

APPROVED BY

BUREAU OF EXPLOSIVES

D. F. Wasson
MILITARY ASSISTANT
DATE 6/21/79

LOADING AND BRACING (CL & LCL) IN BOX CARS [⊕] OF CBU-75/B CLUSTER BOMB MUNITIONS, PACKED IN CNU-218/E CONTAINERS

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⊕ INCLUDES CONVENTIONAL TYPE BOX CARS AND CUSHIONED BOX CARS EQUIPPED WITH LOAD DIVIDERS (BULKHEADS).

DO NOT SCALE

REVISIONS				DRAFTSMAN DMP	PROJ. ENG. DAX	CHKD NWS	APPV. MLW
				RS*	W.F. Ernst		
APPROVED, U. S. ARMY ARMAMENT MATERIAL READINESS COMMAND							
<i>D. P. Foster</i>							
APPROVED BY ORDER OF COMMANDING GENERAL, U. S. ARMY MATERIEL DEVELOPMENT AND READINESS COMMAND (DARCOM)							
<i>John A. Byrd Jr.</i>							
U. S. ARMY DEFENSE ADMINISTRATION CENTER AND SCHOOL							
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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 HEREIN ARE APPLICABLE TO C8U-75/B CLUSTER BOMBS PACKED TWO PER CNU-218/E CONTAINER. SUBSEQUENT REFERENCE TO CONTAINER HEREIN MEANS THE CONTAINER WITH CONTENTS.
- C. DETAILS OF THE CONTAINER:
CONTAINER DIMENSIONS --- 92-1/2" LONG X 42-1/2" WIDE X 27-1/4" HIGH.
CONTAINER WEIGHT ----- 4,817 POUNDS MAXIMUM (APPROX).
- D. THE OUTLOADING PROCEDURES SPECIFIED HEREIN ARE BASED ON CONVENTIONAL BOX CARS AND ON CUSHIONED BOX CARS EQUIPPED WITH LOAD DIVIDERS (BULKHEADS). NOTE: ALL-METAL CARS CAN BE USED FOR ALL LOADS SHOWN PROVIDED THE CARS HAVE AVAILABLE FLOORS.
- E. THE SELECTION OF RAIL CARS FOR THE TRANSPORT OF THE DESIGNATED ITEM IS THE RESPONSIBILITY OF THE ORIGINATING CARRIER AND THE SHIPPER. ONLY CARS WHICH HAVE "SOUND" FLOORS AND ARE IN OTHERWISE PROPER CONDITION, IN ACCORDANCE WITH THE REQUIREMENTS OF THE APPLICABLE REGULATORY DOCUMENTS, WILL BE SELECTED. BOX CARS MUST BE SELECTED AND LOADED IN ACCORDANCE WITH THE REQUIREMENTS SET FORTH BY THE AAR (ASSOCIATION OF AMERICAN RAILROADS) CIRCULAR 42-F OF THE "GENERAL RULES GOVERNING LOADING OF CARLOAD SHIPMENTS OF COMMODITIES IN CLOSED CARS".
- F. WHEN SELECTING RAIL CARS, EVERY EFFORT SHOULD BE MADE TO OBTAIN BOX CARS THAT DO NOT HAVE BOWED END WALLS. CARS WITH BOWED END WALLS CAN BE USED HOWEVER, IF AN END WALL IS BOWED OUTWARD MORE THAN TWO INCHES (2"), EITHER FROM SIDE TO SIDE OR FROM FLOOR TO ROOF, AN END-OF-CAR BULKHEAD MUST BE INSTALLED TO PROVIDE A "SQUARED OFF" SURFACE FOR THE LOAD AT THE END OF THE CAR. REFER TO THE "BULKHEAD" DETAIL ON PAGE 15 FOR GUIDANCE.
- G. THE LOAD VIEWS DEPICT CARS EQUIPPED WITH THE MINIMUM WIDTH THRU TYPE DOOR OPENINGS THAT CAN BE USED FOR THE SPECIFIED CAR SIZE AND LOAD CONFIGURATION. CARS EQUIPPED WITH STAGGERED TYPE DOOR OPENINGS CAN ALSO BE USED, PROVIDED THEY MEET THE WIDTH REQUIREMENTS AS SPECIFIED WITHIN THE SPECIAL NOTES FOR A LOAD. THE DEPICTED PROCEDURES ARE APPLICABLE FOR CARS EQUIPPED WITH EITHER THE CONVENTIONAL SLIDING TYPE OR THE PLUG TYPE DOORS. CAUTION: DUNNAGE MATERIAL MUST NOT BE NAILED TO ANY PLUG DOOR, WHETHER AUXILIARY OR MAIN, EXCEPT TO A NAILING STRIP IF A DOOR IS SO EQUIPPED. ALSO, AFTER THE PLUG DOORS ON A CAR ARE CLOSED AND READY FOR THE INSTALLATION OF "CAR SEALS", A PIECE OF WIRE OF SUITABLE SIZE WILL BE USED IN ADDITION TO, AND IN CONJUNCTION WITH, EACH CAR SEAL TO "SEAL" THE CAR. THE WIRE WILL BE THREADED THROUGH THE HOLES IN THE DOOR LATCH ASSEMBLY ONE OR MORE TIMES, AND THE WIRE ENDS WILL BE TWISTED TOGETHER.
- H. DOORWAY PROTECTION, AS SUCH, IS NOT REQUIRED FOR THE DEPICTED OUTLOADING PROCEDURES. LATERAL BLOCKING FOR ALL THE CONTAINERS IN A LOAD IS PROVIDED BY THE SIDE BLOCKING PIECES AND THE UNITIZING AND BUNDLING STRAPS.
- J. THE NUMBER OF CONTAINERS MAY BE ADJUSTED TO FIT THE SIZE OF THE CAR BEING LOADED OR THE QUANTITY OF CONTAINERS TO BE SHIPPED. HOWEVER, THE APPROVED METHODS SPECIFIED HEREIN MUST BE FOLLOWED AS CLOSELY AS POSSIBLE FOR BLOCKING, BRACING, AND STAYING OF THE DESIGNATED ITEM. NOTICE: A SHIPMENT WILL BE POSITIONED IN THE RAIL CAR IN COMPLIANCE WITH THE WEIGHT DISTRIBUTION REQUIREMENTS OF THE AAR. SEE GENERAL NOTE "K".

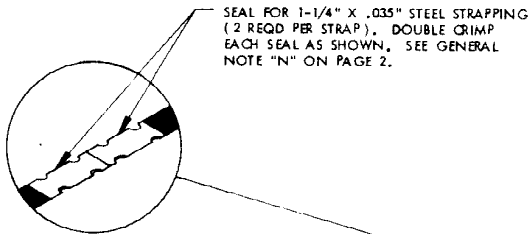
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MATERIAL SPECIFICATIONS

- 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, 3 (GRADE 2), OR C, FED SPEC QQ-S-781.
- SEAL, STRAP ----- : TYPE D, STYLE I, II, OR IV, CLASS H, FED SPEC QQ-S-781.
- STRAP STAPLE ----- : COMMERCIAL GRADE.
- ANTI-CHAFING MATERIAL ----- : WATERPROOF PAPER, BURLAP OR OTHER NEUTRAL BARRIER MATERIAL.
- CONVEYOR ----- : CONVEYOR, ROLLER, ABOVE RAIL, GRAVITY, STRAIGHT, 18 INCHES OVERALL WIDTH BY APPROXIMATELY 72" LONG, 2-1/2" OD ROLLERS, 4-INCH X 5.4 POUNDS PER FOOT CHANNEL SIDE RAILS, 800 POUNDS PER FOOT CAPACITY MINIMUM, FSC 3910. OTHER CONVEYORS OF EQUAL FUNCTIONAL CAPABILITY MAY BE USED.

