 4"	20	27
NAILS	NO. REQD	POUNDS
6d (2")	588	3-1/2
10d (3")	400	6-1/4
16d (3-1/2")	64	1-1/2
STEEL STRAPPING, 1-1/4"	160' REQD	23 LBS
SEAL FOR 1-1/4" STRAPPING	12 REQD	-1/2 LB
PLYWOOD, 3/8"	300 SQ FT REQD	309 LBS
PLYWOOD, 1/2"	222 SQ FT REQD	305 LBS
PLYWOOD, 3/4"	58 SQ FT REQD	120 LBS
ANTI-CHAFING MATERIAL	AS REQD	NIL

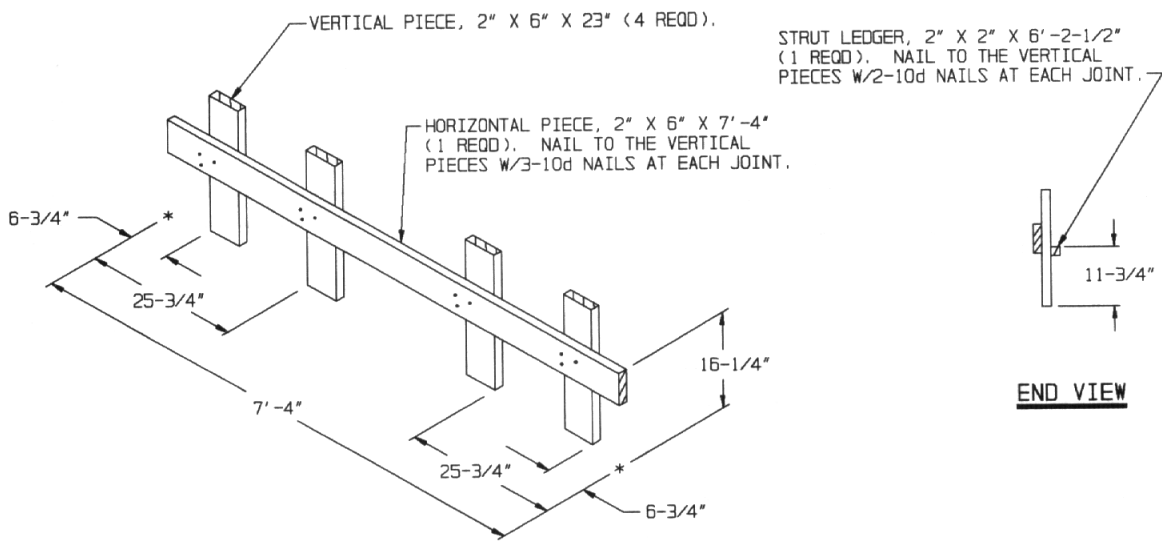
LOAD AS SHOWN

ITEM	QUANTITY	WEIGHT (APPROX)
BOMB PALLET UNIT	5	20,665 LBS
MAU-169 FIN	3	2,016 LBS
MXU-651 AIRFOIL	10	2,880 LBS
MISCELLANEOUS BOXES - AS REQD		400 LBS
DUNNAGE		1,695 LBS
CONTAINER		6,050 LBS

TOTAL WEIGHT - - - - - 33,708 LBS (APPROX)



