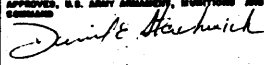
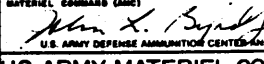


# LOADING AND BRACING (TL & LTL) IN CLOSED OR OPEN TOP VAN TRAILERS OF BLU - 80/B (BIGEYE) BINARY CHEMICAL WEAPON BODY PACKED IN CNU - 396/E STORAGE AND SHIPPING CONTAINER

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**DO NOT SCALE**

REVISIONS				DRAFTSMAN	CHECKER	TECHNICIAN	ENGINEER
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<b>OCTOBER 1989</b>							
				CLASS	DIVISION	DRAWING	FILE
				19	48	4571	CB 11J2

## 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 WITHIN THIS DRAWING ARE APPLICABLE FOR THE BLU-80/B (BIGEYE) BINARY CHEMICAL WEAPON BODIES PACKED IN CNU-394/E STORAGE AND SHIPPING CONTAINERS. CONTAINERS MAY BE OFFERED FOR SHIPMENT IN A UNITIZED UNIT LOAD CONFIGURATION AS DETAILED ON PAGE 3. HOWEVER, IF INDIVIDUAL CONTAINERS, NOT UNITIZED, ARE AVAILABLE FOR SHIPMENT, THE PROCEDURES HEREIN WILL APPLY. STACKS MAY CONSIST OF UNIT LOADS, A COMBINATION OF UNIT LOADS AND INDIVIDUAL CONTAINERS, OR ALL INDIVIDUAL CONTAINERS. EACH STACK MUST BE BUNDLED WITH STEEL STRAPPING USING THE APPLICABLE "STACK BUNDLING DETAIL" SHOWN ON PAGE 3.
- C. THE OUTLOADING PROCEDURES DEPICTED WITHIN THIS DOCUMENT ARE APPLICABLE FOR SHIPMENTS IN CONVENTIONAL TYPE VAN TRAILERS, AND APPLY TO TRAILERS HAVING WOOD, OR WOOD AND METAL, OR ALL METAL FLOORS. VAN TRAILERS WHICH ARE 48'-0" LONG BY 7'-6" WIDE (INSIDE DIMENSION) HAVE BEEN SHOWN, HOWEVER, THE PROCEDURES ARE ALSO APPLICABLE FOR TRAILERS OF OTHER LENGTHS AND WIDTHS.
- D. THE GROSS WEIGHT AND AXLE DISTRIBUTION OF WEIGHT FOR A LOAD WILL BE THE RESPONSIBILITY OF THE CARRIER. THE CARRIER WILL ADVISE THE SHIPPER OF THE APPLICABLE LOADING REQUIREMENTS, AND THE SHIPPER WILL LOAD ACCORDINGLY. THE TOTAL WEIGHT OF THE LADING OF THE DUNNAGE, OF THE TRACTOR, AND OF THE SEMI-TRAILER CARRYING THE LADING MUST NOT EXCEED THE MAXIMUM GROSS WEIGHT ALLOWED FOR THE STATE OR STATES THRU WHICH THE LOAD IS TO BE TRANSPORTED BY MOTOR CARRIER. LIKEWISE, THE GROSS WEIGHT ON A SINGLE OR TANDEM AXLE MUST NOT EXCEED THE MAXIMUM ALLOWABLE WEIGHT. IF THERE IS ANY DOUBT AS TO WHETHER THE TOTAL GROSS WEIGHT OR AXLE WEIGHT EXCEEDS THE MAXIMUM ALLOWED, WEIGHTS SHOULD BE VERIFIED BY ACTUALLY WEIGHING THE LOADED VEHICLE.
- E. **NOTICE:** A SHIPMENT WILL BE POSITIONED IN THE TRAILER CONSISTENT WITH STATE WEIGHT LAWS. THE NUMBER OF LADING UNITS MAY BE ADJUSTED TO FIT THE SIZE OF THE TRAILER TO BE LOADED OR THE QUANTITY TO BE SHIPPED. COMBINATIONS OF THE OUTLOADING PROCEDURES SPECIFIED MAY BE USED. HOWEVER, THE APPROVED METHODS SHOWN MUST BE FOLLOWED AS CLOSELY AS POSSIBLE FOR BLOCKING, BRACING, AND STAYING OF THE DESIGNATED ITEMS.
- F. OTHER TYPES OF LADING ITEMS MAY BE LOADED INTO TRAILERS WHICH ARE PARTIALLY LOADED WITH THE DESIGNATED ITEM PROVIDING THE TOTAL LOAD IS COMPATIBLE, EXISTING DIRECTIVES ARE NOT VIOLATED, AND THE OTHER LADING ITEMS ARE BLOCKED AND BRACED TO EQUAL THE BLOCKING AND BRACING CRITERIA SPECIFIED HEREIN.
- G. PORTIONS OF THE TRAILERS, SUCH AS SIDEWALLS, ENDWALLS, AND ROOFS, HAVE NOT BEEN SHOWN IN THE LOAD VIEWS FOR CLARITY PURPOSES.
- H. DUNNAGE LUMBER SPECIFIED THROUGHOUT THIS PROCEDURAL DRAWING IS OF NOMINAL SIZE. FOR EXAMPLE, 2" X 4" MATERIAL IS ACTUALLY 1-1/2" THICK BY 3-1/2" WIDE AND 2" X 6" MATERIAL IS ACTUALLY 1-1/2" THICK BY 5-1/2" WIDE.

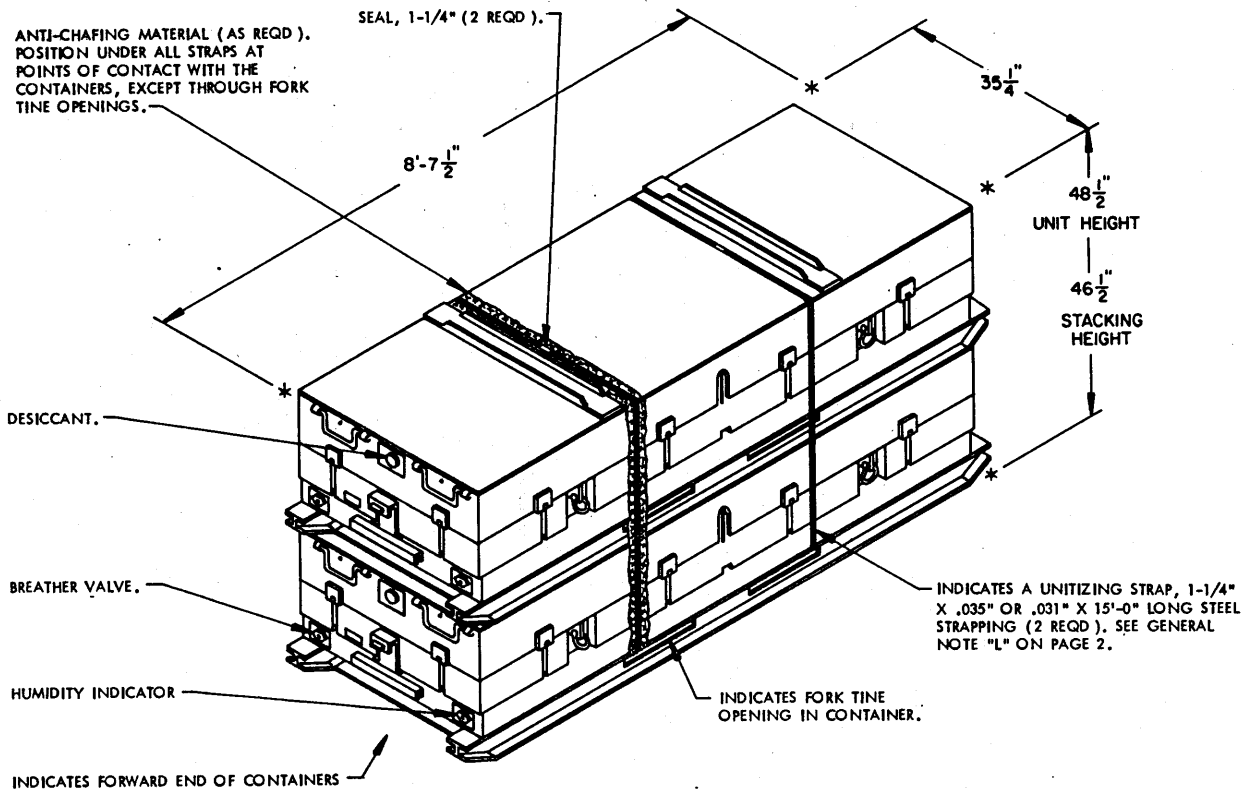
(CONTINUED AT RIGHT)