(GENERAL NOTES CONTINUED)

- K. THE LOAD LIMIT OF A CAR MUST NOT BE EXCEEDED. LIKEWISE, THE LOAD IN ONE END OF A CAR MUST NOT EXCEED ONE HALF OF THE LOAD LIMIT WHICH IS STENCILLED ON THE OUTSIDE OF THE CAR. THE CENTER OF GRAVITY (CG) OF A LOAD HAVING AN EQUAL NUMBER OF UNITS IN EACH END OF THE CAR WILL BE AT THE LONGITUDINAL CENTER OF THE CAR AND THEREFORE THE TOTAL WEIGHT OF THE LADING AND DUNNAGE MAY EQUAL BUT MUST NOT EXCEED THE STENCILLED LOAD LIMIT. HOWEVER, FOR A LOAD CONSTRUCTED IN AN OFFSET LOADING PATTERN, THE CG WILL BE LOCATED TOWARD THE LONG-LOAD END FROM THE LONGITUDINAL CENTER OF THE CAR SO THE LONG-LOAD END WILL BE THE HEAVIEST. THE TOTAL WEIGHT OF THE LADING AND DUNNAGE MUST THEN BE SOMETHING LESS THAN THE STENCILLED LOAD LIMIT.
- L. OTHER TYPES OF LADING ITEMS MAY BE LOADED IN CARS 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.
- M. THE OUTLOADING PROCEDURES SPECIFIED HEREIN CAN ALSO BE UTILIZED FOR SHIPMENT OF THE DEPICTED CONTAINERS WHEN THEY ARE EMPTY OR WHEN THEY ARE LOADED WITH AN ITEM WHICH IS IDENTIFIED DIFFERENTLY BY NOMENCLATURE THAN THE ITEM DESIGNATED WITHIN THE TITLE OF THIS DOCUMENT, PROVIDING WEIGHT AND CENTER OF GRAVITY CHARACTERISTICS OF THE CONTAINER ARE SIMILAR.
- N. WHEN STEEL STRAPPING IS SEALED AT AN END-OVER-END LAP JOINT AS SHOWN, A MINIMUM OF TWO (2) SEALS, BUTTED TOGETHER, WITH TWO (2) PAIRS OF CRIMPS PER SEAL MUST BE USED TO SEAL THE JOINT. CAUTION: EXERCISE CARE DURING TENSIONING TO PREVENT DAMAGE TO CONTAINERS.
- O. 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 7" X 6" MATERIAL IS ACTUALLY 1-1/2" THICK BY 5-1/2" WIDE.
- P. NOTICE: A STAGGERED NAILING PATTERN WILL BE USED WHEREVER 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.
- Q. IF THE CAR BEING USED IS EQUIPPED WITH A NAILABLE METAL FLOOR AND A NAIL SIZE FOR FLOOR NAILING IS MARKED ON THE SIDEWALL OF THE CAR, THAT GUIDANCE SHOULD BE APPLIED FOR THE NAILING OF THE APPLICABLE DUNNAGE PIECES. IF A NAIL SIZE IS NOT SPECIFIED, 30d NAILS SHOULD BE USED IN LIEU OF THOSE SPECIFIED IN THE KEY NUMBERS.
- R. THROUGHOUT THIS PROCEDURAL DRAWING, PORTIONS OF THE LOAD AND OF DEPICTED CARS, SUCH AS A CAR SIDEWALL, HAVE BEEN OMITTED FROM THE LOAD VIEWS FOR CLARITY PURPOSES.
- S. FOR SPECIFIC UNITIZATION AND HANDLING GUIDANCE, ATTENTION IS DIRECTED TO THE "UNITIZATION AND HANDLING PROCEDURES" ON PAGE 3, THE "ADDITIONAL UNITIZATION DETAILS" ON PAGE 26, AND THE "SPECIAL HANDLING PROCEDURE" ON PAGES 24 AND 25.
- T. ONE AND ONE-QUARTER (1-1/4") INCH STEEL STRAPPING WILL BE USED TO UNITIZE STACKED CONTAINERS AS SHOWN ON PAGES 3 AND 26, AND AS SPECIFIED IN THE OUTLOADING PROCEDURES HEREIN. IF THE CAPACITY AND MANEUVERABILITY OF THE MATERIALS HANDLING EQUIPMENT USED TO LOAD THE CONTAINERS ABOARD A CAR PERMITS, CONTAINERS MAY BE UNITIZED PRIOR TO PLACEMENT WITHIN THE CAR. IN SOME INSTANCES CONTAINERS WILL ALREADY BE UNITIZED INTO STACKS WHEN OFFERED FOR LOADING. THESE UNITIZED STACKS MUST BE INSPECTED AND, AS REQUIRED, LOOSE UNITIZING STEEL STRAPPING MUST BE REPLACED.
- U. FOR ADDITIONAL GUIDANCE, ATTENTION IS DIRECTED TO THE "SPECIAL NOTES" SECTIONS WHICH ARE IMMEDIATELY ADJACENT TO THE DEPICTED OUTLOADING METHODS. ALSO, FOR ADDITIONAL INFORMATION CONCERNING CUSHIONED BOX CARS WITH LOAD DIVIDERS (BULKHEADS), SEE THE GENERAL NOTES ON PAGE 16.



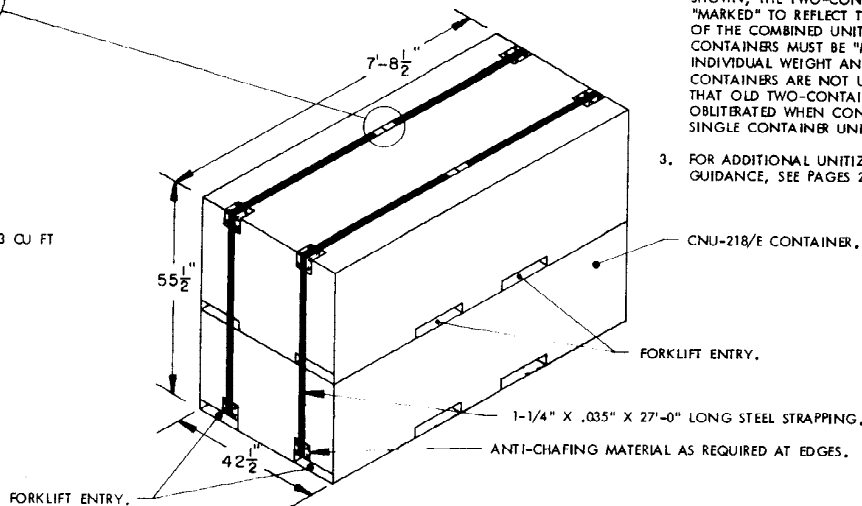
SEAL FOR 1-1/4" X .035" STEEL STRAPPING (2 REQD PER STRAP). DOUBLE CRIMP EACH SEAL AS SHOWN. SEE GENERAL NOTE "N" ON PAGE 2.

SPECIAL NOTES:

1. IT IS RECOMMENDED THAT CONTAINERS BE UNITIZED AFTER BEING POSITIONED IN THE CAR. **NOTICE:** IN SOME INSTANCES CONTAINERS WILL ALREADY BE UNITIZED WHEN OFFERED FOR LOADING. THESE UNITIZED CONTAINERS MUST BE INSPECTED AND, AS REQUIRED, LOOSE UNITIZING STEEL STRAPPING MUST BE REPLACED.
2. WHEN TWO (2) CONTAINERS ARE UNITIZED AS SHOWN, THE TWO-CONTAINER UNIT MAY BE "MARKED" TO REFLECT THE TOTAL WEIGHT AND CUBE OF THE COMBINED UNIT. HOWEVER, INDIVIDUAL CONTAINERS MUST BE "MARKED" PROPERLY WITH INDIVIDUAL WEIGHT AND CUBE DATA WHEN THE CONTAINERS ARE NOT UNITIZED. IT IS TO BE NOTED THAT OLD TWO-CONTAINER MARKINGS MUST BE OBLITERATED WHEN CONTAINERS ARE SEPARATED INTO SINGLE CONTAINER UNITS.
3. FOR ADDITIONAL UNITIZATION AND HANDLING GUIDANCE, SEE PAGES 24, 25, AND 26.

UNIT DATA:

TWO CONTAINERS
9,634 LBS (APPROX); 126.3 CU FT
SEE SPECIAL NOTE 2 ABOVE.



UNITIZATION DETAIL FOR TWO-CONTAINER-HIGH, CROSSWISE-LOADED STACK

SEE SPECIAL NOTES ABOVE.

UNITIZATION AND HANDLING PROCEDURAL GUIDANCE

(UNITIZATION AND HANDLING PROCEDURAL GUIDANCE CONTINUED)

1. POSITIONING CONTAINERS FOR UNITIZATION.
 - A. AN UPPER CONTAINER SHOULD BE PLACED AS CLOSE AS POSSIBLE IN VERTICAL ALIGNMENT WITH THE NEXT LOWER CONTAINER.
 - B. POSITION THE AFT END OF AN UPPER CONTAINER ABOVE THE AFT END OF THE NEXT LOWER CONTAINER.
 - C. THE CONTAINER SKIDS OF AN UPPER CONTAINER SHOULD BE FULLY SEATED AGAINST THE STACKING LUGS ON THE COVER OF THE NEXT LOWER CONTAINER.
2. INSTALLATION OF 1-1/4" X .035" UNITIZING STEEL STRAPPING. (SEE GENERAL NOTE "I" ON PAGE 2).
 - A. POSITION EACH UNITIZING STRAP AROUND THE CONTAINER AS SHOWN. PLACE STRAPPING NEAR INSIDE EDGE OF FORK TINE POCKETS AND SO THAT STRAPPING LAYS FLAT AND STRAIGHT WITH THE BODY SURFACES OF THE CONTAINERS: I.E., VERTICAL ALONG THE ENDS AND STRAIGHT ACROSS THE TOP AND BOTTOM OF THE UNIT.
 - B. STRAPPING WILL BE FIRMLY TENSIONED, AND EACH END-OVER-END LAP JOINT WILL BE SEALED WITH TWO (2) DOUBLE CRIMPED STRAP SEALS AS SHOWN. THE LAP JOINTS WILL BE MADE ON TOP OF THE STACK SO THAT THE SEALS WILL NOT BE IN CONTACT WITH THE CONTAINERS. DURING STRAP TENSIONING, CARE SHOULD BE EXERCISED TO INSURE THAT THE CONTAINERS ARE NOT DAMAGED. EXCESS STRAPPING (STRAP ENDS) SHOULD BE CUT OFF OR BROKEN OFF NEAR THE JOINT SEALS.
 - C. PLACE ANTI-CHAFING MATERIAL UNDER THE STRAPPING AT THE CONTAINER EDGES AS SHOWN AND SECURE TO PREVENT DISLODGEEMENT DURING AND AFTER STRAP APPLICATION. STRIPS OF ANTI-CHAFING MATERIAL MAY BE TAPED TO THE CONTAINER OR THE STRAPPING.
3. CONTAINER OR CONTAINER UNIT HANDLING.