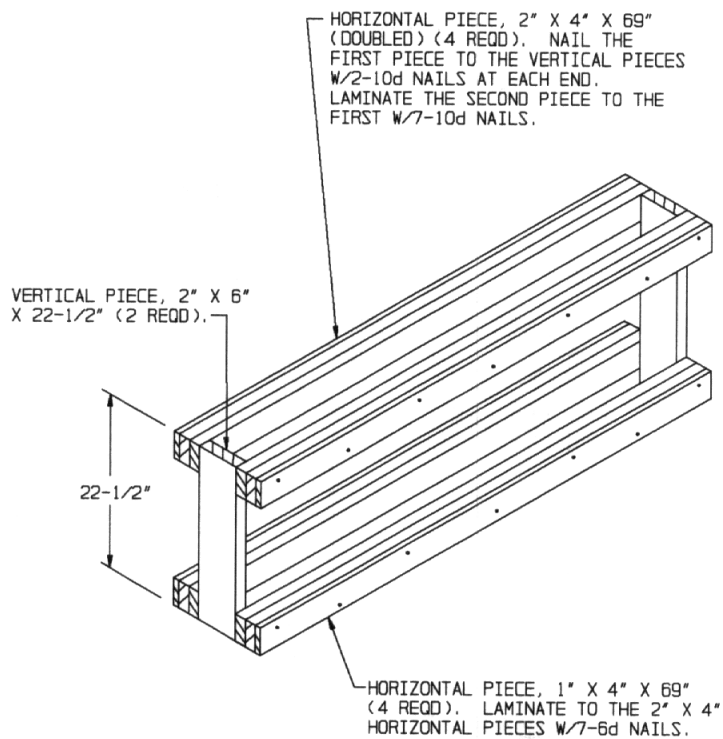
END BLOCKING ASSEMBLY A



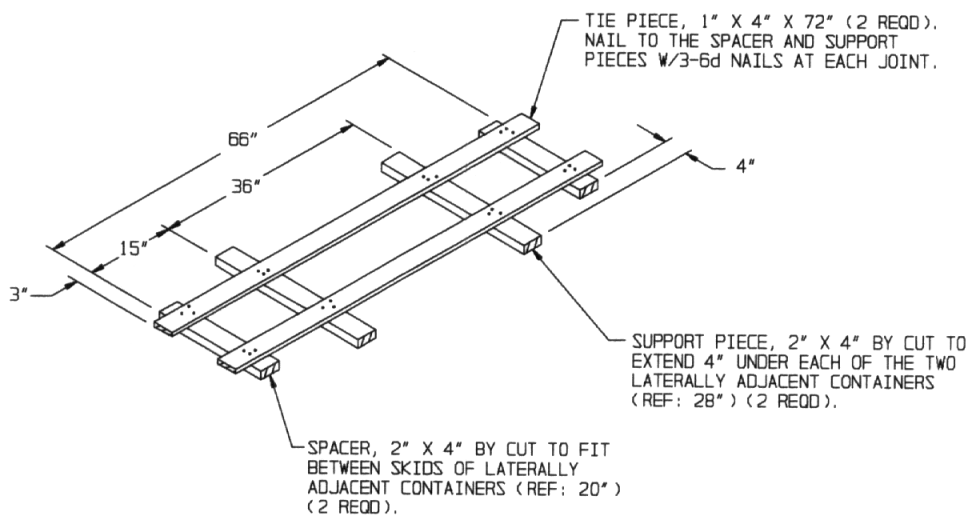
END VIEW

CENTER GATE A

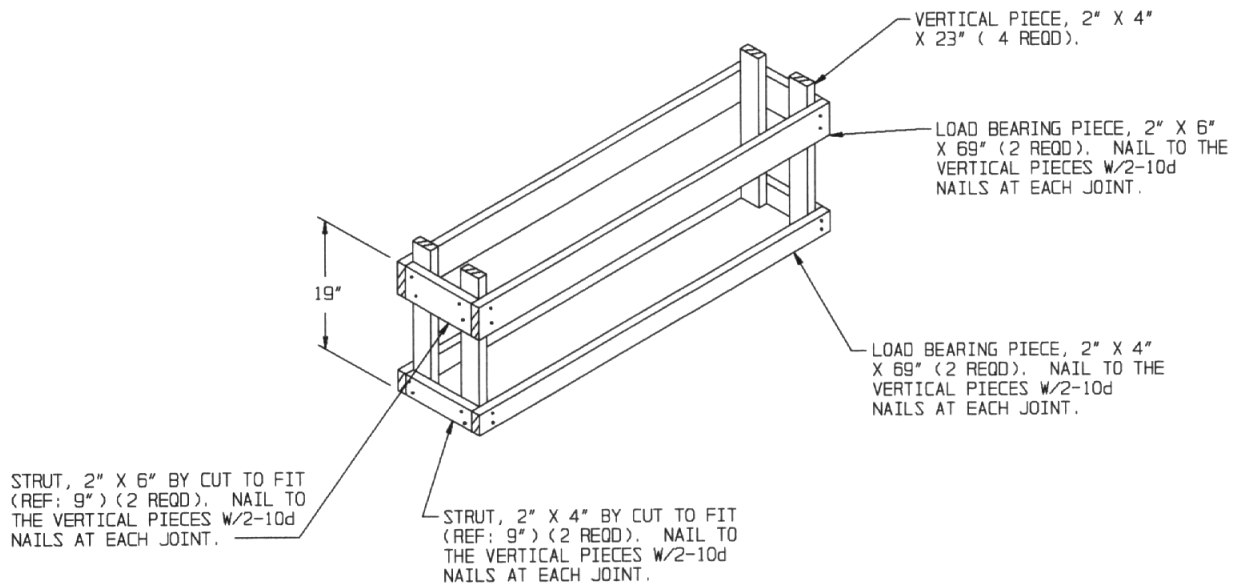
DETAILS



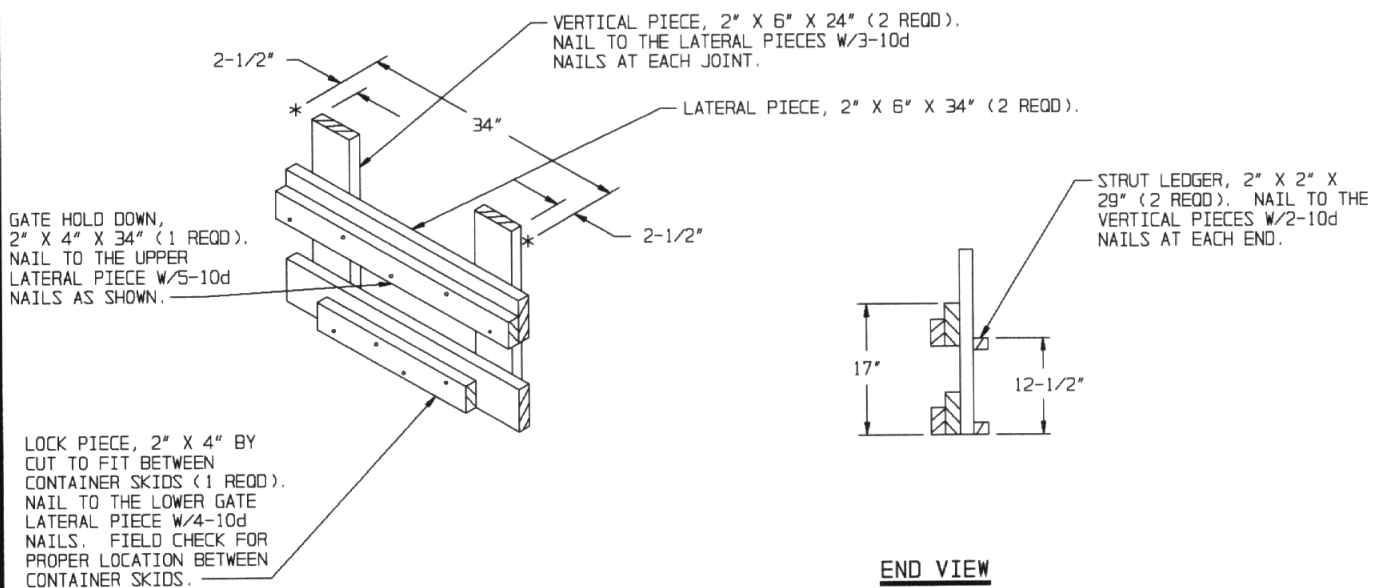
CRIB FILL A



ANTI-SWAY BRACE

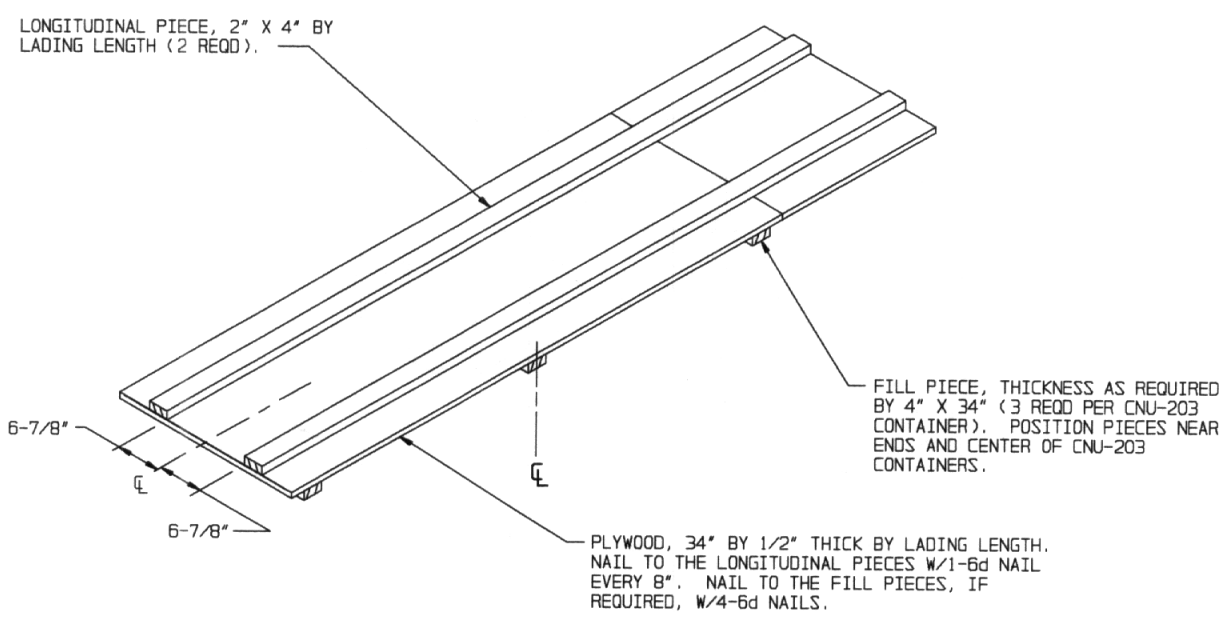


CRIB FILL B



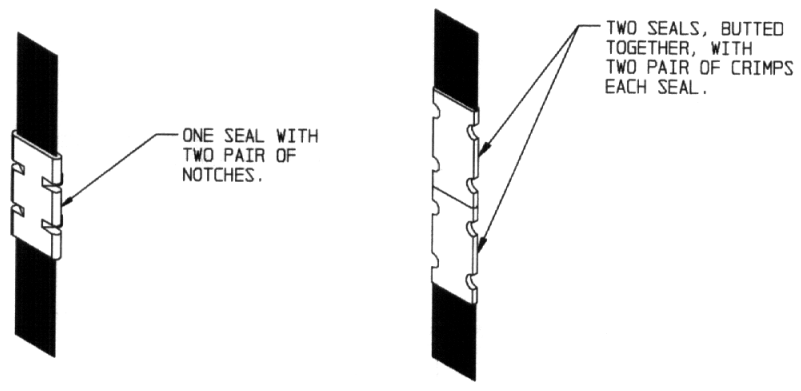
END VIEW

CENTER GATE B



DECKING ASSEMBLY A

THE ABOVE ASSEMBLY MAY BE ADJUSTED IN SIZE AS NECESSARY ACCORDING TO THE NUMBER OF DRUMS TO BE SHIPPED OR TO BE THE SAME WIDTH OF THE CONTAINER OR PALLET UNIT ON WHICH IT IS PLACED.



STRAP JOINT A

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

STRAP JOINT B

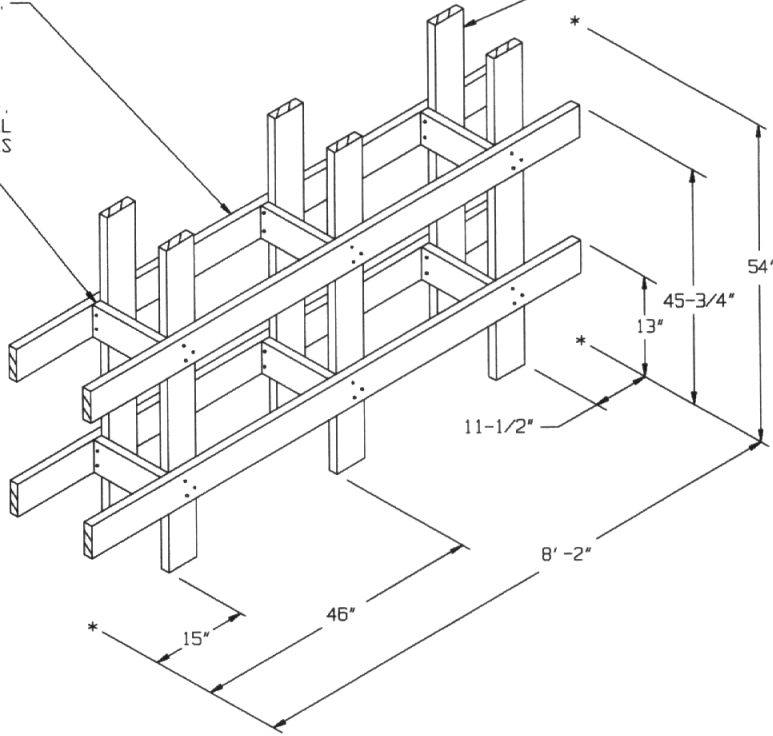
METHOD OF SECURING A STRAP JOINT WHEN USING A CRIMP-TYPE SEALER.

END-OVER-END LAP JOINT DETAILS

HORIZONTAL PIECE, 2" X 6" X 8'-2" (4 REQD).
 NAIL TO THE VERTICAL PIECES W/3-10d NAILS
 AT EACH JOINT.

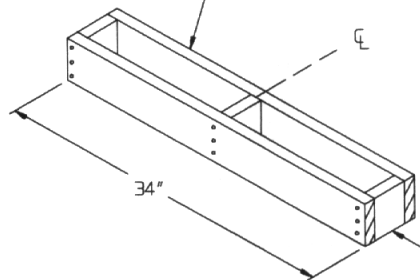
VERTICAL PIECE, 2" X 6" X 54" (6 REQD).

STRUT, 2" X 6" BY
 CUT TO FIT (2 REQD).
 NAIL TO THE VERTICAL
 PIECES W/2-10d NAILS
 AT EACH JOINT.



CRIB FILL C

LOAD BEARING PIECE, 2" X 6" X 34" (2 REQD).
 NAIL TO THE STRUTS W/3-10d NAILS AT
 EACH JOINT.



STRUT, 2" X 6" BY CUT TO FIT (REF: 5") (3 REQD).