## (GENERAL NOTES CONTINUED)

- J. **NOTICE:** A STAGGERED NAILING PATTERN WILL BE USED WHENEVER POSSIBLE WHEN NAILS ARE DRIVEN INTO JOINTS OF DUNNAGE ASSEMBLIES. ALSO, A STAGGERED NAILING PATTERN WILL BE USED WHEN DUNNAGE IS NAILED TO THE FLOOR OF THE TRANSPORTING VEHICLE, OR WHEN LAMINATING DUNNAGE. THE NAILING PATTERN WILL BE ADJUSTED AS REQUIRED SO THAT A NAIL DOES NOT PENETRATE INTO OR NEAR A CRACK BETWEEN FLOOR BOARDS. 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.
- K. POWER DRIVEN STAPLES MAY BE USED AS ALTERNATIVE FASTENERS FOR NAILS WHEN CONSTRUCTING DUNNAGE ASSEMBLIES WHICH ARE TO BE USED IN THE DELINEATED TRAILER LOADS SHOWN THROUGHOUT THIS DRAWING. THE STAPLES TO BE USED MUST BE EQUAL IN LENGTH TO THE SPECIFIED NAIL SIZE AND MUST BE SUBSTITUTED ON A ONE STAPLE FOR ONE NAIL BASIS. STAPLES WHICH ARE 2-1/2" OR LESS IN LENGTH SHOULD BE IN ACCORDANCE WITH FEDERAL SPECIFICATION FF-N-105 AS NEARLY AS PRACTICABLE. STAPLES WHICH ARE LONGER THAN 2-1/2" WILL BE A COMMERCIAL GRADE, OF A QUALITY EQUIVALENT TO THOSE MANUFACTURED BY SENCO PRODUCTS INCORPORATED. **NOTE:** STAPLES WILL NOT BE SUBSTITUTED FOR NAILS IN ANY LOAD RESTRAINING FLOOR DUNNAGE APPLICATION.
- L. WHEN STEEL STRAPPING IS SEALED AT AN END-OVER-END LAP JOINT, A MINIMUM OF ONE (1) SEAL WITH TWO (2) PAIR OF NOTCHES WILL BE USED TO SEAL THE JOINT WHEN A NOTCH-TYPE SEAL IS BEING USED. A MINIMUM OF TWO (2) SEALS, BUTTED TOGETHER, WITH TWO (2) 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 16 FOR GUIDANCE.
- 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. FOR ADDITIONAL GUIDANCE, ATTENTION IS DIRECTED TO THE "SPECIAL NOTES" SECTIONS WHICH ARE IMMEDIATELY ADJACENT TO THE DEPICTED OUTLOADING METHODS.

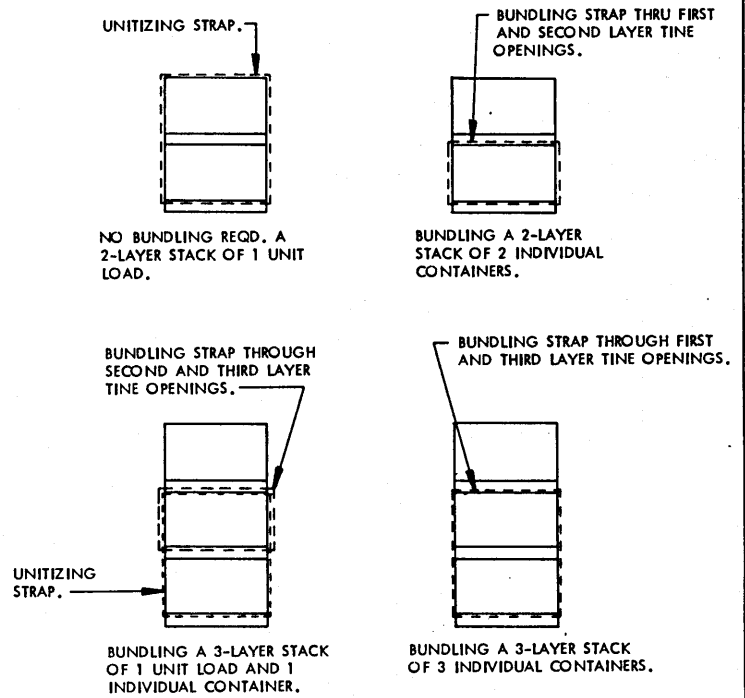
## MATERIAL SPECIFICATIONS

- LUMBER** -----: SEE TM 743-200-1, DUNNAGE LUMBER; FED SPEC MM-L-751.
- NAILS** -----: COMMON, FED SPEC FF-N-105.
- STRAPPING, STEEL** ----: CLASS I, TYPE I OR IV, HEAVY DUTY, FINISH A, B (GRADE 2 OR C; FED SPEC QQ-5-781).
- SEAL, STRAP** -----: TYPE D, STYLE I, II, OR IV, CLASS H; FINISH A, B (GRADE 2 OR C; FED SPEC QQ-5-781).
- WIRE** -----: ANNEALED, BLACK; FED SPEC QQ-W-461.
- ANTI-CHAFING MATERIAL** -----: NEUTRAL BARRIER MATERIAL; MIL-B-121 (OR EQUAL).

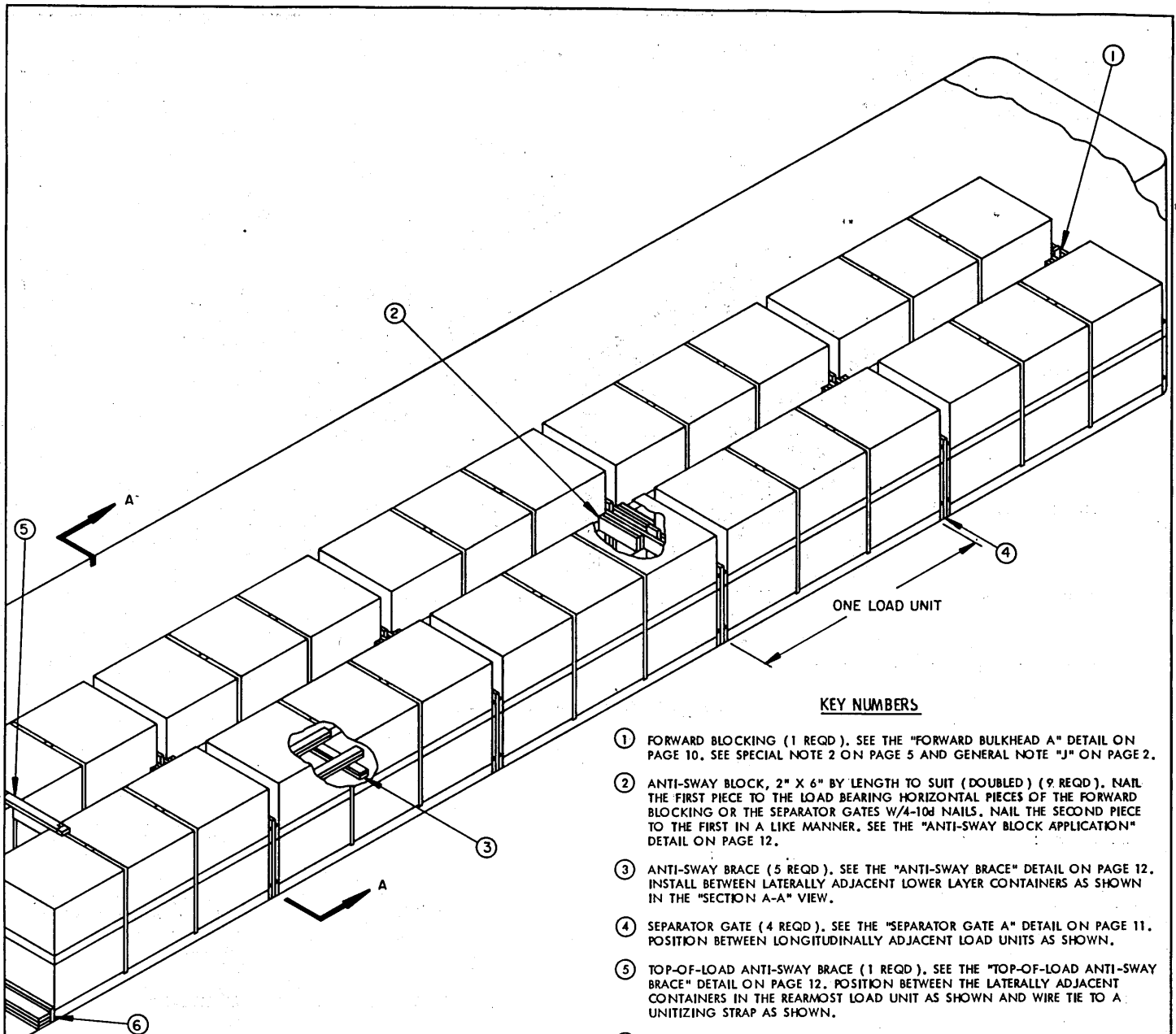


**CNU-396/E CONTAINER-UNIT LOAD DETAIL**

CUBE ----- 102.4 CUBIC FEET (APPROX)  
 GROSS WEIGHT ----- 3,044 LBS (APPROX)  
 REF: MIL STD 1323-350 (NAVY)