- NOTES:** (1) APPROVED MATERIALS HANDLING EQUIPMENT (FORKLIFT TRUCKS, CRANES, HAND TRUCKS, DOLLIES, ROLLER ASSEMBLIES, SLING, SPREADER BARS, ETC.) IS SPECIFIED ELSEWHERE.
- (2) PRECAUTIONARY HANDLING TECHNIQUES NORMALLY EMPLOYED OR AS SPECIFIED FOR THE TYPE OF COMMODITY INVOLVED WILL BE USED FOR HANDLING THE DEPICTED CONTAINERS.

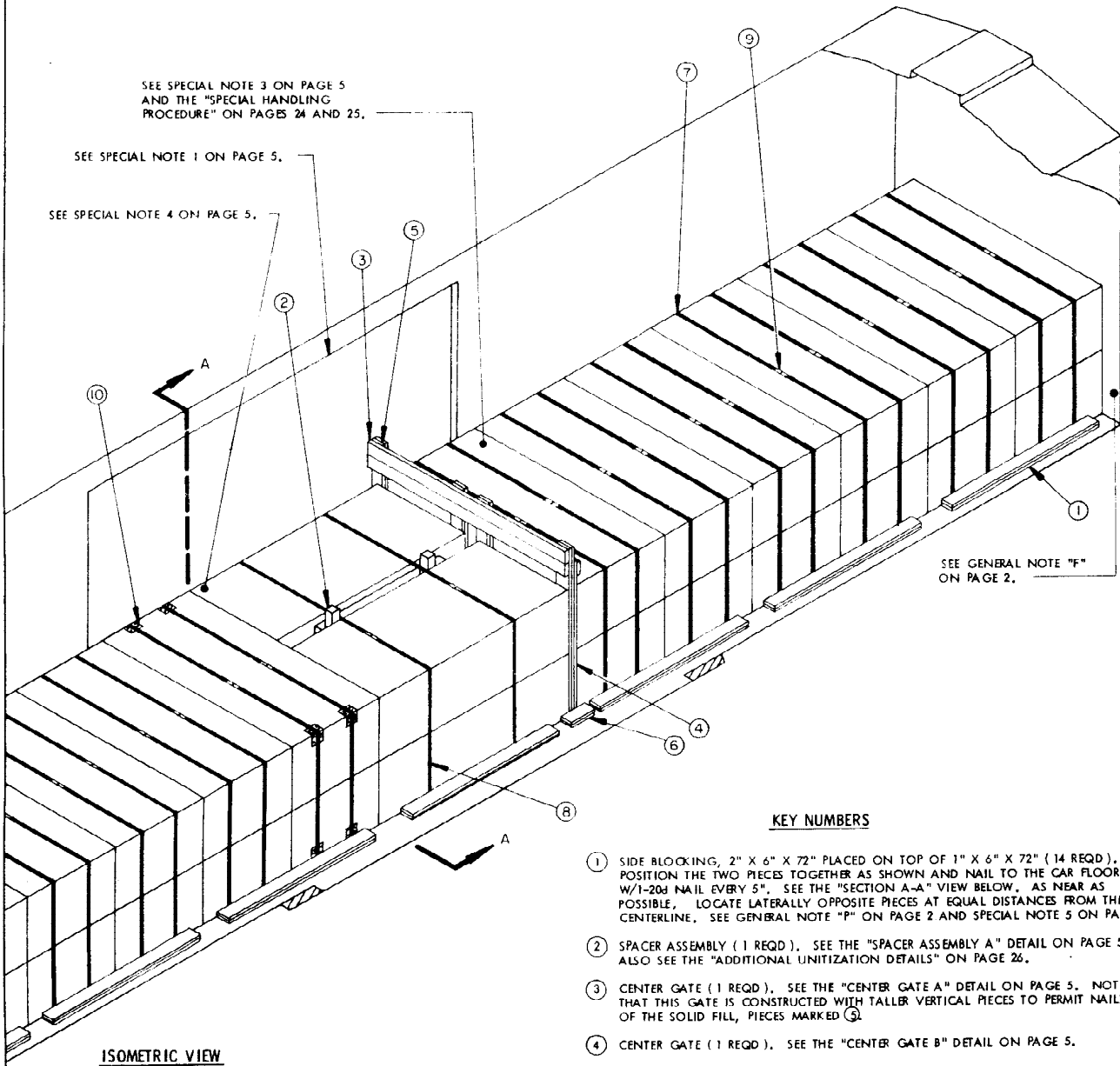
- A. ONLY APPROVED AND APPROPRIATELY SIZED MATERIALS HANDLING EQUIPMENT WILL BE USED FOR HANDLING THE DEPICTED CONTAINERS.

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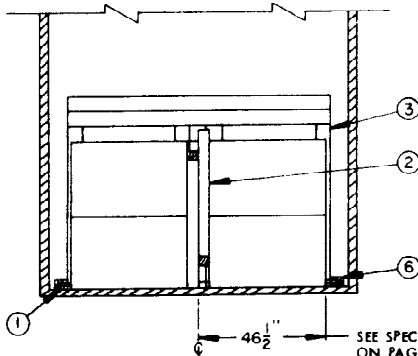
SEE SPECIAL NOTE 3 ON PAGE 5
AND THE "SPECIAL HANDLING
PROCEDURE" ON PAGES 24 AND 25.

SEE SPECIAL NOTE 1 ON PAGE 5.

SEE SPECIAL NOTE 4 ON PAGE 5.



ISOMETRIC VIEW



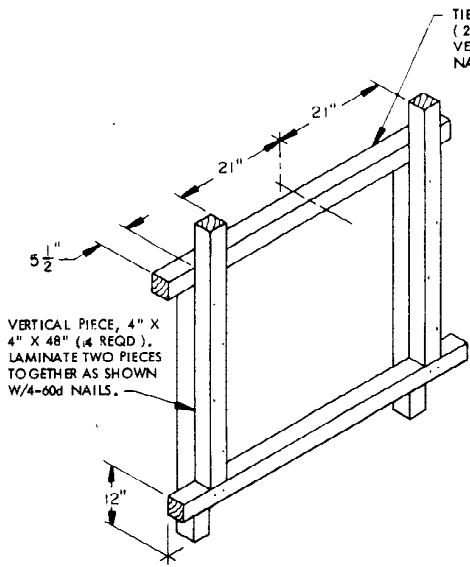
SECTION A-A

28-UNIT LOAD IN A 50'-6" LONG BY 9'-2" WIDE CONVENTIONAL BOX CAR

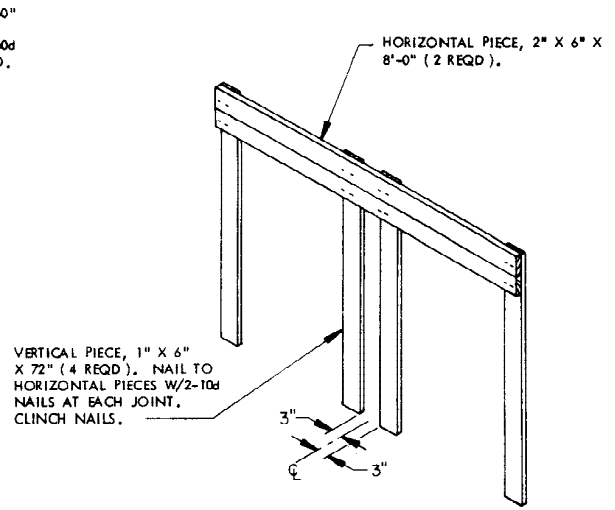
SEE GENERAL NOTE "F"
ON PAGE 2.