CENTER GATE C

DETAILS

GBU-15 IR (BLU-109)		
TYPICAL ITEMS AS DEPICTED ON PAGE 18		
DODIC	NOMENCLATURE	QUANTITY
F140	BLU-109 BOMB PALLET	3
BY04	FUZE, FMU-143	3
FY20	GUIDE ADAPTER	6
E338	WCU-8A/B	6
FY46	MXU-787	6
FY22	REC TRANS GRP	6
E051	WGU-10	6
CY63	ADK-723/B	1

GBU-15 TV (BLU-109)		
TYPICAL ITEMS AS DEPICTED ON PAGE 18		
DODIC	NOMENCLATURE	QUANTITY
F140	BLU-109 BOMB PALLET	3
BY04	FUZE, FMU-143	3
FY20	GUIDE ADAPTER	6
E338	WCU-8A/B	6
FY46	MXU-787	6
FY22	REC TRANS GRP	6
FY18	TDD	6
CY63	ADK-723/B	1

GBU-24 (BLU-109)		
TYPICAL ITEMS AS DEPICTED WITHIN THIS DRAWING		
DODIC	NOMENCLATURE	QUANTITY
F140	BLU-109 BOMB PALLET	3
E058	WGU-12	6
F755	BSU-84/B FIN	3
CY42	ADPT GRP	6
BY04	FUZE, FMU-143/B	3

GBU-15 IR (MK 84)		
TYPICAL ITEMS AS DEPICTED WITHIN THIS DRAWING		
DODIC	NOMENCLATURE	QUANTITY
F275	MK-84 BOMB PALLET	4
FY20	GUIDE ADAPTER	8
E338	WCU-8A/B	8
E051	WGU-10	8
FY22	REC TRANS GRP	8
FY28	FUZE, FMU-124A/B	4
FY46	MXU-787	8

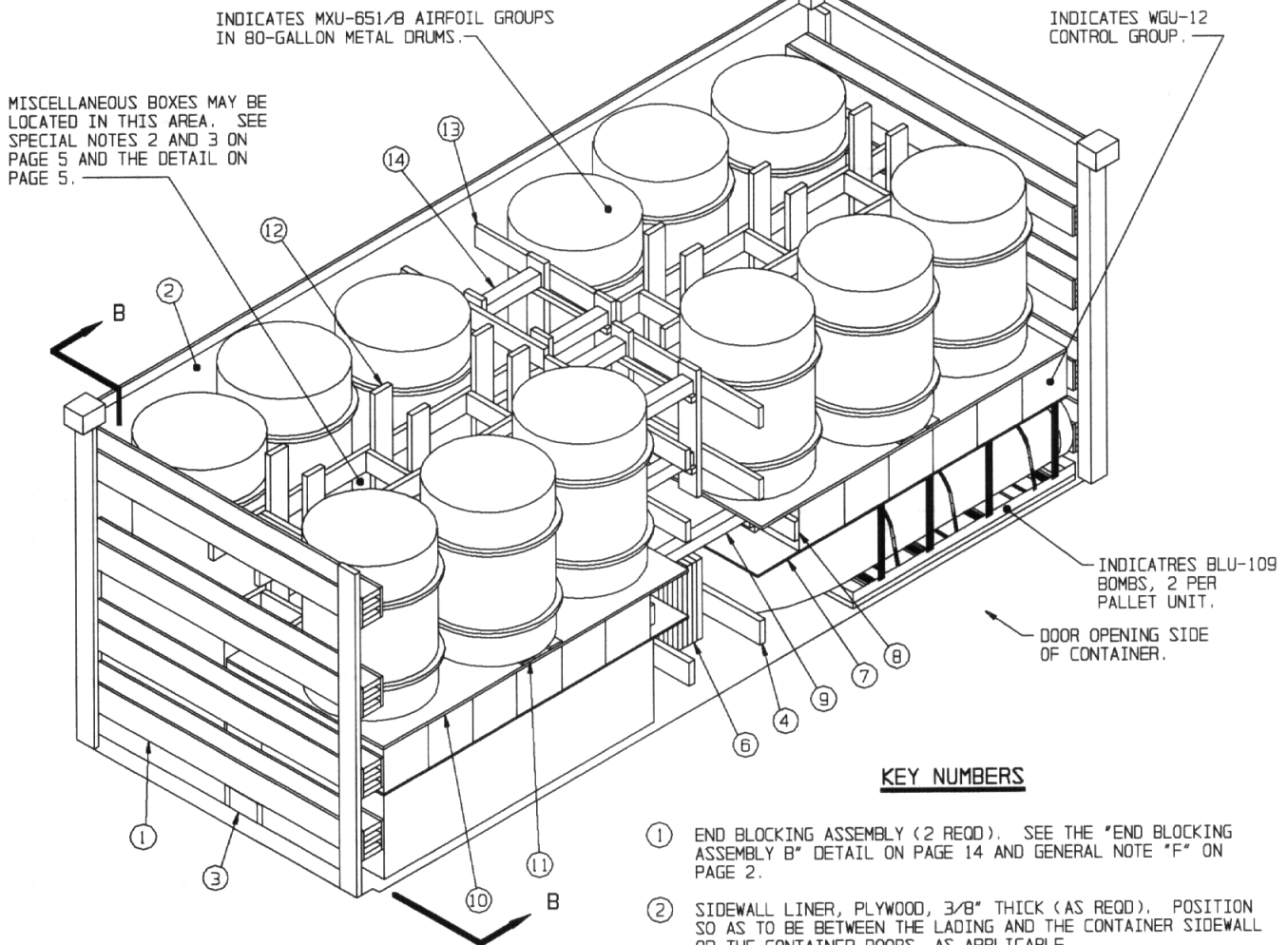
GBU-15 TV (MK 84)		
TYPICAL ITEMS AS DEPICTED WITHIN THIS DRAWING		
DODIC	NOMENCLATURE	QUANTITY
F275	MK-84 BOMB PALLET	4
FY18	TDD	8
FY20	GUIDE ADAPTER	8
E338	WCU-8/B	8
FY22	REC TRANS GRP	8
FY28	FUZE, FMU-124A/B	4
FY19	AFG	4

GBU-24 (MK-84)		
TYPICAL ITEMS AS DEPICTED WITHIN THIS DRAWING		
DODIC	NOMENCLATURE	QUANTITY
F275	MK-84 BOMB PALLET	6
E058	WGU-12	12
F755	BSU-84/B FIN	6
G119	FMU-139 FUZE	3

GBU-27 (BLU-109)		
TYPICAL ITEMS AS DEPICTED ON PAGE 12		
DODIC	NOMENCLATURE	QUANTITY
F140	BLU-109 BOMB PALLET	6
BY04	FUZE, FMU-143	6
E078	WGU-25	12
F790	BSU-88	12

SPECIAL NOTES:

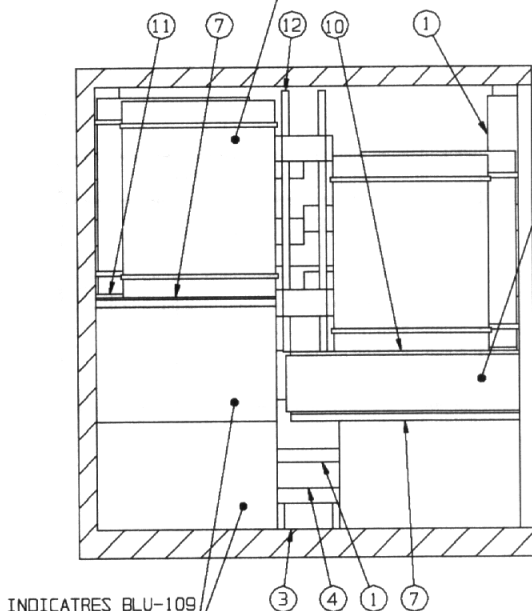
1. A COMBINATION OF THE PROCEDURES DEPICTED WITHIN THIS DRAWING MAY BE USED TO SATISFY THE ITEMS AS REQUIRED IN THE CHARTS ON THIS PAGE.
2. QUANTITIES SPECIFIED WITHIN THE CHARTS ON THIS PAGE ARE PALLET OR CONTAINER/ PACKAGE QUANTITIES, AS APPLICABLE, NOT QUANTITIES OF ITEMS CONTAINED THEREIN.



ISOMETRIC VIEW

INDICATES MXU-651/B AIRFOIL GROUPS IN 80-GALLON METAL DRUMS.

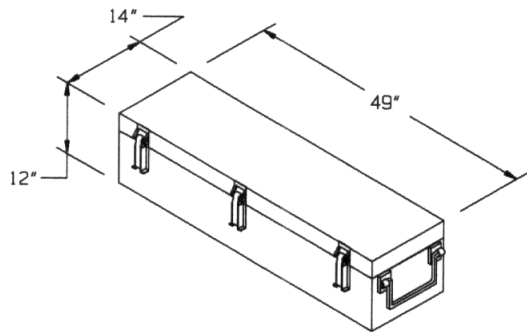
INDICATES WGU-12 CONTROL GROUP.