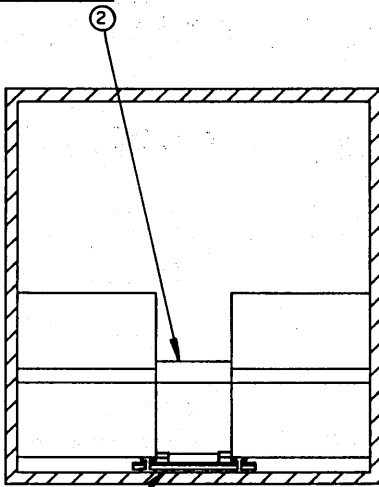
**STACK BUNDLING DETAILS**



**KEY NUMBERS**

- ① FORWARD BLOCKING (1 REQD). SEE THE "FORWARD BULKHEAD A" DETAIL ON PAGE 10. SEE SPECIAL NOTE 2 ON PAGE 5 AND GENERAL NOTE "J" ON PAGE 2.
- ② ANTI-SWAY BLOCK, 2" X 6" BY LENGTH TO SUIT (DOUBLED) (9 REQD). NAIL THE FIRST PIECE TO THE LOAD BEARING HORIZONTAL PIECES OF THE FORWARD BLOCKING OR THE SEPARATOR GATES W/4-10d NAILS. NAIL THE SECOND PIECE TO THE FIRST IN A LIKE MANNER. SEE THE "ANTI-SWAY BLOCK APPLICATION" DETAIL ON PAGE 12.
- ③ ANTI-SWAY BRACE (5 REQD). SEE THE "ANTI-SWAY BRACE" DETAIL ON PAGE 12. INSTALL BETWEEN LATERALLY ADJACENT LOWER LAYER CONTAINERS AS SHOWN IN THE "SECTION A-A" VIEW.
- ④ SEPARATOR GATE (4 REQD). SEE THE "SEPARATOR GATE A" DETAIL ON PAGE 11. POSITION BETWEEN LONGITUDINALLY ADJACENT LOAD UNITS AS SHOWN.
- ⑤ TOP-OF-LOAD ANTI-SWAY BRACE (1 REQD). SEE THE "TOP-OF-LOAD ANTI-SWAY BRACE" DETAIL ON PAGE 12. POSITION BETWEEN THE LATERALLY ADJACENT CONTAINERS IN THE REAR MOST LOAD UNIT AS SHOWN AND WIRE TIE TO A UNITIZING STRAP AS SHOWN.
- ⑥ REAR BLOCKING (1 REQD). SEE THE "REAR BLOCKING ASSEMBLY A" DETAIL ON PAGE 12 AND SPECIAL NOTE 3 ON PAGE 5.

**ISOMETRIC VIEW**



**SECTION A-A**

SPECIAL NOTES:

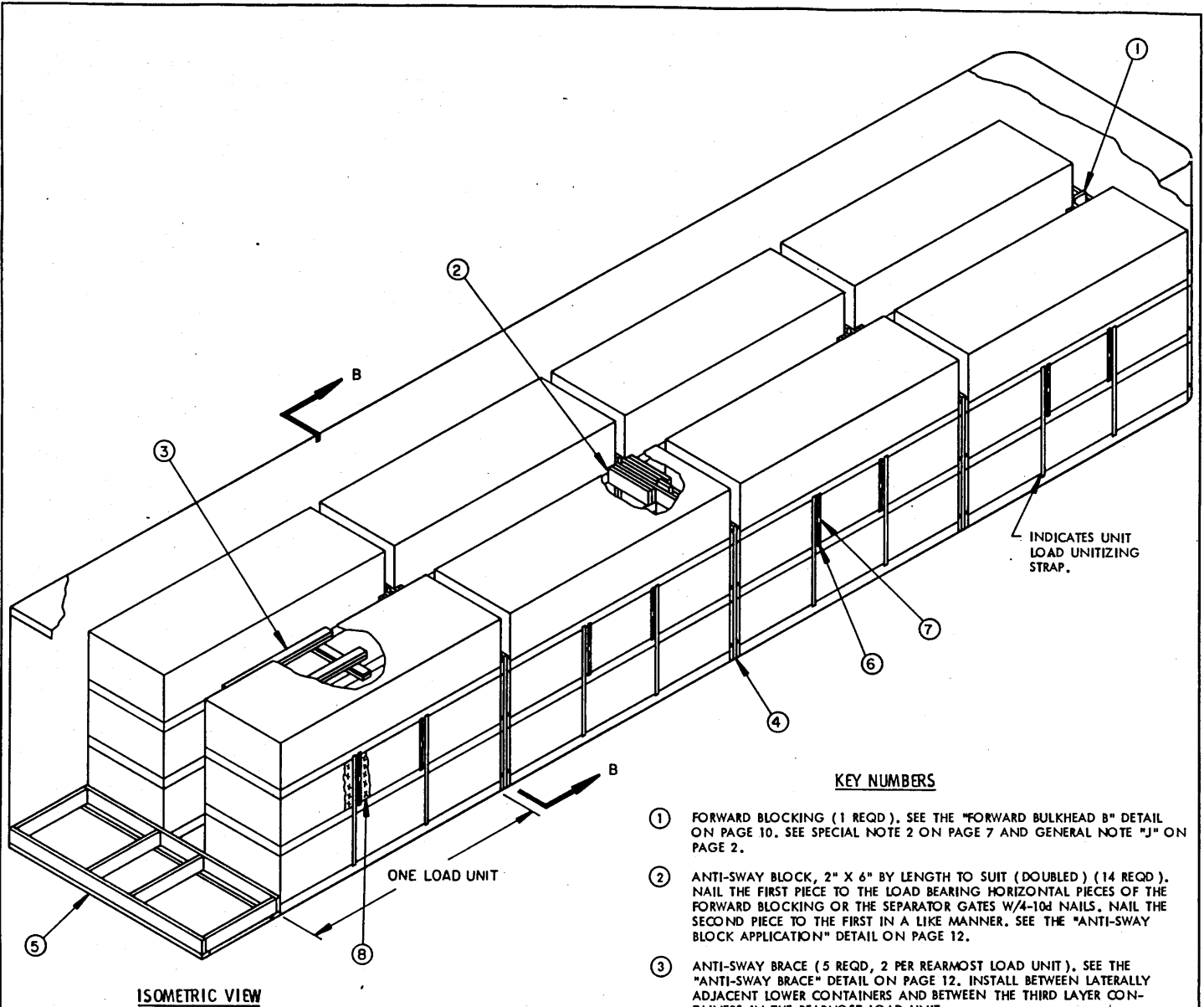
1. A 20-CONTAINER LOAD (UNITIZED) IS SHOWN IN A 48'-0" LONG BY 7'-6" WIDE (INSIDE DIMENSION) CONVENTIONAL VAN TRAILER. TRAILERS OF OTHER DIMENSIONS MAY BE USED.
2. A TRAILER HAVING ROUNDED CORNERS AT THE FORWARD END IS SHOWN. THE FORWARD BLOCKING ASSEMBLY, PIECE MARKED ①, SHOWN AT THE FRONT END OF THE ROUNDED CORNER TRAILER SHOULD ALSO BE USED WHEN THE TRAILER FURNISHED FOR LOADING IS EQUIPPED WITH A SQUARE FRONT.
3. IF THE VOID AT THE REAR OF THE LOAD BETWEEN THE CONTAINERS AND THE REAR DOOR MEASURES 1-1/2" OR LESS, REAR BLOCKING IS NOT REQUIRED. TRAILERS USED FOR SHIPMENT OF THE DEPICTED LOAD WITH NAILED FLOOR LINE BLOCKING MUST HAVE WOOD, WOOD AND METAL, OR NAILABLE METAL FLOORS. IF TRAILERS WITH ALL METAL, NON-NAAILABLE FLOORS ARE USED, THE "REAR BLOCKING ASSEMBLY B" AS DETAILED ON PAGE 13 AND DEPICTED IN THE LOAD SHOWN ON PAGE 6 MUST BE USED.

**BILL OF MATERIAL**

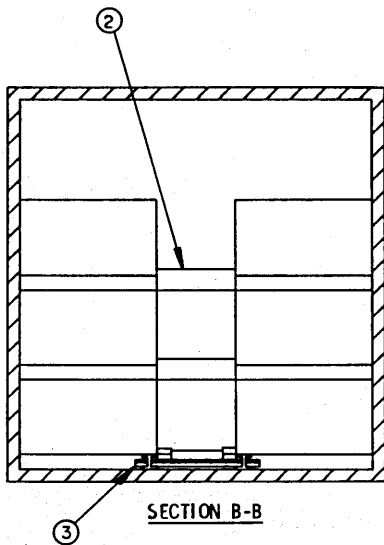
LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	29	10
2" X 4"	122	81
2" X 6"	249	249
NAILS	NO. REQD	POUNDS
6d (2")	50	1/4
10d (3")	488	7-1/2
12d (3-1/4")	4	NIL
WIRE, NO. 14 GAGE ----- 2' REQD ----- NIL		

LOAD AS SHOWN

<u>ITEM</u>	<u>QUANTITY</u>	<u>WEIGHT (APPROX)</u>
CNU-396/E CONTAINERS -20-----		30,440 LBS
DUNNAGE -----		688 LBS
TOTAL WEIGHT -----		31,128 LBS