KEY NUMBERS

- ① SIDE BLOCKING, 2" X 6" X 72" PLACED ON TOP OF 1" X 6" X 72" (14 REQD), PRE-POSITION THE TWO PIECES TOGETHER AS SHOWN AND NAIL TO THE CAR FLOOR W/1-20d NAIL EVERY 5". SEE THE "SECTION A-A" VIEW BELOW, AS NEAR AS POSSIBLE, LOCATE LATERALLY OPPOSITE PIECES AT EQUAL DISTANCES FROM THE CAR CENTERLINE. SEE GENERAL NOTE "P" ON PAGE 2 AND SPECIAL NOTE 5 ON PAGE 5.
- ② SPACER ASSEMBLY (1 REQD). SEE THE "SPACER ASSEMBLY A" DETAIL ON PAGE 5. ALSO SEE THE "ADDITIONAL UNITIZATION DETAILS" ON PAGE 26.
- ③ CENTER GATE (1 REQD). SEE THE "CENTER GATE A" DETAIL ON PAGE 5. NOTE THAT THIS GATE IS CONSTRUCTED WITH TALLER VERTICAL PIECES TO PERMIT NAILING OF THE SOLID FILL, PIECES MARKED ⑤.
- ④ CENTER GATE (1 REQD). SEE THE "CENTER GATE B" DETAIL ON PAGE 5.
- ⑤ SOLID FILL, 6" WIDE X 72" LONG MATERIAL BY THE THICKNESS REQUIRED TO FILL THE VOID BETWEEN THE VERTICAL PIECES OF THE CENTER GATES (REQUIRED AT 4 PLACES). DRIVE IN BETWEEN THE GATE VERTICALS TO INSURE A TIGHT FIT. NAIL TO THE TOP EXPOSED PART OF THE TALL GATE VERTICAL PIECE W/4 PROPERLY SIZED NAILS. NOTE: NAIL THE TOP EXPOSED PART OF EACH "CENTER GATE B" VERTICAL PIECE TO THE ADJACENT FINAL SOLID FILL PIECE W/2 PROPERLY SIZED NAILS.
- ⑥ CENTER GATE RETAINER, 2" X 6" X 12" (DOUBLED) (2 REQD). NAIL THE FIRST PIECE TO THE CAR FLOOR W/4-12d NAILS. NAIL THE SECOND PIECE TO THE FIRST IN A LIKE MANNER.
- ⑦ UNITIZING STRAP, 1-1/4" X .035" X 27'-0" LONG STEEL STRAPPING (24 REQD, 2 PER STACK OF 2 CROSSWISE-LOADED CONTAINERS). SEE GENERAL NOTE "T" ON PAGE 2, THE "UNITIZATION AND HANDLING PROCEDURES" ON PAGE 3 AND SPECIAL NOTE 5 ON PAGE 5.
- ⑧ BUNDLING STRAP, 1-1/4" X .035" X 27'-0" LONG STEEL STRAPPING (2 REQD). SEE THE "ADDITIONAL UNITIZATION DETAILS" ON PAGE 26.
- ⑨ SEAL FOR 1-1/4" STRAPPING (52 REQD, 2 PER STRAP). DOUBLE CRIMP EACH SEAL. SEE GENERAL NOTE "N" ON PAGE 2.
- ⑩ ANTI-CHAFING MATERIAL (AS REQD). APPLY BETWEEN STRAPPING AND CONTAINER AT EDGES. SEE THE "UNITIZATION AND HANDLING PROCEDURES" ON PAGE 3.

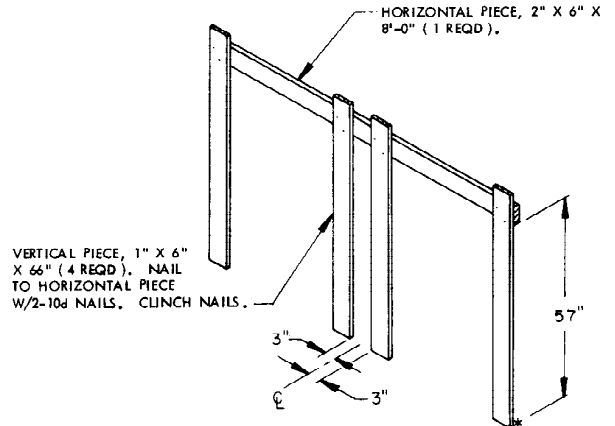


SPACER ASSEMBLY A



CENTER GATE A

BILL OF MATERIAL		
LUMBER	LINEAR FEET	BOARD FEET
1" X 6"	130	65
2" X 6"	136	136
4" X 4"	26	35
NAILS	NO. REQD	POUNDS
6d (2")	24	1/4
10d (3")	24	1/2
12d (3-1/4")	16	1/2
20d (4")	196	7
60d (6")	16	1-3/4
STEEL STRAPPING, 1-1/4" X .035" -----		702' REQD ----- 100 LBS
SEAL FOR 1-1/4" STRAPPING -----		52 REQD ----- 3 LBS
ANTI-CHAFING MATERIAL -----		AS REQD ----- NIL



CENTER GATE B

(SPECIAL NOTES CONTINUED)

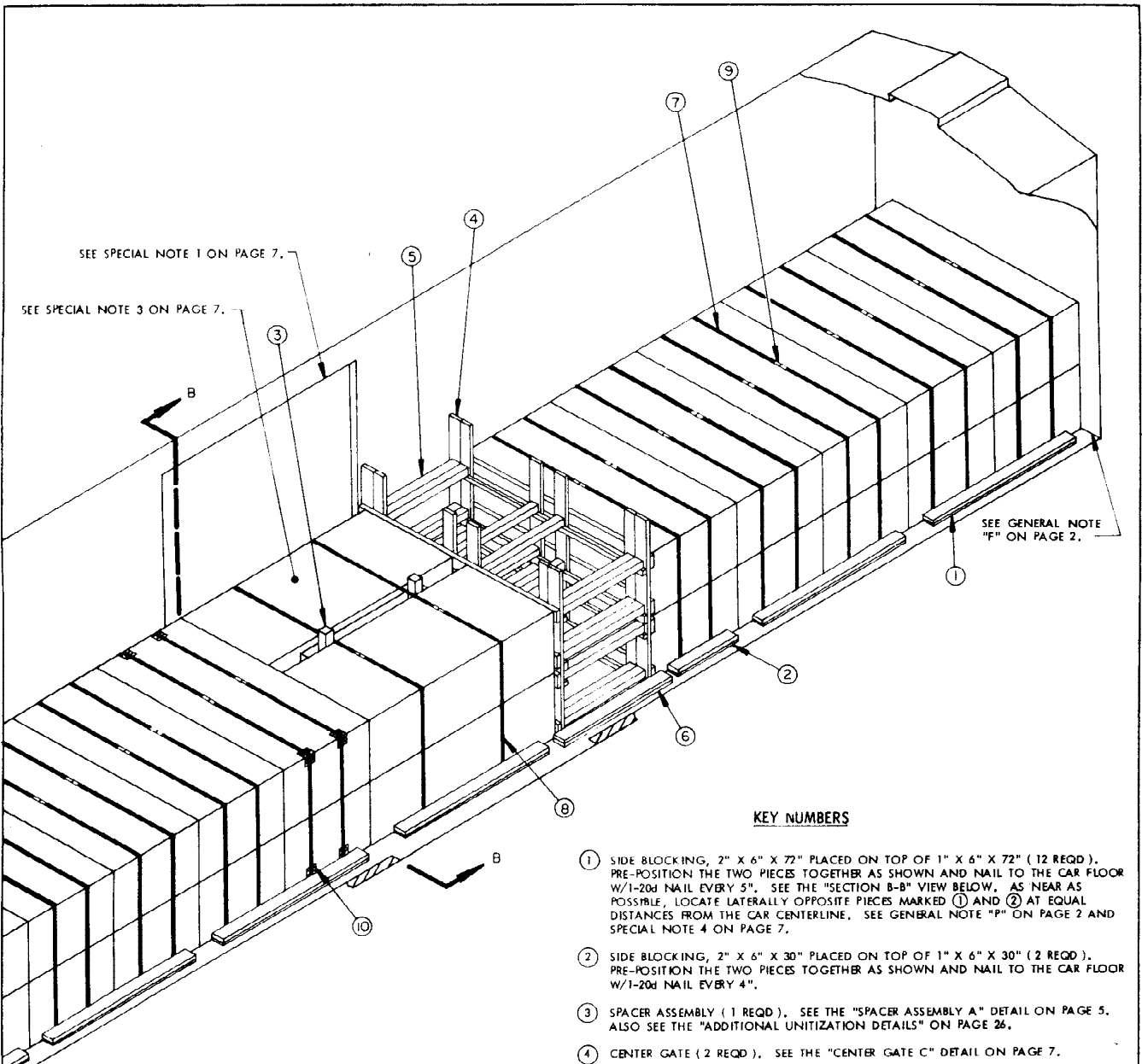
SPECIAL NOTES:

1. A 50'-6" LONG BY 9'-2" WIDE CONVENTIONAL TYPE BOX CAR EQUIPPED WITH 15'-0" WIDE THRU TYPE DOOR OPENINGS IS SHOWN. WIDER CARS AND CARS SLIGHTLY LONGER (SIXTY FOOT CARS WILL NOT BE USED) CAN BE USED. MINIMUM THRU TYPE DOOR OPENING WIDTH IS 8'-0" AND MINIMUM STAGGERED TYPE DOOR OPENING WIDTH IS 10'-0".
2. A 28-UNIT LOAD IS SHOWN AS TYPICAL. IF THE LOAD LENGTH INCREASES DURING LOADING TO SUCH AN EXTENT THAT THE DEPICTED SOLID FILL BLOCKING CANNOT BE INSTALLED, IT WILL BE NECESSARY TO OMIT ONE UNITIZED STACK OF TWO CROSSWISE-POSITIONED CONTAINERS. THE 26-UNIT LOAD PROCEDURES SHOWN ON PAGE 6 WILL THEN BE USED.
3. TO LOAD CROSSWISE-POSITIONED AND/OR LENGTHWISE-POSITIONED CONTAINERS, ONE OF THE FOLLOWING METHODS, DEPENDING ON LOADING RESTRICTIONS AND THE MATERIAL HANDLING EQUIPMENT AVAILABLE, CAN BE USED. THE NORMAL METHOD IN WHICH A FORKLIFT TRUCK IS USED TO LIFT AND CARRY THE CONTAINERS ONE AT A TIME USING THE CONTAINER FORK TINE POCKETS. THE TOP-HANDLING METHOD IN WHICH A FORKLIFT TRUCK IS USED TO LIFT AND CARRY THE CONTAINERS ONE AT A TIME USING SLINGS AND THE CONTAINER LIFT AND TIE DOWN POINTS OR END FORK TINE POCKETS. SEE SPECIAL NOTE 4 ON PAGE 24. IN THE ABOVE TWO METHODS THE FORKLIFT TRUCK CAN EITHER CARRY THE CONTAINER INTO THE CAR TO PLACE IT IN POSITION OR, IF MANEUVERING SPACE IS LIMITED OR A LOADING CONFIGURATION DICTATES, PLACE THE CONTAINER IN POSITION FROM A LOCATION PARTIALLY OR TOTALLY OUTSIDE OF THE CAR. FOR LOADING THE LAST CROSSWISE-POSITIONED STACK, A FORKLIFT TRUCK WITH A SLING MUST BE USED IF THE STACK IS NOT COMPLETELY WITHIN THE DOOR OPENING. IF THE STACK WILL NOT EXTEND BEHIND THE CAR SIDEWALL ON THE LOADING SIDE OF THE CAR, IT MAY BE POSITIONED BY END-HANDLING WITH A FORKLIFT TRUCK HAVING AT LEAST A 7,500-POUND RATING, OR IT MAY BE LOADED BY THE CONVEYOR METHOD DELINEATED BY SPECIAL NOTES 1 THRU 3 ON PAGE 24 AND THE FIGURES ON PAGE 25.
4. TO ALLOW LOADING OF THE FOUR LENGTHWISE-POSITIONED CONTAINERS (TWO UNITIZED STACKS), THE CAR FLOOR SPACE TO BE OCCUPIED BY THE CONTAINERS MUST BE DIRECTLY ADJACENT TO THE CAR DOOR OPENING ON THE LOADING SIDE OF THE CAR.
5. PRE-POSITIONING AND NAILING OF THE SIDE BLOCKING PRIOR TO LOADING OF THE CONTAINERS IS RECOMMENDED FOR ALL LOCATIONS EXCEPT THOSE IN THE DOORWAY AREAS. ALSO, IT IS RECOMMENDED THAT THREADING OF THE 1-1/4" X .035" X 27'-0" STEEL STRAPPING THROUGH THE FORK TINE POCKETS OF THE BOTTOM CONTAINER OF CROSSWISE-POSITIONED STACKS BE ACCOMPLISHED PRIOR TO LOADING.

(CONTINUED AT RIGHT)

ITEM	QUANTITY	WEIGHT (APPROX)
ONU-218/E CONTAINER (W/CBU ITEMS)	28	134,876 LBS
DUNNAGE		703 LBS
TOTAL WEIGHT		135,579 LBS

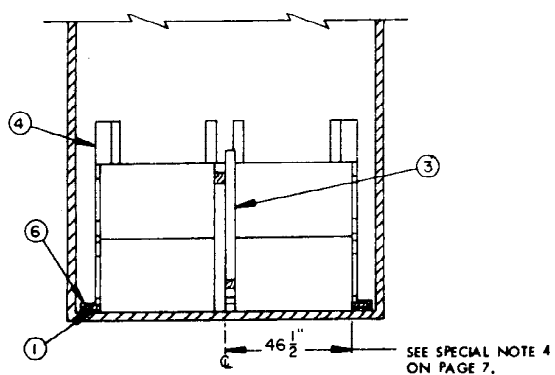
28-UNIT LOAD IN A 50'-6" LONG BY 9'-2" WIDE CONVENTIONAL BOX CAR



ISOMETRIC VIEW

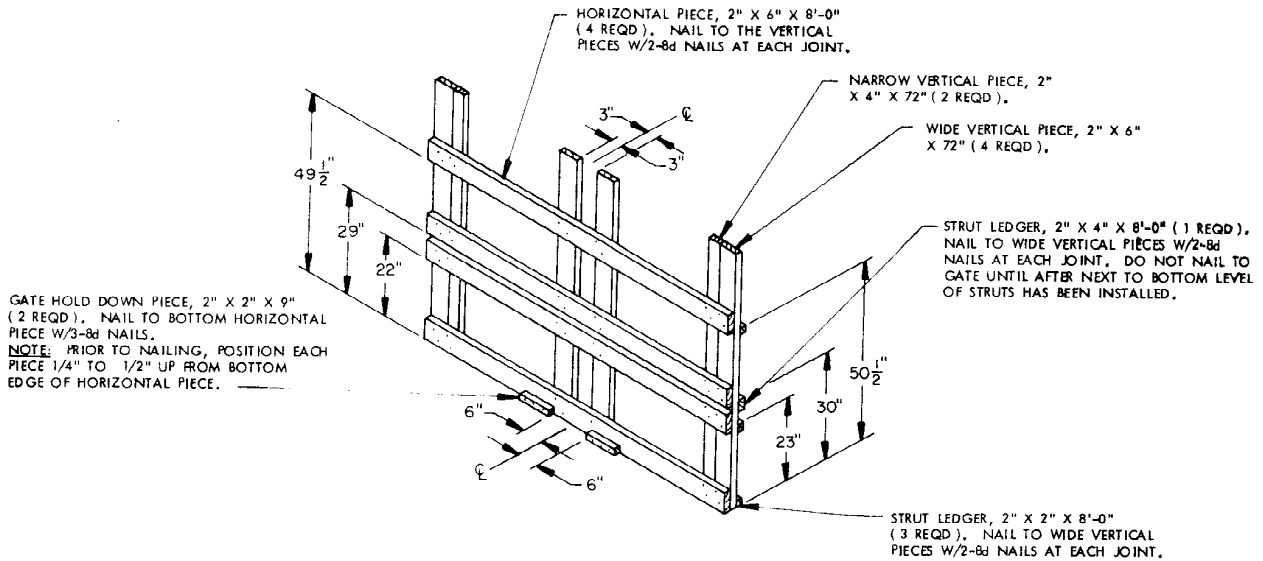
KEY NUMBERS

- ① SIDE BLOCKING, 2" X 6" X 72" PLACED ON TOP OF 1" X 6" X 72" (12 REQD). PRE-POSITION THE TWO PIECES TOGETHER AS SHOWN AND NAIL TO THE CAR FLOOR W/1-20d NAIL EVERY 5". SEE THE "SECTION B-B" VIEW BELOW, AS NEAR AS POSSIBLE, LOCATE LATERALLY OPPOSITE PIECES MARKED ① AND ② AT EQUAL DISTANCES FROM THE CAR CENTERLINE. SEE GENERAL NOTE "P" ON PAGE 2 AND SPECIAL NOTE 4 ON PAGE 7.
- ② SIDE BLOCKING, 2" X 6" X 30" PLACED ON TOP OF 1" X 6" X 30" (2 REQD). PRE-POSITION THE TWO PIECES TOGETHER AS SHOWN AND NAIL TO THE CAR FLOOR W/1-20d NAIL EVERY 4".
- ③ SPACER ASSEMBLY (1 REQD). SEE THE "SPACER ASSEMBLY A" DETAIL ON PAGE 5. ALSO SEE THE "ADDITIONAL UNITIZATION DETAILS" ON PAGE 26.
- ④ CENTER GATE (2 REQD). SEE THE "CENTER GATE C" DETAIL ON PAGE 7.
- ⑤ STRUT, 4" X 4" BY CUT-TO-FIT (24 REQD). POSITION AS SHOWN. TOENAIL TO THE VERTICAL PIECES OF THE CENTER GATES W/2-16d NAILS AT EACH END. SEE THE "STRUT INSTALLATION" DETAIL ON PAGE 7.
- ⑥ CENTER GATE RETAINER, 2" X 6" X 54" (DOUBLED) (2 REQD). NAIL THE FIRST PIECE TO THE CAR FLOOR W/7-12d NAILS. NAIL THE SECOND PIECE TO THE FIRST IN A LIKE MANNER.
- ⑦ UNITIZING STRAP, 1-1/4" X .035" X 27'-0" LONG STEEL STRAPPING (22 REQD, 2 PER STACK OF 2 CROSSWISE-LOADED CONTAINERS). SEE GENERAL NOTE "T" ON PAGE 2, THE "UNITIZATION AND HANDLING PROCEDURES" ON PAGE 3 AND SPECIAL NOTE 4 ON PAGE 7.
- ⑧ BUNDLING STRAP, 1-1/4" X .035" X 27'-0" LONG STEEL STRAPPING (2 REQD). SEE THE "ADDITIONAL UNITIZATION DETAILS" ON PAGE 26.
- ⑨ SEAL FOR 1-1/4" STRAPPING (48 REQD, 2 PER STRAP). DOUBLE CRIMP EACH SEAL. SEE GENERAL NOTE "N" ON PAGE 2.
- ⑩ ANTI-CHAFING MATERIAL (AS REQD). APPLY BETWEEN STRAPPING AND CONTAINER AT EDGES. SEE THE "UNITIZATION AND HANDLING PROCEDURES" ON PAGE 3.