SECTION B-B

KEY NUMBERS

- ① END BLOCKING ASSEMBLY (2 REQD). SEE THE "END BLOCKING ASSEMBLY B" DETAIL ON PAGE 14 AND GENERAL NOTE "F" ON PAGE 2.
- ② SIDEWALL LINER, PLYWOOD, 3/8" THICK (AS REQD). POSITION SO AS TO BE BETWEEN THE LADING AND THE CONTAINER SIDEWALL OR THE CONTAINER DOORS, AS APPLICABLE.
- ③ CRIB FILL (2 REQD). SEE THE "CRIB FILL C" DETAIL ON PAGE 17. POSITION BETWEEN THE BOMB PALLET UNITS AS SHOWN IN THE SECTION B-B VIEW.
- ④ CENTER GATE (2 REQD). SEE THE "CENTER GATE E" DETAIL ON PAGE 15. POSITION BETWEEN THE ONE HIGH STACK OF BOMBS.
- ⑤ CENTER GATE (2 REQD) (NOT SHOWN). SEE THE "CENTER GATE F" DETAIL ON PAGE 15. POSITION BETWEEN THE LONGITUDINALLY ADJACENT TWO HIGH STACKS OF BOMBS.
- ⑥ SOLID FILL, 6" WIDE MATERIAL BY LENGTH TO SUIT BY THICKNESS AS REQUIRED SO AS TO PROVIDE FOR A TIGHT LOAD. LAMINATE AND/OR TOENAIL TOGETHER AND TO CENTER GATES W/APPROPRIATE LENGTH NAILS. SEE GENERAL NOTE "D" ON PAGE 2.
- ⑦ DECKING (4 REQD, 2 AT 38" WIDE AND 2 AT 48" WIDE). SEE THE "DECKING ASSEMBLY B" DETAIL ON PAGE 17.
- ⑧ CENTER GATE (2 REQD). SEE THE "CENTER GATE G" DETAIL ON PAGE 16. POSITION SO TO BE BETWEEN LONGITUDINALLY ADJACENT CNU-317/E CONTAINERS.
- ⑨ STRUT, 4" X 4" BY LENGTH TO SUIT (REF: 41") (2 REQD). POSITION BETWEEN THE CENTER GATES, PIECES MARKED ⑧, AND TOENAIL TO THE CENTER GATES W/2-16d NAILS AT EACH END.
- ⑩ DECKING, PLYWOOD, 1/2" THICK BY 48" BY 8'-0" (2 REQD). POSITION ON TOP OF THE CNU-317/E CONTAINERS.
- ⑪ RISER (4 REQD). SEE THE "RISER A" DETAIL ON PAGE 13.
- ⑫ CRIB FILL (2 REQD). SEE THE "CRIB FILL ASSEMBLY C" DETAIL ON PAGE 10. POSITION SO AS TO BE BETWEEN THE DRUMS OF FINS. SEE SPECIAL NOTE 5 ON PAGE 13.
- ⑬ CENTER GATE (4 REQD). SEE THE "CENTER GATE H" DETAIL ON PAGE 16.
- ⑭ STRUT, 4" X 4" BY LENGTH TO SUIT (REF: 12") (8 REQD). POSITION BETWEEN THE CENTER GATES, PIECES MARKED ⑬, AND TOENAIL TO THE CENTER GATES W/2-16d NAILS AT EACH END.

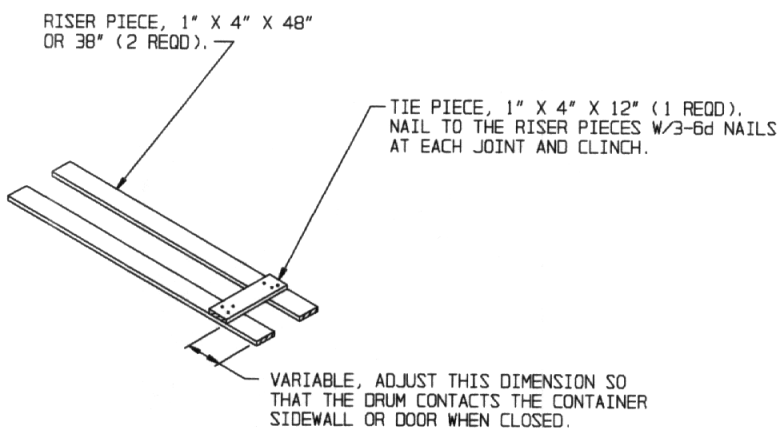


CNU-317/E CONTAINER

GROSS WEIGHT -- 100 LBS (APPROX)

SPECIAL NOTES:

1. THE LOAD AS SHOWN ON PAGE 12 DEPICTS A COMPLETE ROUND LOAD OF 2,000 POUND, GBU-10 BOMBS, INCLUDING 6 PALLETTS OF BOMBS, 12 DRUMS OF MXU-651/E FINS, 12 CNU-317/E CONTAINERS OF WGU-12 CONTROL GROUP, AND 3 BOXES OF FMU-139 FUZES.
2. THE RISER, SHOWN AS PIECE MARKED ①, MAY BE FABRICATED TO FIT THE SIDE OF THE LOAD ON WHICH IT IS PLACED.
3. REFER TO PAGE 5 FOR SECUREMENT OF MISCELLANEOUS BOXES.



RISER A

RISER PIECES FOR THIS ASSEMBLY HAVE BEEN SHOWN AS EITHER 48" OR 38" IN LENGTH. THE RISERS WITH THE 48" LENGTH WILL BE USED ON THE SIDE OF THE LOAD CONTAINING THE CNU-317/E CONTAINERS. THE RISERS USED ON THE OPPOSITE SIDE SHALL BE 38" LONG. SEE SPECIAL NOTE 2 ABOVE.

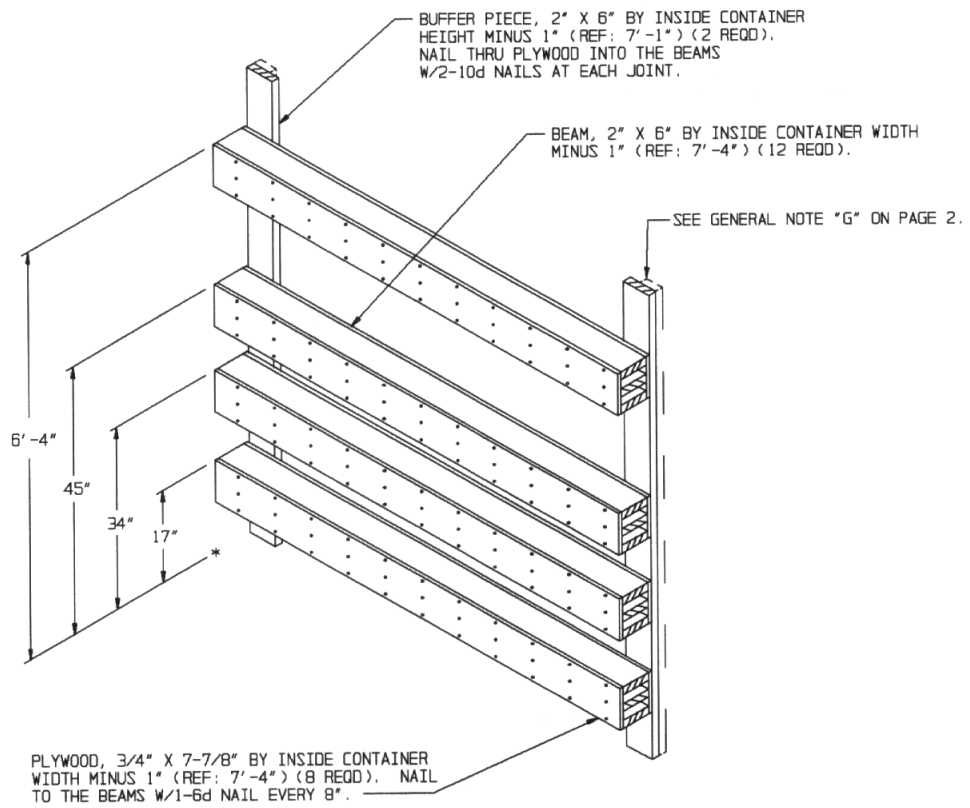
GBU-10 (MK 84)		
TYPICAL ITEMS AS DEPICTED ON PAGE 12		
DODIC	NOMENCLATURE	QUANTITY
F275	MK-84 BOMB PALLET	6
E069	MAU-169 FIN, CNU-317/E	12
F761	MXU-651 AIRFOIL	12
G119	FMU-139 FUZE	3

BILL OF MATERIAL		
LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	33	11
2" X 2"	21	7
2" X 6"	657	657
4" X 4"	15	20
NAILS	NO. REQD	POUNDS
6d (2")	432	2-1/2
10d (3")	436	6-3/4
16d (3-1/2")	40	1
PLYWOOD, 3/8"	300 SQ FT REQD	309 LBS
PLYWOOD, 1/2"	179 SQ FT REQD	246 LBS
PLYWOOD, 3/4"	39 SQ FT REQD	79 LBS

LOAD AS SHOWN

ITEM	QUANTITY	WEIGHT (APPROX)
BOMB PALLET UNIT	6	24,798 LBS
MAU-651/E FIN	12	3,480 LBS
WGU-12 CONTROL GROUP	12	1,200 LBS
MISCELLANEOUS BOXES		150 LBS
DUNNAGE		2,034 LBS
CONTAINER		6,050 LBS

TOTAL WEIGHT -- 37,562 LBS (APPROX)

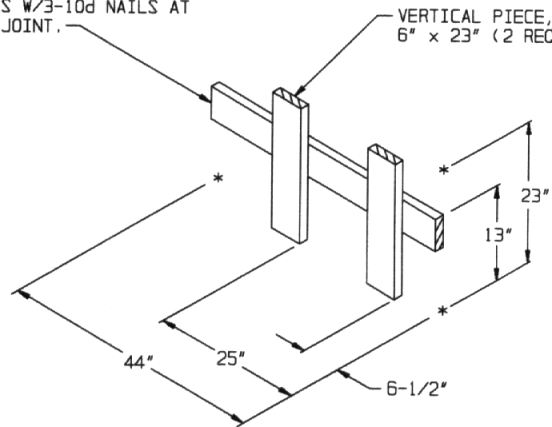


END BLOCKING ASSEMBLY B

DETAILS

LOAD BEARING PIECE, 2" X 6" X 44"
(1 REQD). NAIL TO THE VERTICAL
PIECES W/3-10d NAILS AT
EACH JOINT.

VERTICAL PIECE, 2" X
6" X 23" (2 REQD).