**ISOMETRIC VIEW**



**SECTION B-B**

**KEY NUMBERS**

- ① FORWARD BLOCKING (1 REQD). SEE THE "FORWARD BULKHEAD B" DETAIL ON PAGE 10. SEE SPECIAL NOTE 2 ON PAGE 7 AND GENERAL NOTE "J" ON PAGE 2.
- ② ANTI-SWAY BLOCK, 2" X 6" BY LENGTH TO SUIT (DOUBLED) (14 REQD). NAIL THE FIRST PIECE TO THE LOAD BEARING HORIZONTAL PIECES OF THE FORWARD BLOCKING OR THE SEPARATOR GATES W/4-10d NAILS. NAIL THE SECOND PIECE TO THE FIRST IN A LIKE MANNER. SEE THE "ANTI-SWAY BLOCK APPLICATION" DETAIL ON PAGE 12.
- ③ ANTI-SWAY BRACE (5 REQD, 2 PER REAR MOST LOAD UNIT). SEE THE "ANTI-SWAY BRACE" DETAIL ON PAGE 12. INSTALL BETWEEN LATERALLY ADJACENT LOWER CONTAINERS AND BETWEEN THE THIRD LAYER CONTAINERS IN THE REAR MOST LOAD UNIT.
- ④ SEPARATOR GATE (3 REQD). SEE THE "SEPARATOR GATE B" DETAIL ON PAGE 11. POSITION BETWEEN LONGITUDINALLY ADJACENT LOAD UNITS AS SHOWN.
- ⑤ REAR BLOCKING (1 REQD). SEE THE "REAR BLOCKING ASSEMBLY B" DETAIL ON PAGE 13. SEE SPECIAL NOTE 5 ON PAGE 7.
- ⑥ BUNDLING STRAP, 1-1/4" X .035" OR .031" X 12'-0" LONG STEEL STRAPPING (16 REQD). SEE SPECIAL NOTE 4 ON PAGE 7 AND THE APPLICABLE "STACK BUNDLING DETAIL" ON PAGE 3.
- ⑦ SEAL FOR 1-1/4" STRAPPING (16 REQD, 1 PER STRAP). CRIMP EACH SEAL WITH TWO PAIR OF NOTCHES. SEE GENERAL NOTE "L" ON PAGE 2.
- ⑧ ANTI-CHAFING MATERIAL (AS REQD). POSITION UNDER ALL STRAPS AT POINTS OF CONTACT WITH THE CONTAINERS, EXCEPT THROUGH FORK TINE OPENINGS.

**SPECIAL NOTES:**

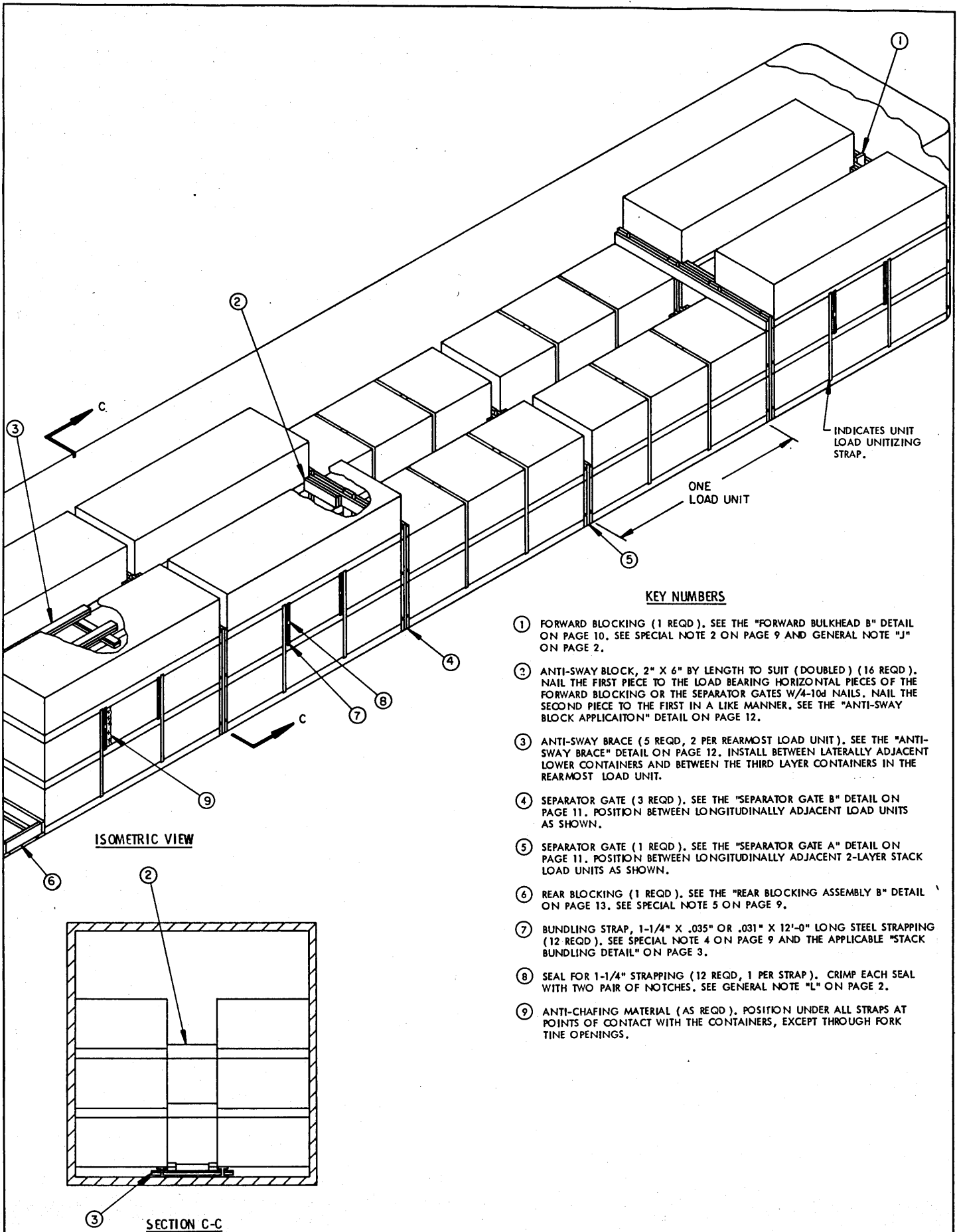
1. A 24-CONTAINER LOAD (UNITIZED) IS SHOWN IN A 40'-0" LONG BY 7'-6" WIDE (INSIDE DIMENSION) CONVENTIONAL VAN TRAILER. TRAILERS OF OTHER DIMENSIONS MAY BE USED.
2. A TRAILER HAVING ROUNDED CORNERS AT THE FORWARD END IS SHOWN. THE FORWARD BLOCKING ASSEMBLY, PIECE MARKED ①, SHOWN AT THE FRONT END OF THE ROUNDED CORNER TRAILER SHOULD ALSO BE USED WHEN THE TRAILER FURNISHED FOR LOADING IS EQUIPPED WITH A SQUARE FRONT.
3. ANTI-SWAY BRACES, SHOWN AS PIECE MARKED ③, SHALL BE USED BETWEEN ALL LOWER LAYER LATERALLY ADJACENT CONTAINERS AND ALSO BETWEEN THE TOP LAYER OF CONTAINERS IN THE REAR MOST LOAD UNIT.
4. THE STACK BUNDLING STRAPS, PIECES MARKED ⑥, WILL BE THREADED THROUGH THE FORKLIFT POCKETS OF THE CONTAINERS WITHIN THE STACK IN ACCORDANCE WITH THE APPLICABLE "STACK BUNDLING DETAIL" ON PAGE 3. NOTE: THE STRAPS ARE TO BE POSITIONED AS FAR APART AS THE FORKLIFT POCKETS PERMIT.
5. IF THE VOID AT THE REAR OF THE LOAD BETWEEN THE CONTAINERS AND THE REAR DOOR MEASURES 1-1/2" OR LESS, REAR BLOCKING IS NOT REQUIRED. IF DESIRED, AND IF THE TRAILER BEING USED FOR SHIPMENT IS EQUIPPED WITH A NAILABLE FLOOR, THEN THE "REAR BLOCKING ASSEMBLY A" AS DETAILED ON PAGE 12 AND SHOWN IN THE LOAD VIEW ON PAGE 4 MAY BE USED.

**BILL OF MATERIAL**

LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	28	9
2" X 4"	125	83
2" X 6"	319	319
NAILS	NO. REQD	POUNDS
6d (2")	50	1/4
10d (3")	568	8-3/4
STEEL STRAPPING, 1-1/4" X .035" OR .031" --	192' REQD	-- 27-1/2 LBS
SEAL FOR 1-1/4" STRAP -----	16 REQD	----- 3/4 LB
ANTI-CHAFING MATERIAL -----	AS REQD	----- NIL

**LOAD AS SHOWN**

ITEM	QUANTITY	WEIGHT (APPROX)
CNU-396/E CONTAINERS	-24 -----	36,528 LBS
DUNNAGE	-----	859 LBS
TOTAL WEIGHT -----		37,387 LBS