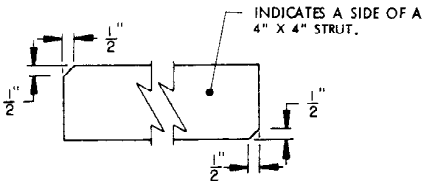
SECTION B-B

26-UNIT LOAD IN A 50'-6" LONG BY 9'-2" WIDE CONVENTIONAL BOX CAR



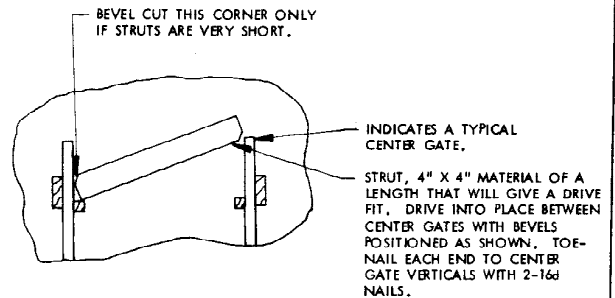
CENTER GATE C

BILL OF MATERIAL		
LUMBER	LINEAR FEET	BOARD FEET
1" X 6"	77	39
2" X 2"	51	17
2" X 4"	40	27
2" X 6"	207	207
4" X 4"	106	141
NAILS	NO. REQD	POUNDS
8d (2-1/2")	172	2
12d (3-1/4")	28	1/2
16d (3-1/2")	96	2-1/4
20d (4")	182	6-1/2
60d (6")	16	1-3/4
STEEL STRAPPING, 1-1/4" X .035"	648 REQD	93 LBS
SEALS FOR 1-1/4" STRAPPING	48 REQD	3 LBS
ANTI-CHAFING MATERIAL	AS REQD	NIL



BEVEL CUT

BEVEL CUTTING THE STRUTS AS SPECIFIED WILL FACILITATE INSTALLING THE STRUTS WITH A "DRIVE FIT". **CAUTION:** DO NOT BEVEL A CORNER MORE THAN ONE-HALF INCH (1/2").



STRUT INSTALLATION

SPECIAL NOTES:

1. A 50'-6" LONG BY 9'-2" WIDE CONVENTIONAL TYPE BOX CAR EQUIPPED WITH 8'-0" WIDE THRU TYPE DOOR OPENINGS IS SHOWN. WIDER CARS AND CARS SLIGHTLY LONGER (SIXTY FOOT CARS WILL NOT BE USED) CAN BE USED. MINIMUM THRU TYPE DOOR OPENING WIDTH IS 8'-0" AND MINIMUM STAGGERED TYPE DOOR OPENING WIDTH IS 10'-0".
2. TO LOAD CROSSWISE-POSITIONED AND/OR LENGTHWISE-POSITIONED CONTAINERS, ONE OF THE FOLLOWING METHODS, DEPENDING ON LOADING RESTRICTIONS AND THE MATERIAL HANDLING EQUIPMENT AVAILABLE, CAN BE USED. THE NORMAL METHOD IN WHICH A FORKLIFT TRUCK IS USED TO LIFT AND CARRY THE CONTAINERS ONE AT A TIME USING THE CONTAINER FORK TINE POCKETS. THE TOP-HANDLING METHOD IN WHICH A FORKLIFT TRUCK IS USED TO LIFT AND CARRY THE CONTAINERS ONE AT A TIME USING SLINGS AND THE CONTAINER LIFT AND TIE DOWN POINTS OR END FORK TINE POCKETS. SEE SPECIAL NOTE 4 ON PAGE 24. IN THE ABOVE TWO METHODS THE FORKLIFT TRUCK CAN EITHER CARRY THE CONTAINER INTO THE CAR TO PLACE IT IN POSITION OR, IF MANEUVERING SPACE IS LIMITED OR A LOADING CONFIGURATION DICTATES, PLACE THE CONTAINER IN POSITION FROM A LOCATION PARTIALLY OR TOTALLY OUTSIDE OF THE CAR. ONE OTHER METHOD, THE CONVEYOR METHOD, CAN BE USED TO LOAD CROSSWISE-POSITIONED CONTAINERS WHICH WILL OCCUPY FLOOR SPACE DIRECTLY ADJACENT TO THE CAR DOOR OPENING. SEE SPECIAL NOTES 1 THRU 3 ON PAGE 24 AND THE FIGURES ON PAGE 25. **NOTE:** TO USE THE CONVEYOR METHOD TO LOAD CROSSWISE-POSITIONED CONTAINERS, THE FLOOR SPACE TO BE OCCUPIED BY THE CONTAINERS MUST BE DIRECTLY ADJACENT TO THE CAR DOOR OPENING ON THE LOADING SIDE OF THE CAR.
3. TO ALLOW LOADING OF THE FOUR LENGTHWISE-POSITIONED CONTAINERS (TWO UNITIZED STACKS), THE CAR FLOOR SPACE TO BE OCCUPIED BY THE CONTAINERS MUST BE DIRECTLY ADJACENT TO THE CAR DOOR OPENING ON THE LOADING SIDE OF THE CAR.
4. PRE-POSITIONING AND NAILING OF THE SIDE BLOCKING PRIOR TO LOADING OF THE CONTAINERS IS RECOMMENDED FOR ALL LOCATIONS EXCEPT THOSE IN THE DOORWAY AREAS. ALSO, IT IS RECOMMENDED THAT THREADING OF THE 1-1/4" X .035" X 27'-0" STEEL STRAPPING THROUGH THE FORK TINE POCKETS OF THE BOTTOM CONTAINER OF CROSSWISE-POSITIONED STACKS BE ACCOMPLISHED PRIOR TO LOADING.

LOAD AS SHOWN

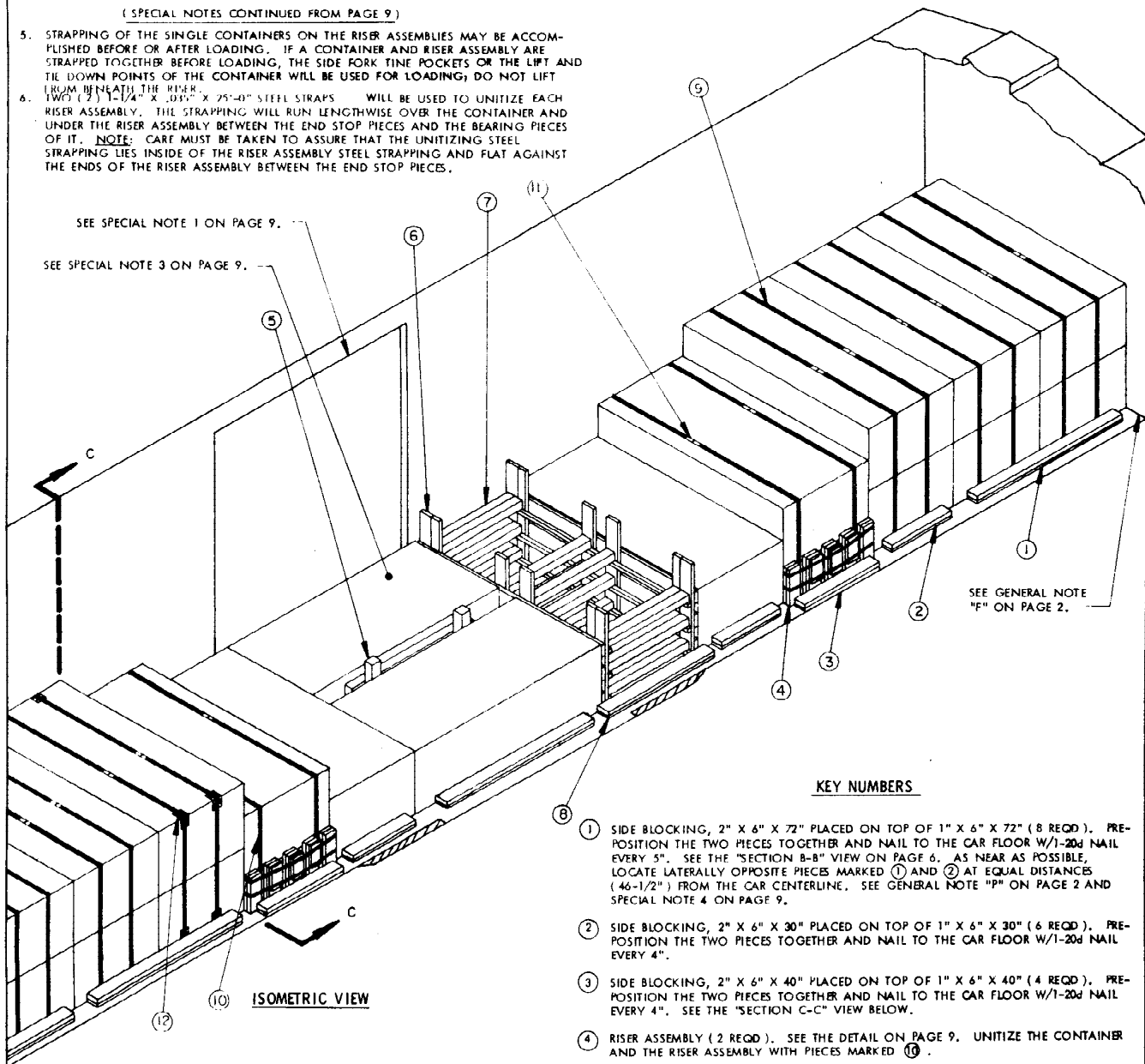
ITEM	QUANTITY	WEIGHT (APPROX)
CNU-218/E CONTAINER (W/CBU ITEMS)	26	125,242 LBS
DUNNAGE		1,187 LBS
TOTAL WEIGHT		126,429 LBS