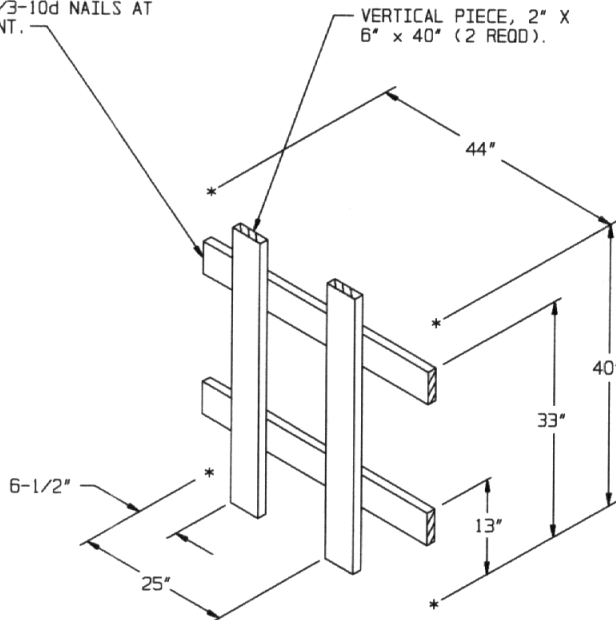


CENTER GATE E

A RIGHT HAND GATE IS SHOWN. THE LOAD AS DEPICTED ON PAGE 12 REQUIRES ONE (1) RIGHT HAND AND ONE (1) LEFT HAND GATE. NOTE THAT THE VERTICAL PIECES MUST BE IN ALIGNMENT WITH THE NOSE ENDS OF THE BOMBS.

LOAD BEARING PIECE, 2" X 6" X 44"
(1 REQD). NAIL TO THE VERTICAL
PIECES W/3-10d NAILS AT
EACH JOINT.

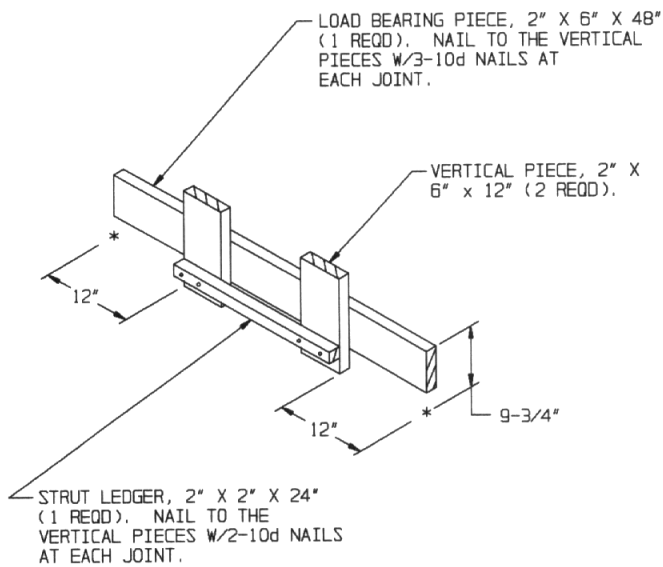
VERTICAL PIECE, 2" X
6" X 40" (2 REQD).



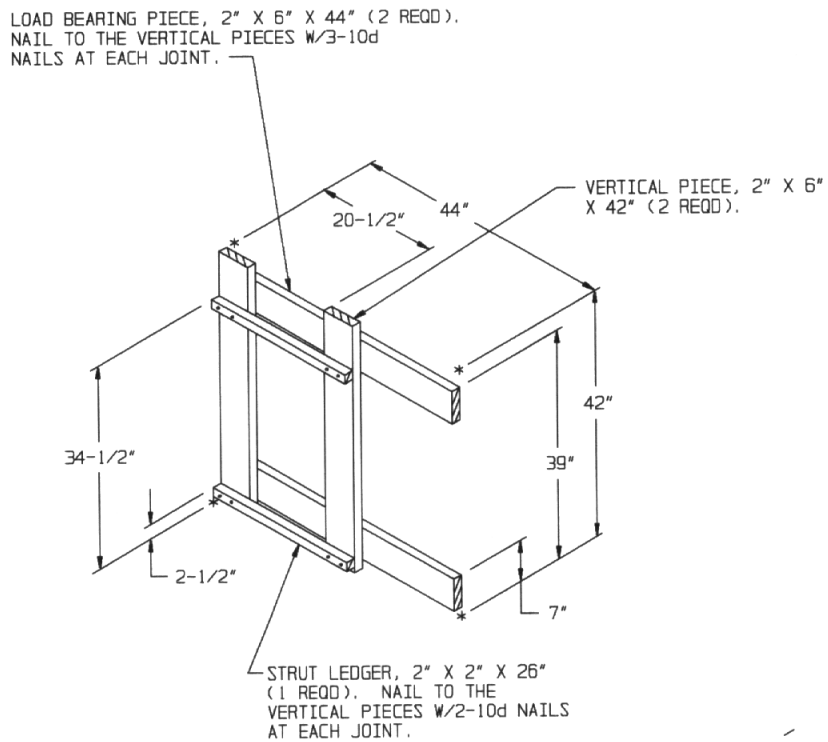
CENTER GATE F

A RIGHT HAND GATE IS SHOWN. THE LOAD AS DEPICTED ON PAGE 12 REQUIRES ONE (1) RIGHT HAND AND ONE (1) LEFT HAND GATE. NOTE THAT THE VERTICAL PIECES MUST BE IN ALIGNMENT WITH THE NOSE ENDS OF THE BOMBS.

DETAILS



CENTER GATE G

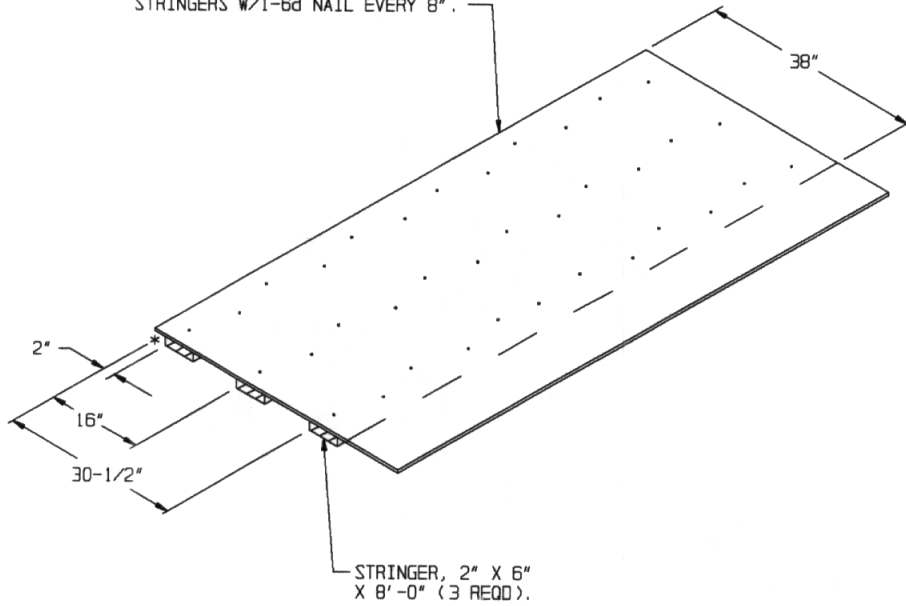


CENTER GATE H

A RIGHT HAND GATE IS SHOWN. THE LOAD AS DEPICTED
ON PAGE 12 REQUIRES TWO (2) RIGHT HAND AND TWO (2)
LEFT HAND GATES.

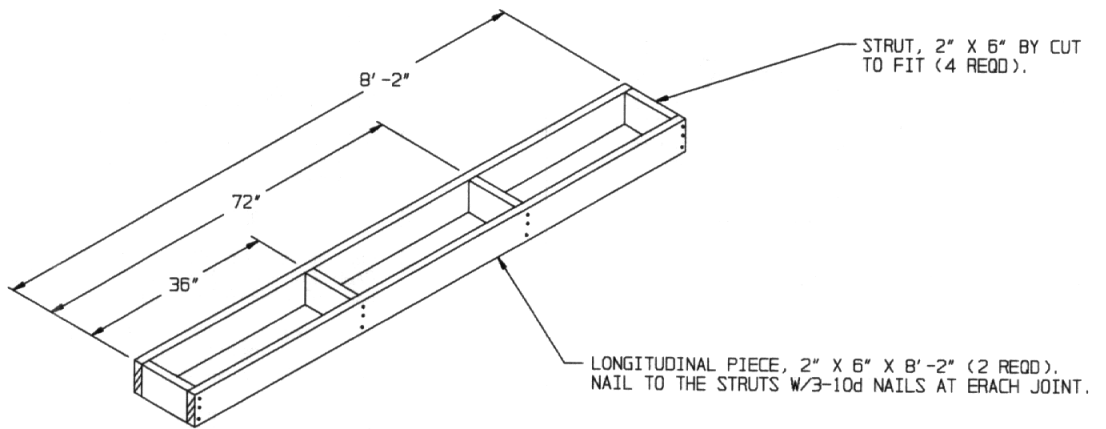
DETAILS

PLYWOOD, 1/2" THICK BY 48" (OR 38") BY 8'-0" LONG (1 REQD). NAIL TO THE STRINGERS W/1-6d NAIL EVERY 8".