**KEY NUMBERS**

- ① FORWARD BLOCKING (1 REQD). SEE THE "FORWARD BULKHEAD B" DETAIL ON PAGE 10. SEE SPECIAL NOTE 2 ON PAGE 9 AND GENERAL NOTE "J" ON PAGE 2.
- ② ANTI-SWAY BLOCK, 2" X 6" BY LENGTH TO SUIT (DOUBLED) (16 REQD). NAIL THE FIRST PIECE TO THE LOAD BEARING HORIZONTAL PIECES OF THE FORWARD BLOCKING OR THE SEPARATOR GATES W/4-10d NAILS. NAIL THE SECOND PIECE TO THE FIRST IN A LIKE MANNER. SEE THE "ANTI-SWAY BLOCK APPLICATION" DETAIL ON PAGE 12.
- ③ ANTI-SWAY BRACE (5 REQD, 2 PER REARMOST LOAD UNIT). SEE THE "ANTI-SWAY BRACE" DETAIL ON PAGE 12. INSTALL BETWEEN LATERALLY ADJACENT LOWER CONTAINERS AND BETWEEN THE THIRD LAYER CONTAINERS IN THE REARMOST LOAD UNIT.
- ④ SEPARATOR GATE (3 REQD). SEE THE "SEPARATOR GATE B" DETAIL ON PAGE 11. POSITION BETWEEN LONGITUDINALLY ADJACENT LOAD UNITS AS SHOWN.
- ⑤ SEPARATOR GATE (1 REQD). SEE THE "SEPARATOR GATE A" DETAIL ON PAGE 11. POSITION BETWEEN LONGITUDINALLY ADJACENT 2-LAYER STACK LOAD UNITS AS SHOWN.
- ⑥ REAR BLOCKING (1 REQD). SEE THE "REAR BLOCKING ASSEMBLY B" DETAIL ON PAGE 13. SEE SPECIAL NOTE 5 ON PAGE 9.
- ⑦ BUNDLING STRAP, 1-1/4" X .035" OR .031" X 12'-0" LONG STEEL STRAPPING (12 REQD). SEE SPECIAL NOTE 4 ON PAGE 9 AND THE APPLICABLE "STACK BUNDLING DETAIL" ON PAGE 3.
- ⑧ SEAL FOR 1-1/4" STRAPPING (12 REQD, 1 PER STRAP). CRIMP EACH SEAL WITH TWO PAIR OF NOTCHES. SEE GENERAL NOTE "L" ON PAGE 2.
- ⑨ ANTI-CHAFING MATERIAL (AS REQD). POSITION UNDER ALL STRAPS AT POINTS OF CONTACT WITH THE CONTAINERS, EXCEPT THROUGH FORK TINE OPENINGS.



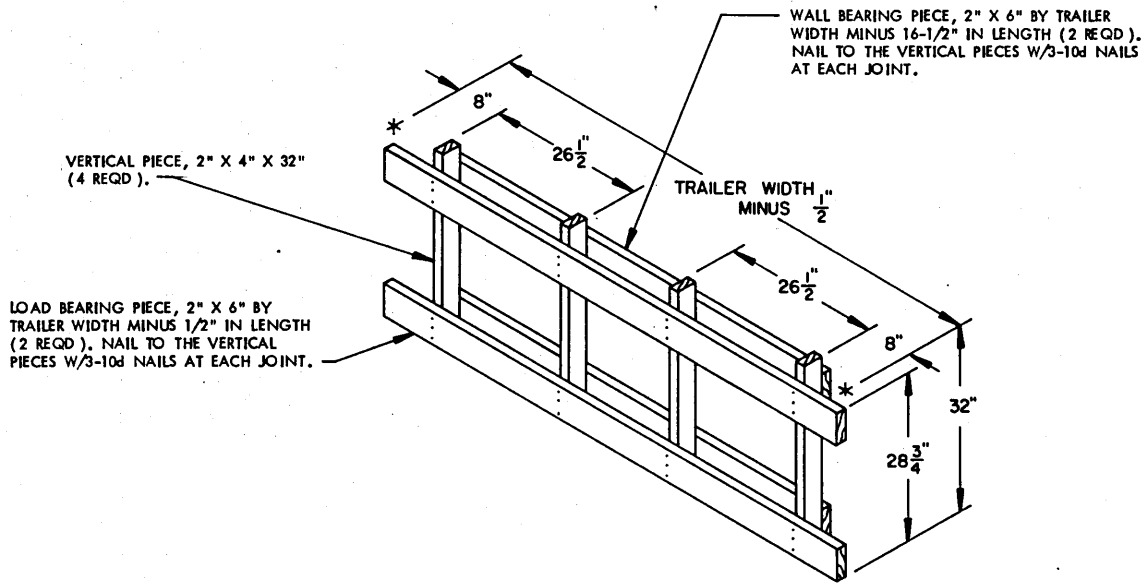
**SPECIAL NOTES:**

1. A 26-CONTAINER LOAD (UNITIZED) IS SHOWN IN A 48'-0" LONG BY 7'-6" WIDE (INSIDE DIMENSION) CONVENTIONAL VAN TRAILER. TRAILERS OF OTHER DIMENSIONS MAY BE USED.
2. A TRAILER HAVING ROUNDED CORNERS AT THE FORWARD END IS SHOWN. THE FORWARD BLOCKING ASSEMBLY, PIECE MARKED ①, SHOWN AT THE FRONT END OF THE ROUNDED CORNER TRAILER SHOULD ALSO BE USED WHEN THE TRAILER FURNISHED FOR LOADING IS EQUIPPED WITH A SQUARE FRONT.
3. ANTI-SWAY BRACES, SHOWN AS PIECES MARKED ③, SHALL BE USED BETWEEN ALL LOWER LAYER LATERALLY ADJACENT CONTAINERS AND ALSO BETWEEN THE TOP LAYER OF CONTAINERS IN THE REARMOST LOAD UNIT.
4. THE STACK BUNDLING STRAPS, PIECES MARKED ⑦, WILL BE THREADED THROUGH THE FORKLIFT POCKETS OF THE CONTAINERS WITHIN THE STACK IN ACCORDANCE WITH THE APPLICABLE "STACK BUNDLING DETAIL" ON PAGE 3. NOTE: THE STRAPS ARE TO BE POSITIONED AS FAR APART AS THE FORKLIFT POCKETS PERMIT.
5. IF THE VOID AT THE REAR OF THE LOAD BETWEEN THE CONTAINERS AND THE REAR DOOR MEASURES 1-1/2" OR LESS, REAR BLOCKING IS NOT REQUIRED. IF DESIRED, AND IF THE TRAILER BEING USED FOR SHIPMENT IS EQUIPPED WITH A NAILABLE FLOOR, THEN THE "REAR BLOCKING ASSEMBLY A" AS DETAILED ON PAGE 12 AND SHOWN IN THE LOAD VIEW ON PAGE 4 MAY BE USED.

BILL OF MATERIAL		
LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	29	10
2" X 4"	125	84
2" X 6"	362	362
NAILS	NO. REQD	POUNDS
6d (2")	50	1/4
10d (3")	632	9-3/4
STEEL STRAPPING, 1-1/4" X .035" OR .031" -- 144' REQD -- 20-1/2 LBS		
SEAL FOR 1-1/4" STRAP ----- 12 REQD ----- 1/2 LB		
ANTI-CHAFING MATERIAL ----- AS REQD ----- NIL		

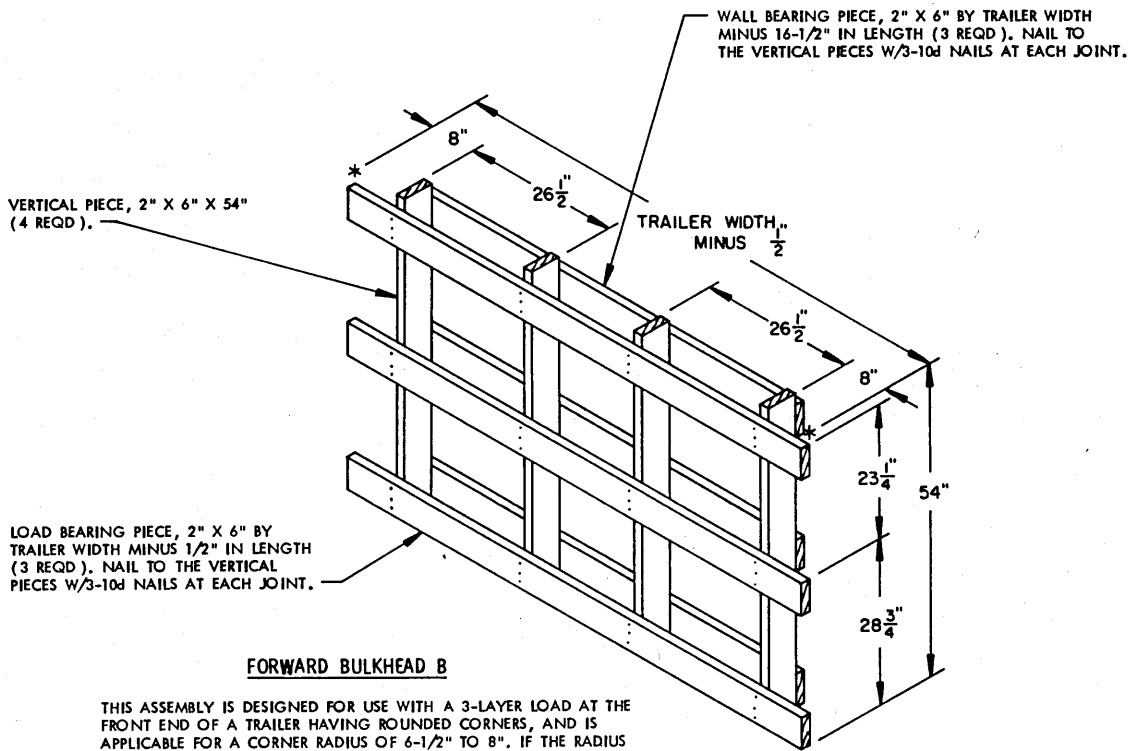
**LOAD AS SHOWN**

ITEM	QUANTITY	WEIGHT (APPROX)
CNU-396/E CONTAINERS-26-----		39,572 LBS
DUNNAGE -----		943 LBS
TOTAL WEIGHT -----		40,515 LBS



**FORWARD BULKHEAD A**

THIS ASSEMBLY IS DESIGNED FOR USE WITH A 2-LAYER LOAD AT THE FRONT END OF A TRAILER HAVING ROUNDED CORNERS, AND IS APPLICABLE FOR A CORNER RADIUS OF NOT MORE THAN 6-1/2". IF THE RADIUS IS FROM 6-1/2" TO 8", USE 2" X 6" VERTICAL PIECES, AS SHOWN IN FORWARD BULKHEAD B DETAIL BELOW.