26-UNIT LOAD IN A 50'-6' LONG BY 9'-2' WIDE CONVENTIONAL BOX CAR

5. STRAPPING OF THE SINGLE CONTAINERS ON THE RISER ASSEMBLIES MAY BE ACCOMPLISHED BEFORE OR AFTER LOADING. IF A CONTAINER AND RISER ASSEMBLY ARE STRAPPED TOGETHER BEFORE LOADING, THE SIDE FORK TINE POCKETS OR THE LIFT AND TIE DOWN POINTS OF THE CONTAINER WILL BE USED FOR LOADING; DO NOT LIFT FROM BENEATH THE RISER.
6. TWO (2) 1-1/4" X .035" X 25'-0" STEEL STRAPS WILL BE USED TO UNITIZE EACH RISER ASSEMBLY. THE STRAPPING WILL RUN LENGTHWISE OVER THE CONTAINER AND UNDER THE RISER ASSEMBLY BETWEEN THE END STOP PIECES AND THE BEARING PIECES OF IT. **NOTE:** CARE MUST BE TAKEN TO ASSURE THAT THE UNITIZING STEEL STRAPPING LIES INSIDE OF THE RISER ASSEMBLY STEEL STRAPPING AND FLAT AGAINST THE ENDS OF THE RISER ASSEMBLY BETWEEN THE END STOP PIECES.

SEE SPECIAL NOTE 1 ON PAGE 9.

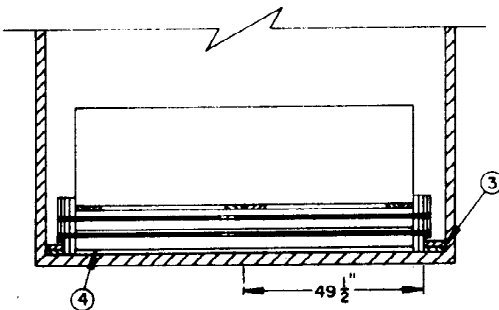
SEE SPECIAL NOTE 3 ON PAGE 9.



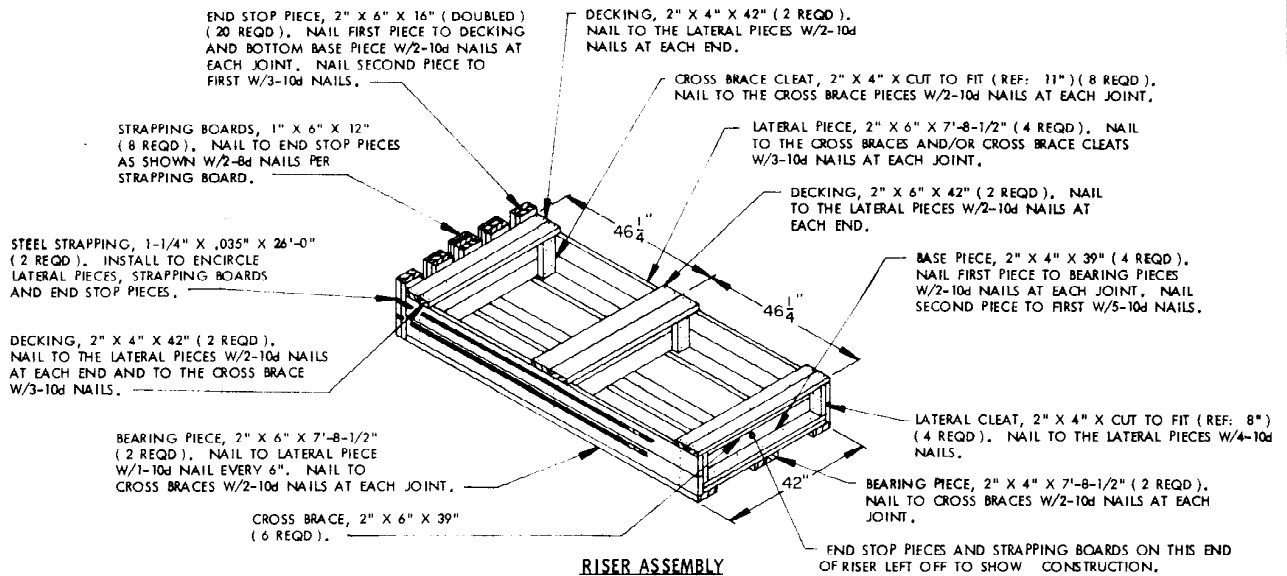
ISOMETRIC VIEW

KEY NUMBERS

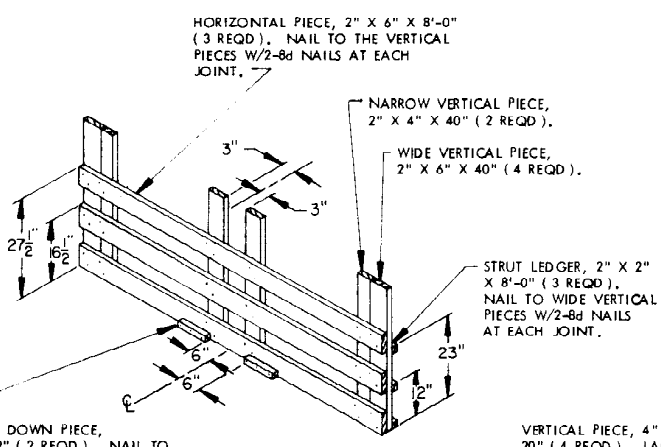
- ① SIDE BLOCKING, 2" X 6" X 72" PLACED ON TOP OF 1" X 6" X 72" (8 REQD). PRE-POSITION THE TWO PIECES TOGETHER AND NAIL TO THE CAR FLOOR W/1-20d NAIL EVERY 5". SEE THE "SECTION B-B" VIEW ON PAGE 6. AS NEAR AS POSSIBLE, LOCATE LATERALLY OPPOSITE PIECES MARKED ① AND ② AT EQUAL DISTANCES (46-1/2") FROM THE CAR CENTERLINE. SEE GENERAL NOTE "P" ON PAGE 2 AND SPECIAL NOTE 4 ON PAGE 9.
- ② SIDE BLOCKING, 2" X 6" X 30" PLACED ON TOP OF 1" X 6" X 30" (6 REQD). PRE-POSITION THE TWO PIECES TOGETHER AND NAIL TO THE CAR FLOOR W/1-20d NAIL EVERY 4".
- ③ SIDE BLOCKING, 2" X 6" X 40" PLACED ON TOP OF 1" X 6" X 40" (4 REQD). PRE-POSITION THE TWO PIECES TOGETHER AND NAIL TO THE CAR FLOOR W/1-20d NAIL EVERY 4". SEE THE "SECTION C-C" VIEW BELOW.
- ④ RISER ASSEMBLY (2 REQD). SEE THE DETAIL ON PAGE 9. UNITIZE THE CONTAINER AND THE RISER ASSEMBLY WITH PIECES MARKED ⑩.
- ⑤ SPACER ASSEMBLY (1 REQD). SEE THE "SPACER ASSEMBLY B" DETAIL ON PAGE 9.
- ⑥ CENTER GATE (2 REQD). SEE THE "CENTER GATE D" DETAIL ON PAGE 9.
- ⑦ STRUT, 4" X 4" BY CUT-TO-FIT (18 REQD). POSITION AS SHOWN. TOENAIL TO THE VERTICAL PIECES OF THE CENTER GATES W/2-16d NAILS AT EACH END. SEE THE "STRUT INSTALLATION" DETAIL ON PAGE 7.
- ⑧ CENTER GATE RETAINER, 2" X 6" X 54" (DOUBLED) (2 REQD). NAIL THE FIRST PIECE TO THE CAR FLOOR W/7-12d NAILS. NAIL THE SECOND PIECE TO THE FIRST IN A LIKE MANNER.
- ⑨ UNITIZING STRAP, 1-1/4" X .035" X 27'-0" LONG STEEL STRAPPING (14 REQD, 2 PER STACK OF 2 CROSSWISE LOADED CONTAINERS). SEE GENERAL NOTE "T" ON PAGE 2, THE "UNITIZATION AND HANDLING PROCEDURES" ON PAGE 3, AND SPECIAL NOTE 4 ON PAGE 9.
- ⑩ UNITIZING STRAP, 1-1/4" X .035" X 25'-0" LONG STEEL STRAPPING (4 REQD, 2 PER CONTAINER ON RISER ASSEMBLY). SEE SPECIAL NOTES 5 AND 6 ON THIS PAGE.
- ⑪ SEAL FOR 1-1/4" STRAPPING (36 REQD, 2 PER STRAP). DOUBLE CRIMP EACH SEAL. SEE GENERAL NOTE "N" ON PAGE 2.
- ⑫ ANTI-CHAFING MATERIAL (AS REQD). APPLY BETWEEN STRAPPING AND CONTAINER AT EDGES. SEE THE "UNITIZATION AND HANDLING PROCEDURES" ON PAGE 3.