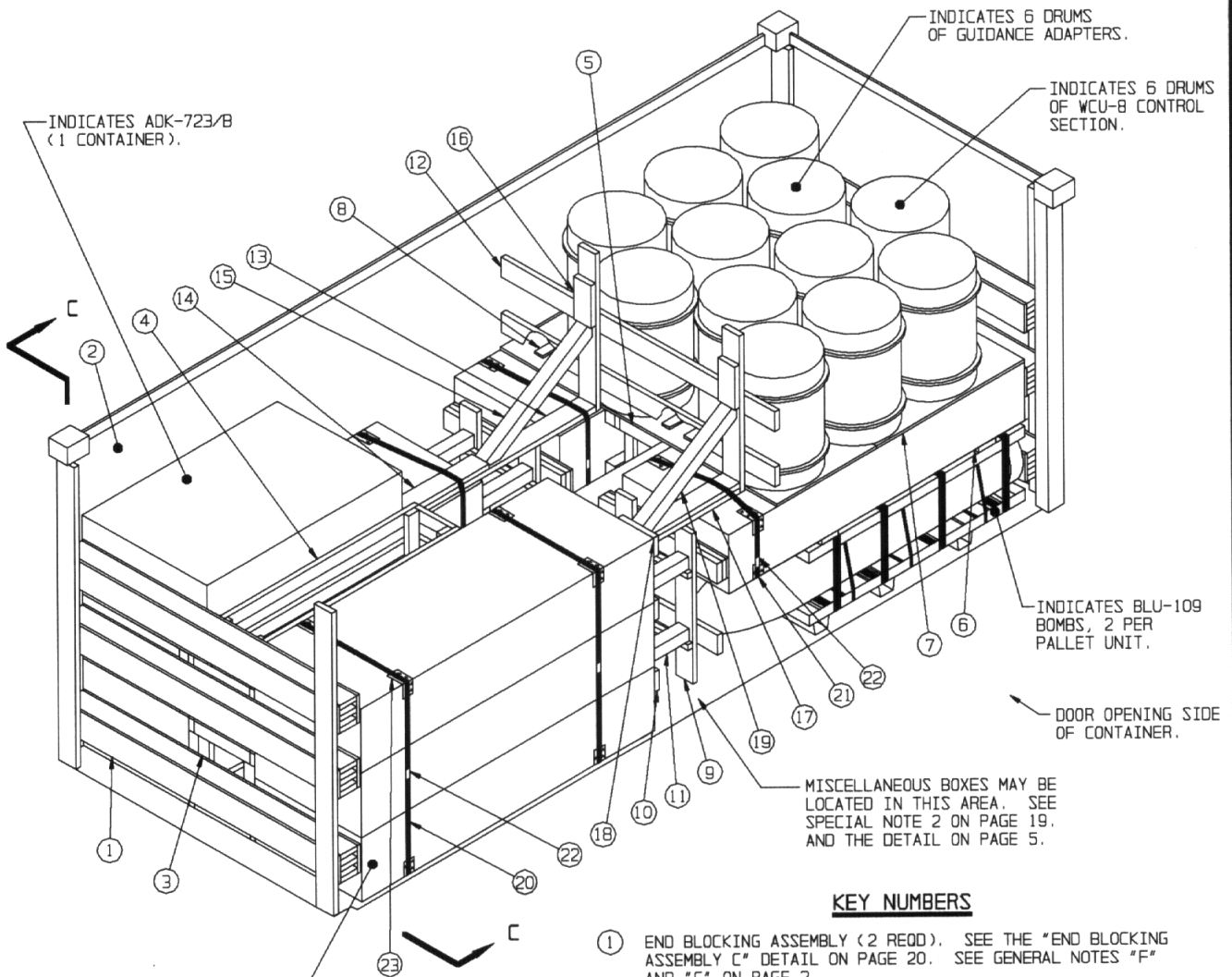
DECKING ASSEMBLY B

THE DECKING ASSEMBLY SHOWN ABOVE MAY BE USED ON EITHER SIDE OF THE CONTAINER. THE DECKING ASSEMBLY POSITIONED UNDER THE GUIDANCE SECTION CONTAINERS MAY BE CONSTRUCTED FROM 48" WIDE MATERIAL, WHEREAS THE DECKING ASSEMBLIES ON THE OPPOSITE SIDE OF THE CONTAINERS SHALL BE 38" WIDE.

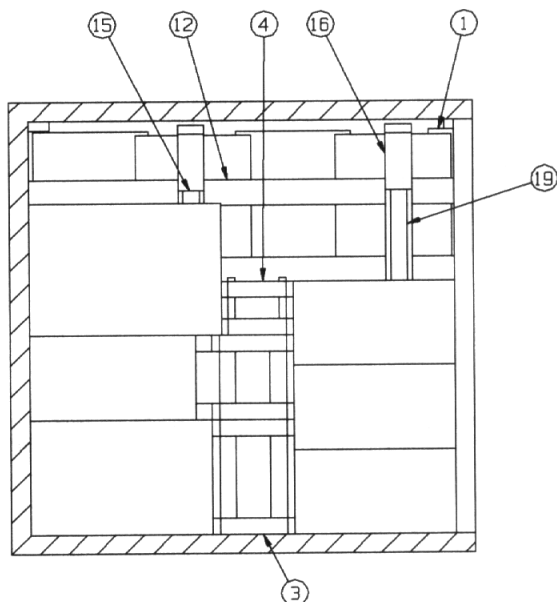


CRIB FILL C

DETAILS



ISOMETRIC VIEW



SECTION C-C

KEY NUMBERS

- ① END BLOCKING ASSEMBLY (2 REQD). SEE THE "END BLOCKING ASSEMBLY C" DETAIL ON PAGE 20. SEE GENERAL NOTES "F" AND "G" ON PAGE 2.
- ② SIDEWALL LINER, PLYWOOD, 3/8" THICK (AS REQD). POSITION SO AS TO BE BETWEEN THE LADING AND THE CONTAINER SIDEWALL OR THE CONTAINER DOORS, AS APPLICABLE.
- ③ CRIB FILL (1 REQD). SEE THE "CRIB FILL D" DETAIL ON PAGE 21. POSITION BETWEEN THE LOAD STACKS AS SHOWN.
- ④ CRIB FILL (1 REQD). SEE THE "CRIB FILL E" DETAIL ON PAGE 21. WIRE TIE TO THE BUNDLING STRAP, PIECE MARKED ⑩.
- ⑤ CRIB FILL (1 REQD). SEE THE "CRIB FILL F" DETAIL ON PAGE 22. POSITION BETWEEN THE LOAD STACKS AS SHOWN.
- ⑥ DECK SUPPORT, 2" X 6" BY LENGTH TO SUIT (2 REQD). POSITION ON TOP OF AND WIRE TIE TO THE BOMB PALLET UNITS.
- ⑦ DECKING, PLYWOOD, 3/4" THICK BY 48" WIDE BY LENGTH TO SUIT (2 REQD). POSITION ON TOP OF THE MXU-787 CONTAINERS AS SHOWN.
- ⑧ RISER (2 REQD). SEE THE "RISER B" DETAIL ON PAGE 20.
- ⑨ CENTER GATE (3 REQD). SEE THE "CENTER GATE K" DETAIL ON PAGE 23. POSITION AGAINST THE BOMB PALLET UNIT AND MXU-787 CONTAINER STACKS.
- ⑩ CENTER GATE (1 REQD). SEE THE "CENTER GATE J" DETAIL ON PAGE 22. POSITION AGAINST THE 3-HIGH STACK OF MXU-787 CONTAINERS AS SHOWN.
- ⑪ STRUT, 4" X 4" BY LENGTH TO SUIT (REF: 4 AT 11" AND 4 AT 15") (4 EACH REQD). POSITION SO AS TO BE BETWEEN THE CENTER GATES, PIECES MARKED ⑨ AND ⑩. TOENAIL TO CENTER GATES W/2-16d NAILS AT EACH END.
- ⑫ CENTER GATE (1 REQD). SEE THE "CENTER GATE L" DETAIL ON PAGE 23. POSITION AGAINST THE DRUM CONTAINERS AS SHOWN.

(CONTINUED ON PAGE 19)

6 COMPLETE ROUND LOAD

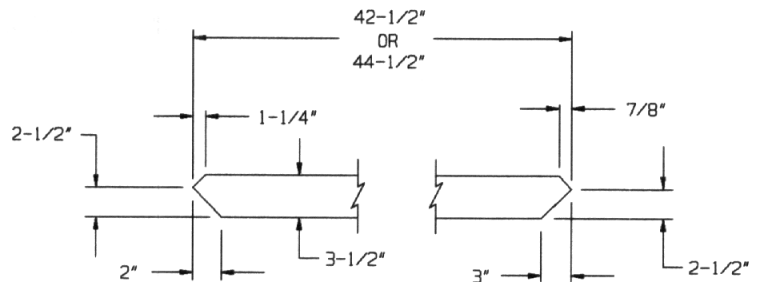
(KEY NUMBERS CONTINUED)