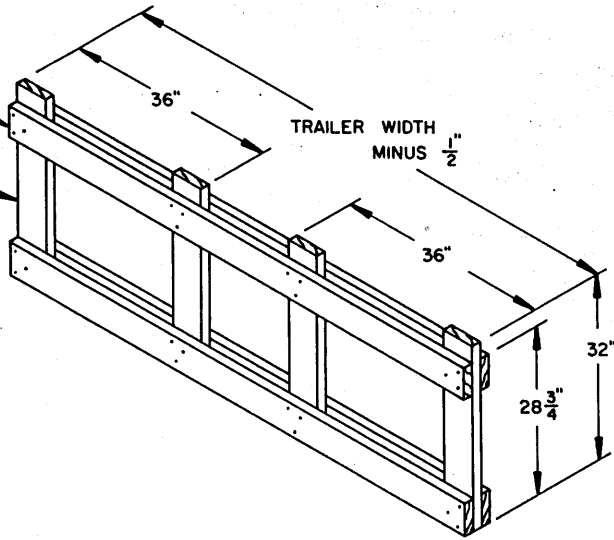


**FORWARD BULKHEAD B**

THIS ASSEMBLY IS DESIGNED FOR USE WITH A 3-LAYER LOAD AT THE FRONT END OF A TRAILER HAVING ROUNDED CORNERS, AND IS APPLICABLE FOR A CORNER RADIUS OF 6-1/2" TO 8". IF THE RADIUS IS NOT MORE THAN 6-1/2", 2" X 4" VERTICAL MAY BE USED IN LIEU OF THE 2" X 6" VERTICAL PIECES SHOWN.

LOAD BEARING PIECE, 2" X 6" BY TRAILER WIDTH MINUS 1/2" IN LENGTH (4 REQD). NAIL TO THE VERTICAL PIECES W/3-10d NAILS AT EACH JOINT.

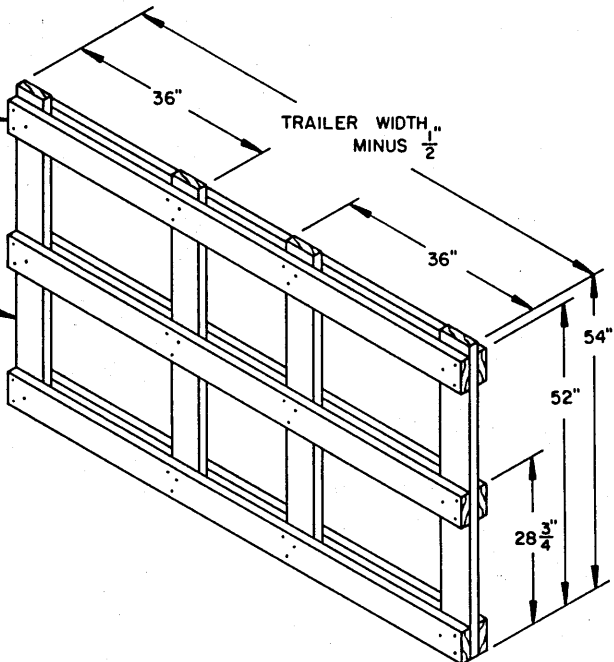
VERTICAL PIECE, 2" X 6" X 32" (4 REQD).



SEPARATOR GATE A

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

VERTICAL PIECE, 2" X 6" X 54" (4 REQD).



SEPARATOR GATE B

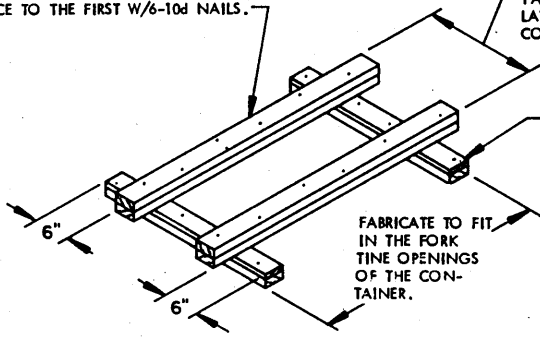
DETAILS

BUFFER PIECE, 2" X 4" X 48" (DOUBLED) (2 REQD), POSITION AGAINST THE CONTAINER AND NAIL THE FIRST PIECE TO THE RETAINER PIECE W/3-10d NAILS AT EACH JOINT. LAMINATE THE SECOND PIECE TO THE FIRST W/6-10d NAILS.

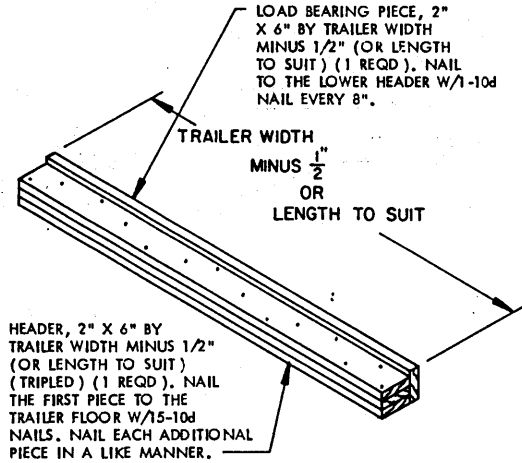
FABRICATE TO FIT BETWEEN LATERALLY ADJACENT CONTAINERS.

RETAINER PIECE, 1" X 4" AND 2" X 4" BY LENGTH TO SUIT (2 REQD). LAMINATE THE 1" X 4" PIECE TO THE 2" X 4" PIECE W/5-6d NAILS.

FABRICATE TO FIT IN THE FORK TINE OPENINGS OF THE CONTAINER.



**ANTI-SWAY BRACE**

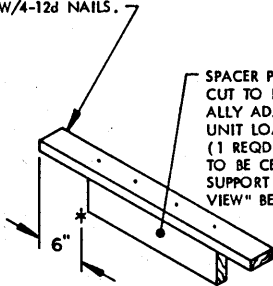


**REAR BLOCKING ASSEMBLY A**

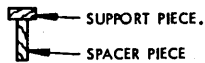
WHEN THE ABOVE ASSEMBLY IS USED WITH A ONE CONTAINER WIDE LOAD, AS SHOWN ON PAGE 15, THE HEADER AND LOAD BEARING PIECE LENGTH WILL BE 36". THE LOAD BEARING PIECE WILL THEN BE NAILED TO THE TRAILER FLOOR W/7-10d NAILS IN LIEU OF THE 15 SPECIFIED ABOVE.

SUPPORT PIECE, 2" X 4" BY A LENGTH TO SUIT (1 REQD). NAIL TO THE SPACER PIECE W/4-12d NAILS.

SPACER PIECE, 2" X 6" BY CUT TO FIT BETWEEN LATERALLY ADJACENT CONTAINER UNIT LOADS MINUS 1/4" (1 REQD). POSITION SO AS TO BE CENTERED UNDER THE SUPPORT PIECE. SEE THE "END VIEW" BELOW.