- ⑬ SUPPORT PIECE, 2" X 6" BY LENGTH TO SUIT (REF: 60") (1 REOD).
- ⑭ BACK-UP CLEAT, 2" X 6" X 30" (1 REOD). NAIL TO THE SUPPORT PIECE, PIECE MARKED ⑬, W/8-10d NAILS.
- ⑮ DIAGONAL, 4" X 4" X 44-1/2" (1 REOD). SEE THE DETAIL BELOW FOR BEVEL CUTS REQUIRED. TOENAIL TO CENTER GATE "L" AND TO THE SUPPORT PIECE, PIECES MARKED ⑫ AND ⑬, W/2-16d NAILS AT EACH END.
- ⑯ TOP CLEAT, 2" X 6" X 12" (2 REOD). NAIL TO A VERTICAL PIECE W/5-10d NAILS.
- ⑰ SUPPORT PIECE, 2" X 6" BY LENGTH TO SUIT (REF: 26-1/2") (DOUBLED) (1 REOD). LAMINATE W/6-10d NAILS.
- ⑱ BUFFER PIECE, 2" X 6" X 12" (1 REOD). NAIL TO THE END OF THE SUPPORT PIECE, PIECE MARKED ⑰, W/2-10d NAILS. SEE SPECIAL NOTE 4 AT THE RIGHT.
- ⑲ DIAGONAL, 4" X 4" X 42-1/2" (1 REOD). SEE THE DETAIL BELOW FOR BEVEL CUTS REQUIRED. TOENAIL TO CENTER GATE "L" AND THE BUFFER PIECE, PIECES MARKED ⑫ AND ⑱, W/2-16d NAILS AT EACH END.
- ⑳ BUNDLING STRAP, 1-1/4" X .031" OR .035" X 15'-0" LONG STEEL STRAPPING (2 REOD). INSTALL SO AS TO ENCIRCLE THE THREE MXU-787 CONTAINERS AS SHOWN.
- ㉑ RESTRAINING STRAP, 1-1/4" X .031" OR .035" X 10'-0" LONG STEEL STRAPPING (3 REOD). INSTALL SO AS TO ENCIRCLE A MXU-787 CONTAINER AND THE SUPPORT PIECES AS SHOWN IN THE ISOMETRIC VIEW ON PAGE 18.
- ㉒ SEAL FOR 1-1/4" STRAPPING (5 REOD, 1 PER STRAP). CRIMP EACH SEAL WITH TWO PAIR OF NOTCHES. SEE GENERAL NOTE "N" ON PAGE 2.
- ㉓ ANTI-CHAFING MATERIAL (AS REOD). POSITION UNDER ALL STEEL STRAPPING AT POINTS OF CONTACT WITH THE LADING.

SPECIAL NOTES:

1. THE LOAD AS SHOWN ON PAGE 18 DEPICTS A COMPLETE ROUND LOAD OF GBU-15IR, BLU-109 BOMBS, INCLUDING 3 PALLETS OF BOMBS, 6 CONTAINERS OF MXU-787 FINS, 6 CONTAINERS (DRUMS) OF GUIDANCE ADAPTORS, 6 CONTAINERS (DRUMS) OF WCU-8 CONTROL SECTIONS, ONE CONTAINER OF ADK-723/B, 6 CONTAINERS OF RECEIVER TRANSMITTER GROUP, 1 CONTAINER OF WGU-10, AND 1 BOX OF FMU-143 FUZES.
2. REFER TO PAGE 5 FOR SECUREMENT OF MISCELLANEOUS BOXES.
3. THE PLYWOOD DECKING, SHOWN AS PIECE MARKED ⑦, MAY BE ADJUSTED IN SIZE AS NECESSARY.
4. A BUFFER PIECE, SHOWN AS PIECE MARKED ⑱, MUST BE POSITIONED SO AS TO BEAR AGAINST THE END OF A MXU-787 CONTAINER.

GBU-15 IR (BLU-109)		
TYPICAL ITEMS AS DEPICTED ON PAGE 18		
DDIC	NOMENCLATURE	QUANTITY
F140	BLU-109 BOMB PALLET	3
BY04	FUZE, FMU-143	3
FY20	GUIDE ADAPTER	6
E338	WCU-8A/B	6
FY46	MXU-787	6
FY22	REC TRANS GRP	6
E051	WGU-10	6
CY63	ADK-723/B	1



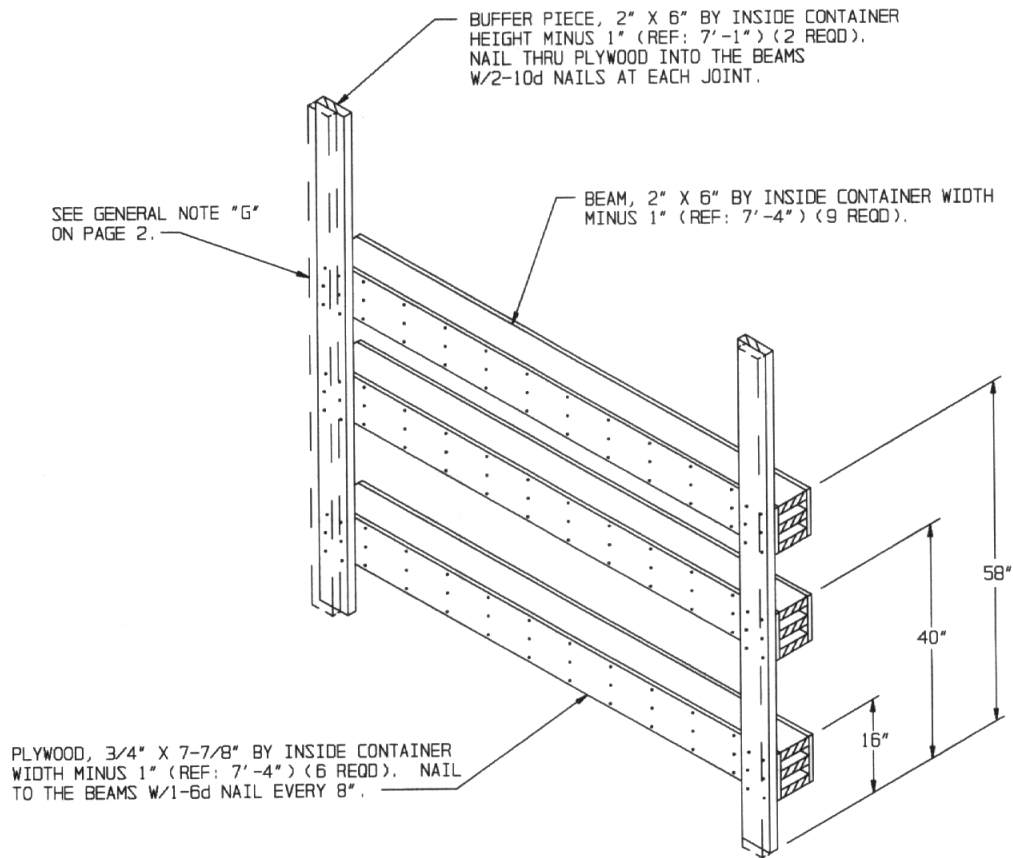
DIAGONAL BRACE
4" X 4" MATERIAL

LOAD AS SHOWN

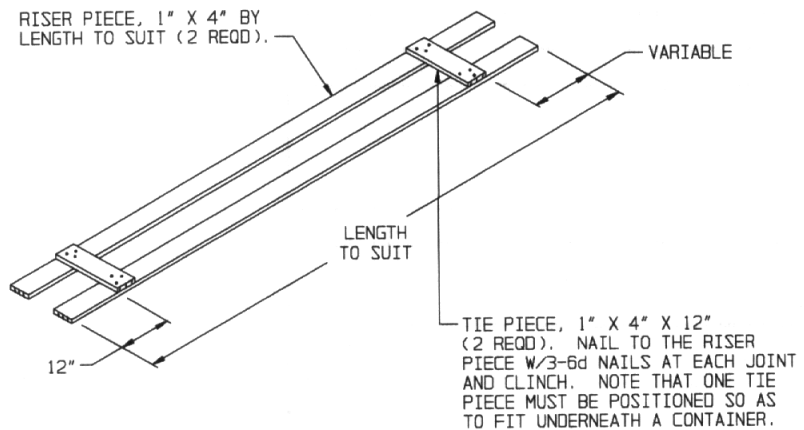
ITEM	QUANTITY	WEIGHT (APPROX)
BOMB PALLET UNIT	3	12,399 LBS
COMPONENT ITEMS		7,800 LBS
DUNNAGE		1,541 LBS
CONTAINER		6,050 LBS

TOTAL WEIGHT ----- 27,290 LBS (APPROX)

BILL OF MATERIAL		
LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	34	11
2" X 2"	16	5
2" X 4"	165	110
2" X 6"	292	292
4" X 4"	50	67
NAILS	NO. REOD	POUNDS
6d (2")	420	2-1/2
10d (3")	462	7
16d (3-1/2")	40	1
STEEL STRAPPING, 1-1/4"	60' REOD	8-1/2 LBS
SEAL FOR 1-1/4" STRAPPING	5 REOD	NIL
WIRE, NO. 14 GAGE	8' REOD	NIL
PLYWOOD, 3/8"	300 SQ FT REOD	309 LBS
PLYWOOD, 3/4"	118 SQ FT REOD	243 LBS
ANTI-CHAFING MATERIAL	AS REOD	NIL



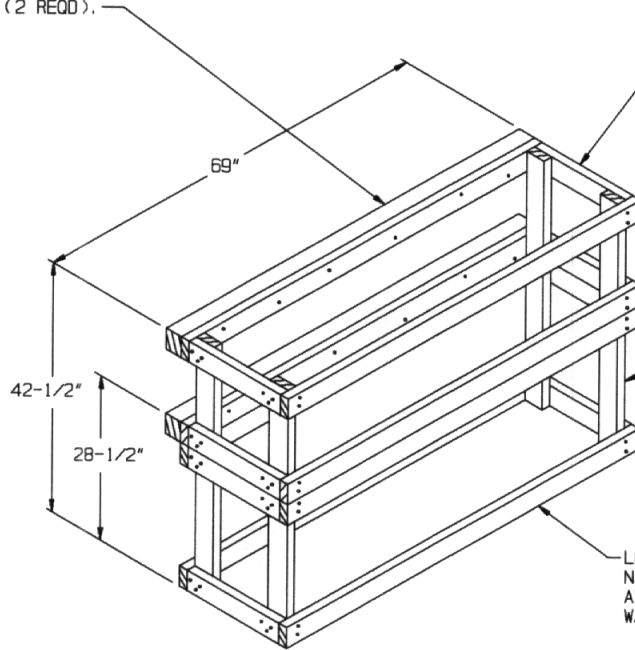
END BLOCKING ASSEMBLY C



RISER B

DETAILS

FILLER PIECE, 4" X 4"
X 69" (2 REQD).