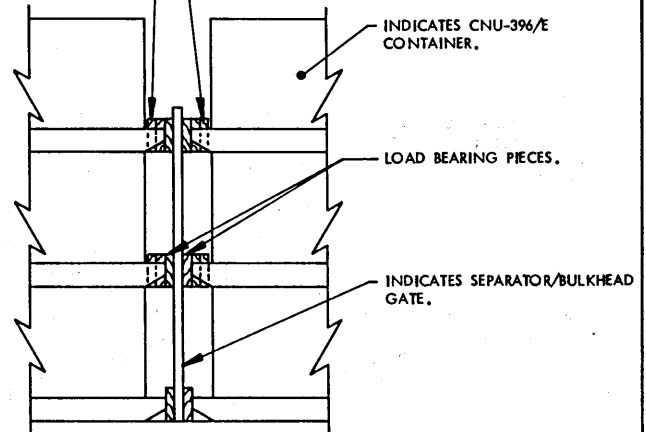


**TOP-OF-LOAD ANTI-SWAY BRACE**



**END VIEW**

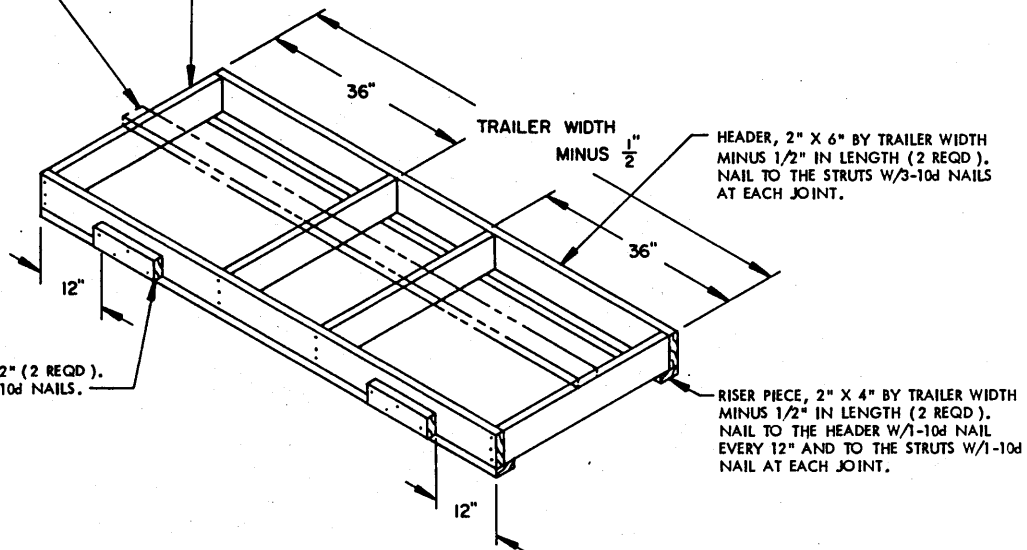
ANTI-SWAY BLOCKS, 2" X 6" BY CUT TO FIT (DOUBLED). NAIL THE FIRST PIECE TO THE LOAD BEARING PIECES (SECOND AND THIRD LAYERS) OF THE APPLICABLE SEPARATOR AND BULKHEAD GATES W/4-10d NAILS. NAIL THE SECOND PIECE TO THE FIRST IN A LIKE MANNER.



**ANTI-SWAY BLOCK APPLICATION**

STRUT BRACING PIECE, 2" X 4" BY TRAILER WIDTH MINUS 1/2" IN LENGTH (1 REQD FOR EVERY 7'-0" OF STRUT LENGTH FOR STRUTS LONGER THAN 7'-0"). NAIL TO THE STRUTS W/2-10d NAILS AT EACH JOINT.

STRUT, 2" X 6" BY CUT TO FIT (4 REQD).



HOLD-DOWN, 2" X 4" X 12" (2 REQD). NAIL TO THE HEADER W/4-10d NAILS.

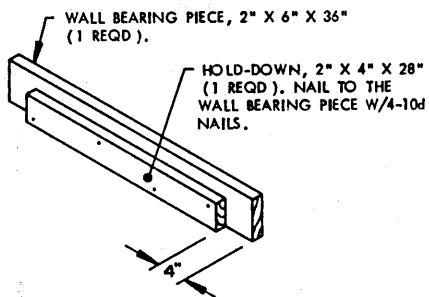
HEADER, 2" X 6" BY TRAILER WIDTH MINUS 1/2" IN LENGTH (2 REQD). NAIL TO THE STRUTS W/3-10d NAILS AT EACH JOINT.

RISER PIECE, 2" X 4" BY TRAILER WIDTH MINUS 1/2" IN LENGTH (2 REQD). NAIL TO THE HEADER W/1-10d NAIL EVERY 12" AND TO THE STRUTS W/1-10d NAIL AT EACH JOINT.

**REAR BLOCKING ASSEMBLY B**

THIS BLOCKING ASSEMBLY IS DESIGNED FOR USE AT THE REAR END OF LOADS DEPICTED ON PAGES 6 AND 8.

NOTE THAT THE ABOVE VIEW IS ROTATED 180° FROM THE POSITION IN WHICH THE ASSEMBLY WILL BE INSTALLED.

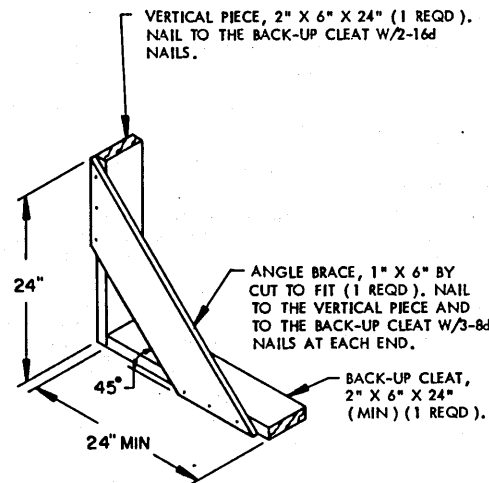


WALL BEARING PIECE, 2" X 6" X 36" (1 REQD).

HOLD-DOWN, 2" X 4" X 28" (1 REQD). NAIL TO THE WALL BEARING PIECE W/4-10d NAILS.

**HEADER**

THIS HEADER IS DESIGNED FOR USE WITH THE 1-UNIT WIDE LOAD AS SHOWN ON PAGE 15.

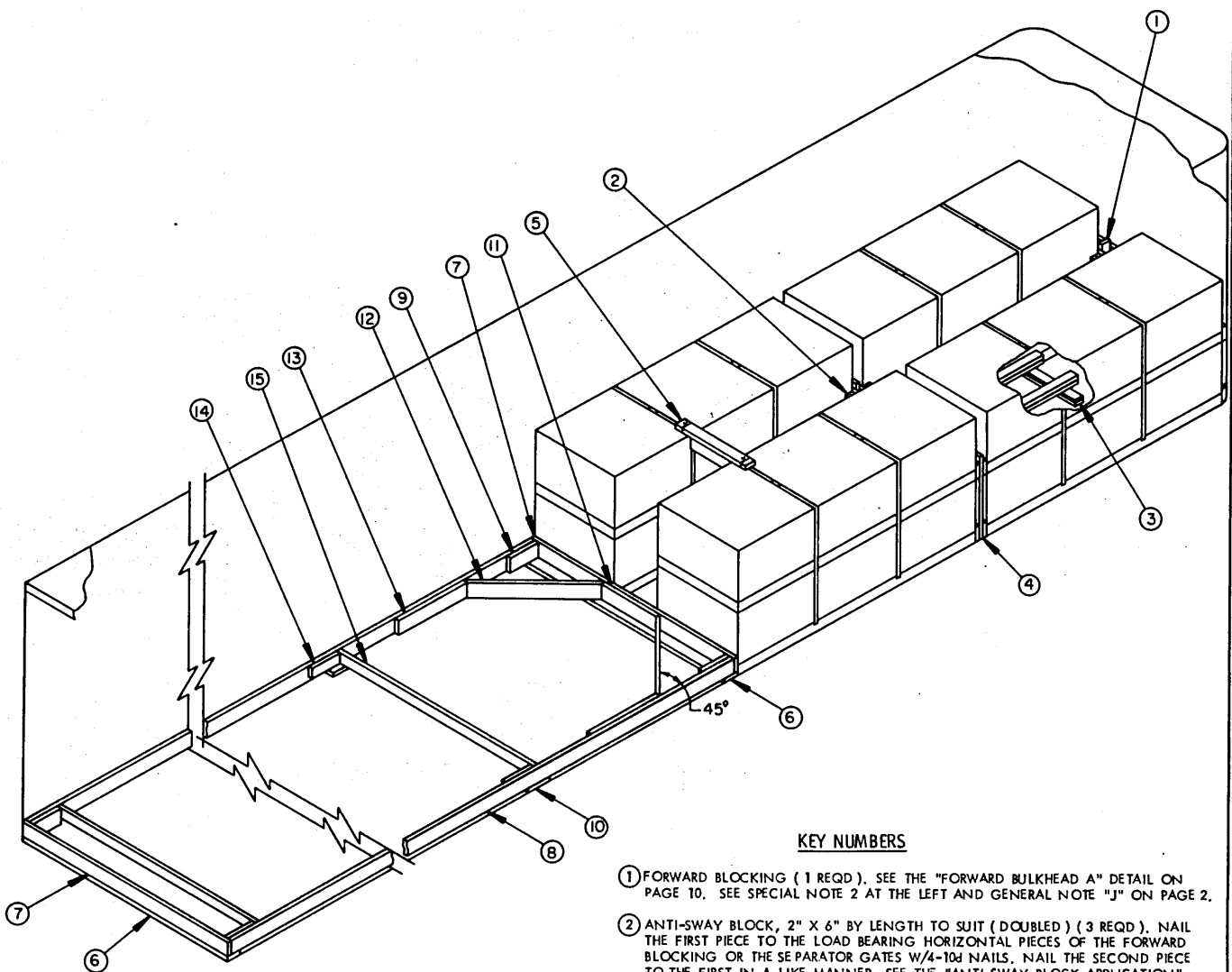


VERTICAL PIECE, 2" X 6" X 24" (1 REQD). NAIL TO THE BACK-UP CLEAT W/2-16d NAILS.

ANGLE BRACE, 1" X 6" BY CUT TO FIT (1 REQD). NAIL TO THE VERTICAL PIECE AND TO THE BACK-UP CLEAT W/3-8d NAILS AT EACH END.

BACK-UP CLEAT, 2" X 6" X 24" (MIN) (1 REQD).

**LTL BRACE**



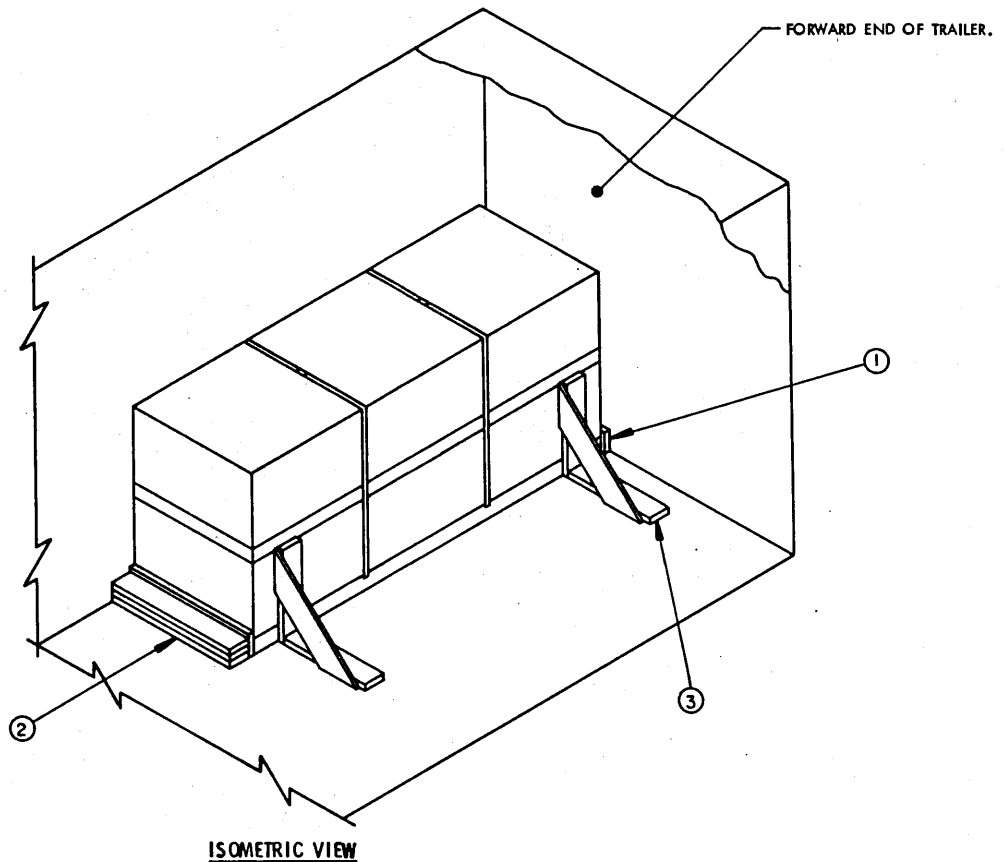
ISOMETRIC VIEW

**SPECIAL NOTES:**

1. THESE OUTLOADING PROCEDURES DEPICT THE USE OF "K-BRACE" BLOCKING IN A 7'-6" WIDE (INSIDE DIMENSION) VAN TRAILER WHICH IS EQUIPPED WITH OR WITHOUT NAILABLE FLOORS.
2. A TRAILER HAVING ROUNDED CORNERS AT THE FORWARD END IS SHOWN. THE FORWARD BLOCKING ASSEMBLY, PIECE MARKED ①, SHOWN AT THE FRONT END OF THE ROUNDED CORNER TRAILER SHOULD ALSO BE USED WHEN THE TRAILER FURNISHED FOR LOADING IS EQUIPPED WITH A SQUARE FRONT.
3. IF THE SIDE STRUTS, SHOWN AS PIECE MARKED ⑧, ARE FORMED FROM MORE THAN ONE PIECE OF MATERIAL, THEY MAY BE SPLICED BY CENTERING A 2" X 6" X 24" PIECE ON THE JOINT OF THE STRUT AND NAILING W/4-10d NAILS AT EACH END.
4. ALL LTL LOADS, REGARDLESS OF THEIR SIZE, REQUIRE ONE STRUT BRACE POSITIONED AT THE REAR OF THE TRAILER AND NAILED TO PIECES ⑭. IF THE SIDE STRUTS, PIECES MARKED ⑧, ARE LONGER THAN 7'-0", AN ADDITIONAL STRUT BRACE, PIECE MARKED ⑮, AND TWO (2) STRUT BRACE RETAINING CLEATS, PIECES MARKED ⑭, MUST BE APPLIED FOR EVERY 7'-0" OF SIDE STRUT LENGTH.
5. THE TYPICAL K-BRACE BLOCKING DEPICTED ABOVE WILL RETAIN A MAXIMUM OF 20,000 POUNDS.

**KEY NUMBERS**

- ① FORWARD BLOCKING (1 REQD). SEE THE "FORWARD BULKHEAD A" DETAIL ON PAGE 10. SEE SPECIAL NOTE 2 AT THE LEFT AND GENERAL NOTE "J" ON PAGE 2.
- ② ANTI-SWAY BLOCK, 2" X 6" BY LENGTH TO SUIT (DOUBLED) (3 REQD). NAIL THE FIRST PIECE TO THE LOAD BEARING HORIZONTAL PIECES OF THE FORWARD BLOCKING OR THE SEPARATOR GATES W/4-10d NAILS. NAIL THE SECOND PIECE TO THE FIRST IN A LIKE MANNER. SEE THE "ANTI-SWAY BLOCK APPLICATION" DETAIL ON PAGE 12.
- ③ ANTI-SWAY BRACE (2 REQD). SEE THE "ANTI-SWAY BRACE" DETAIL ON PAGE 12. INSTALL BETWEEN LATERALLY ADJACENT LOWER LAYER CONTAINERS.
- ④ SEPARATOR GATE (1 REQD). SEE THE "SEPARATOR GATE A" DETAIL ON PAGE 11. POSITION BETWEEN LONGITUDINALLY ADJACENT LOAD UNITS AS SHOWN.
- ⑤ TOP-OF-LOAD ANTI-SWAY BRACE (1 REQD). SEE THE "TOP-OF-LOAD ANTI-SWAY BRACE" DETAIL ON PAGE 12. POSITION BETWEEN THE LATERALLY ADJACENT CONTAINERS IN THE REAR-MOST LOAD UNIT AS SHOWN AND WIRE TIE TO A UNITIZING STRAP AS SHOWN.
- ⑥ HEADER AND SIDE STRUT SUPPORT, 2" X 6" BY TRAILER WIDTH MINUS 1/2" IN LENGTH (2 REQD). NAIL TO THE BOTTOM EDGE OF A HEADER W/1-10d NAIL EVERY 12".
- ⑦ HEADER, 2" X 6" BY TRAILER WIDTH MINUS 1/2" IN LENGTH (2 REQD).
- ⑧ SIDE STRUT, 2" X 6" BY CUT TO FIT BETWEEN PIECES MARKED ⑦ (2 REQD).
- ⑨ POCKET CLEAT, 2" X 6" X 12" (4 REQD). NAIL TO PIECE MARKED ⑧ W/5-10d NAILS. TOENAIL TO THE ADJACENT PIECE MARKED ⑦ W/3-12d NAILS.
- ⑩ RISER, 2" X 6" X 9" (2 REQD). NAIL TO THE BOTTOM EDGE OF PIECE MARKED ⑧ W/2-10d NAILS.
- ⑪ CENTER CLEAT, 2" X 6" X 24" (1 REQD). NAIL TO THE HEADER, PIECE MARKED ⑦, W/6-10d NAILS.
- ⑫ DIAGONAL BRACE, 2" X 6" BY CUT TO FIT (2 REQD). DOUBLE BEVEL EACH END WITH 45° CUTS. INSTALL AT 45° ANGLE AS SHOWN AND TOENAIL TO THE ADJACENT PIECES MARKED ⑦ AND ⑧ W/2-12d NAILS AT EACH END.
- ⑬ SIDE CLEAT, 2" X 6" X 24" (2 REQD). NAIL TO A STRUT, PIECE MARKED ⑧, W/8-10d NAILS.
- ⑭ STRUT BRACE RETAINING CLEAT, 2" X 4" X 12" (AS REQD). NAIL TO A STRUT, PIECE MARKED ⑧ W/3-10d NAILS. SEE SPECIAL NOTE 4 AT LEFT.
- ⑮ STRUT BRACE, 2" X 4" BY TRAILER WIDTH MINUS 8" (MINIMUM OF ONE REQD). NAIL TO PIECES MARKED ⑭ W/2-12d NAILS AT EACH END. SEE SPECIAL NOTE 4 AT LEFT.



**SPECIAL NOTES:**

1. A 1-UNIT LOAD (2-CONTAINERS) IS SHOWN. THESE OUTLOADING PROCEDURES DEPICT THE USE OF "LTL BRACE" TYPE BLOCKING IN A 7'-6" WIDE (INSIDE DIMENSION) VAN TRAILER WHICH IS EQUIPPED WITH A NAILABLE FLOOR. WIDER OR NARROWER TRAILERS CAN BE USED.
2. IF THE TRAILER BEING LOADED HAS ROUNDED CORNERS AT THE FORWARD END, THE LOAD UNIT SHOULD BE CENTERED IN THE WIDTH OF THE TRAILER AND TWO (2) LTL BRACES ADDED ON THE OPPOSITE SIDE.

**KEY NUMBERS**

- ① HEADER (1 REQD). SEE THE DETAIL ON PAGE 13. SEE GENERAL NOTE "J" ON PAGE 2.
- ② REAR BLOCKING ASSEMBLY (1 REQD). SEE THE "REAR BLOCKING ASSEMBLY A" DETAIL ON PAGE 12.
- ③ LTL BRACE (2 REQD). SEE THE DETAIL ON PAGE 13. NAIL TO THE TRAILER FLOOR W/7-10d NAILS.



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.