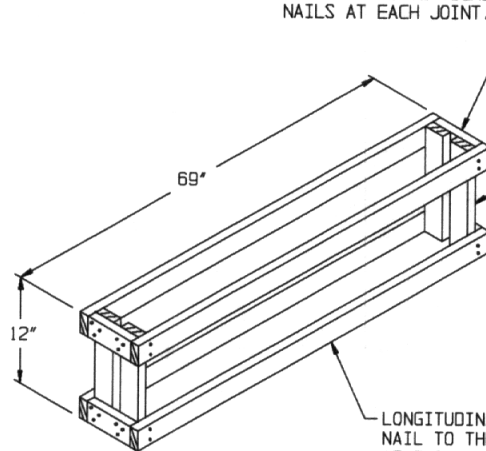
STRUT, 2" X 4" BY LENGTH TO SUIT (8 REQD).
NAIL TO THE VERTICAL PIECES W/3-10d
NAILS AT EACH JOINT.

VERTICAL PIECE, 2" X 4" X 42-1/2" (4 REQD).

LONGITUDINAL PIECE, 2" X 4" X 69" (8 REQD).
NAIL TO THE VERTICAL PIECES W/2-10d NAILS
AT EACH JOINT AND TO THE FILLER PIECES
W/6-10d NAILS.

CRIB FILL D

STRUT, 2" X 4" BY LENGTH TO SUIT (4 REQD).
NAIL TO THE VERTICAL PIECES W/3-10d
NAILS AT EACH JOINT.

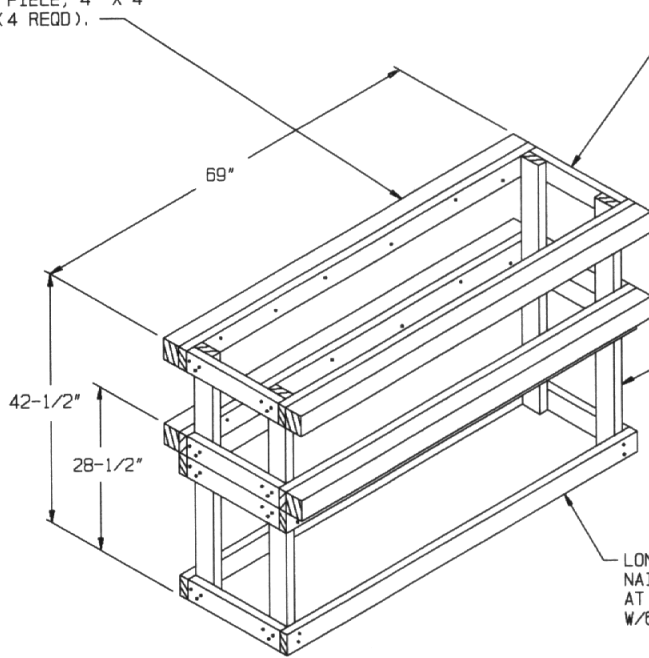


VERTICAL PIECE, 2" X 4" X 12" (4 REQD).

LONGITUDINAL PIECE, 2" X 4" X 69" (4 REQD).
NAIL TO THE VERTICAL PIECES W/2-10d NAILS
AT EACH JOINT.

CRIB FILL E

FILLER PIECE, 4" X 4"
X 69" (4 REQD).

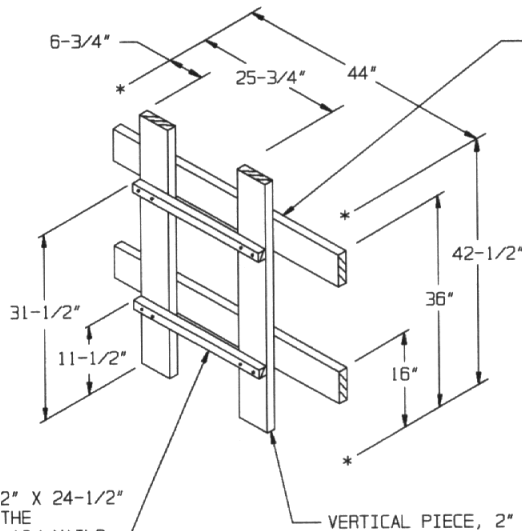


STRUT, 2" X 4" BY LENGTH TO SUIT (8 REQD).
NAIL TO THE VERTICAL PIECES W/3-10d
NAILS AT EACH JOINT.

VERTICAL PIECE, 2" X 4" X 42-1/2" (4 REQD).

LONGITUDINAL PIECE, 2" X 4" X 69" (8 REQD).
NAIL TO THE VERTICAL PIECES W/2-10d NAILS
AT EACH JOINT AND TO THE FILLER PIECES
W/6-10d NAILS.

CRIB FILL F



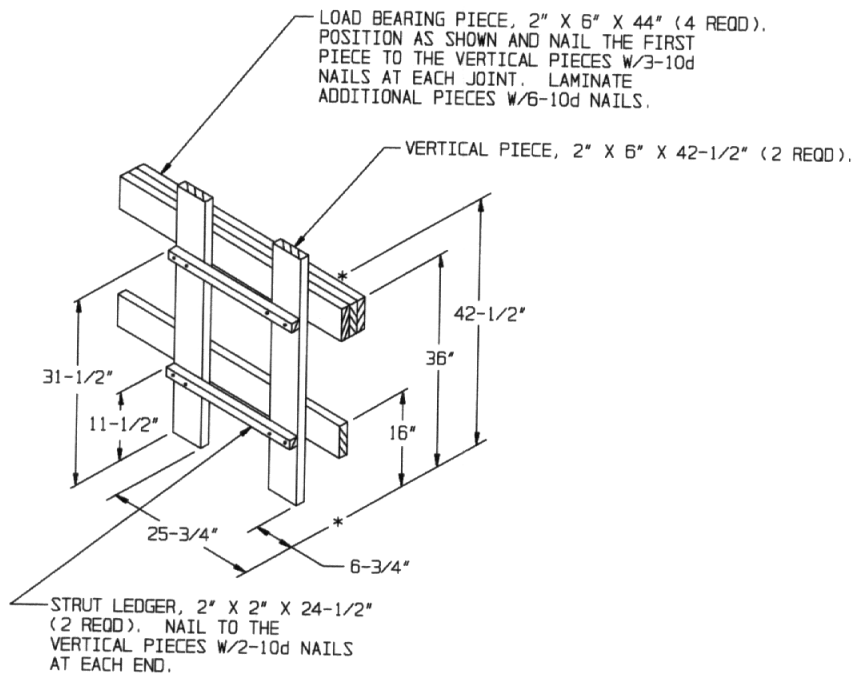
LOAD BEARING PIECE, 2" X 6" X 44" (2 REQD).
POSITION AS SHOWN AND NAIL TO THE VERTICAL
PIECES W/3-10d NAILS AT EACH JOINT.

STRUT LEDGER, 2" X 2" X 24-1/2"
(2 REQD). NAIL TO THE
VERTICAL PIECES W/2-10d NAILS
AT EACH END.

VERTICAL PIECE, 2" X 6" X 42-1/2" (2 REQD).

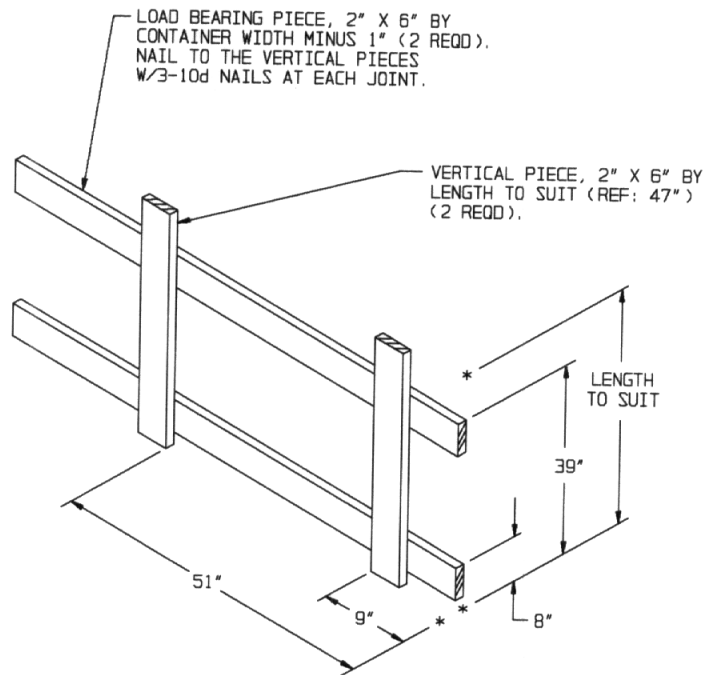
CENTER GATE J

DETAILS



CENTER GATE K

A RIGHT HAND GATE IS SHOWN. THE LOAD AS DEPICTED ON PAGE 18 REQUIRES TWO (2) RIGHT HAND AND ONE (1) LEFT HAND GATE. NOTE THAT THE VERTICAL PIECES MUST BE IN ALIGNMENT WITH THE NOSE ENDS OF THE BOMBS.



CENTER GATE L

NOTE THAT THE VERTICAL PIECES MUST BE IN ALIGNMENT WITH A ROW OF CONTAINERS.

DETAILS