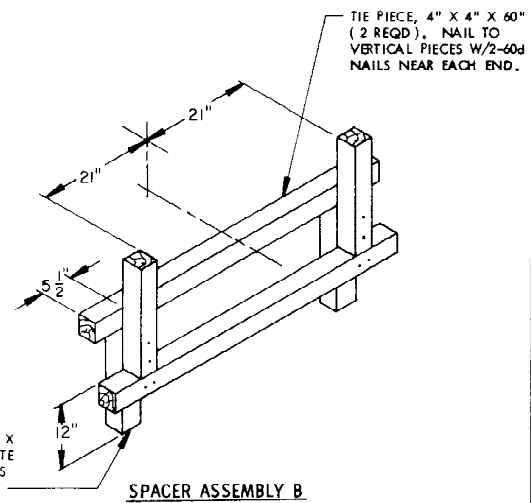
SECTION C-C



RISER ASSEMBLY



CENTER GATE D



SPACER ASSEMBLY B

BILL OF MATERIAL		
LUMBER	LINEAR FEET	BOARD FEET
1" X 6"	92	46
2" X 2"	51	17
2" X 4"	118	79
2" X 6"	367	367
4" X 4"	77	103
NAILS	NO. REQD	POUNDS
8d (2-1/2")	164	2
10d (3")	568	8 3/4
12d (3-1/4")	28	1/2
16d (3-1/2")	72	1-3/4
20d (4")	190	7
60d (6")	12	1-1/4
STEEL STRAPPING, 1-1/4" X .035"	582 REQD	83 LBS
SEAL FOR 1-1/4" STRAPPING	44 REQD	3 LBS
ANTI-CHAFING MATERIAL	AS REQD	NIL

SPECIAL NOTES:

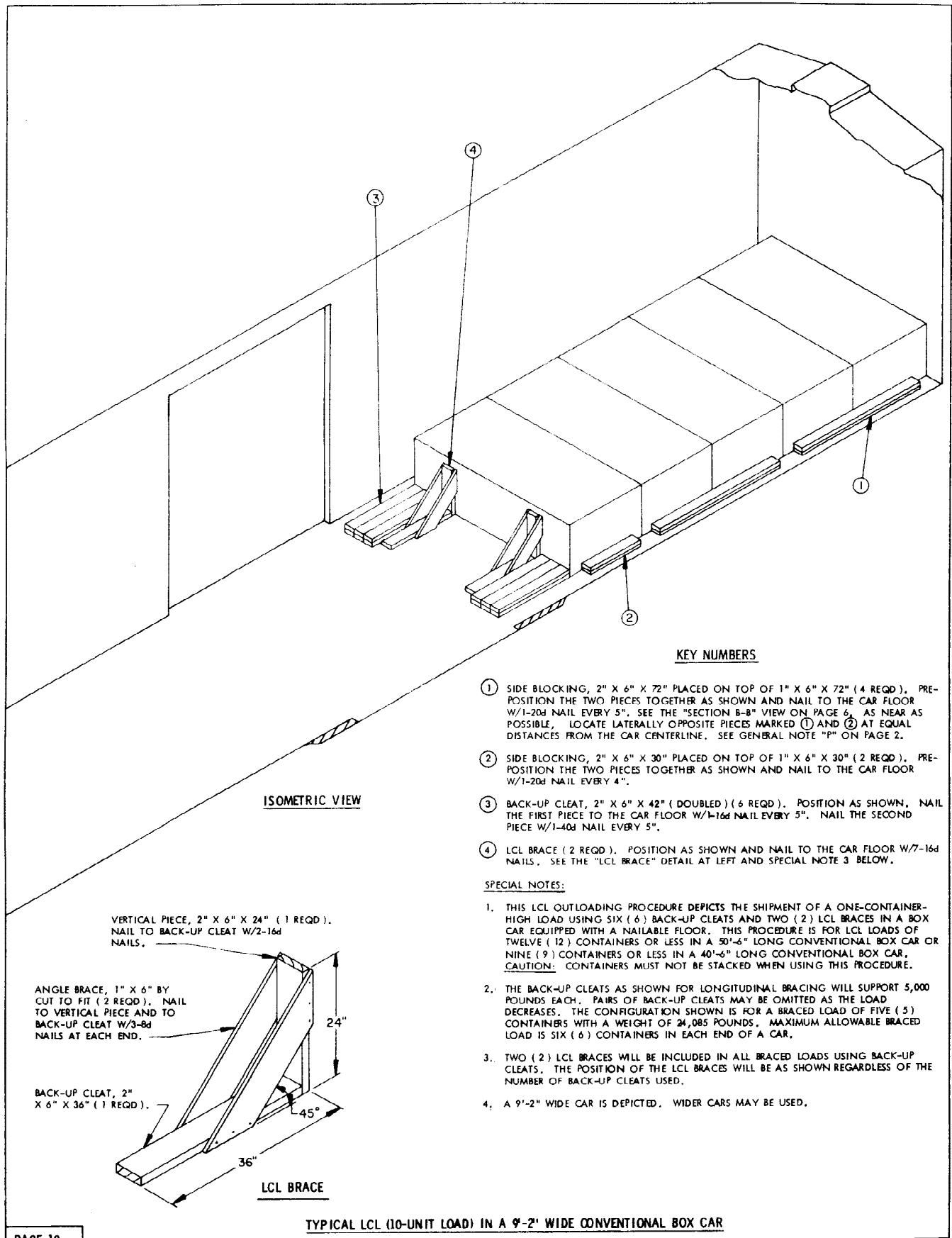
1. A 50'-6" LONG BY 9'-2" WIDE CONVENTIONAL TYPE BOX CAR EQUIPPED WITH 8'-0" WIDE THRU TYPE DOOR OPENINGS IS SHOWN. WIDER CARS AND CARS SLIGHTLY LONGER (SIXTY FOOT CARS WILL NOT BE USED) CAN BE USED. MINIMUM THRU TYPE DOOR OPENING WIDTH IS 8'-0" AND MINIMUM STAGGERED TYPE DOOR OPENING WIDTH IS 10'-0".
2. FOR LOADING GUIDANCE, SEE SPECIAL NOTE 2 ON PAGE 7.
3. TO ALLOW LOADING OF THE TWO LENGTHWISE-POSITIONED CONTAINERS, THE CAR FLOOR SPACE TO BE OCCUPIED BY THE CONTAINERS MUST BE DIRECTLY ADJACENT TO THE CAR DOOR OPENING ON THE LOADING SIDE OF THE CAR.
4. PRE-POSITIONING AND NAILING OF THE SIDE BLOCKING PRIOR TO LOADING OF THE CONTAINERS AND THE RISER ASSEMBLIES IS RECOMMENDED FOR ALL LOCATIONS EXCEPT THOSE IN THE DOORWAY AREAS. ALSO, IT IS RECOMMENDED THAT THREADING OF THE 1-1/4" X .035" X 27'-0" STEEL STRAPPING THROUGH THE FORK TINE POCKETS OF THE BOTTOM CONTAINER OF CROSSWISE-POSITIONED 2-CONTAINER STACKS BE ACCOMPLISHED PRIOR TO LOADING.

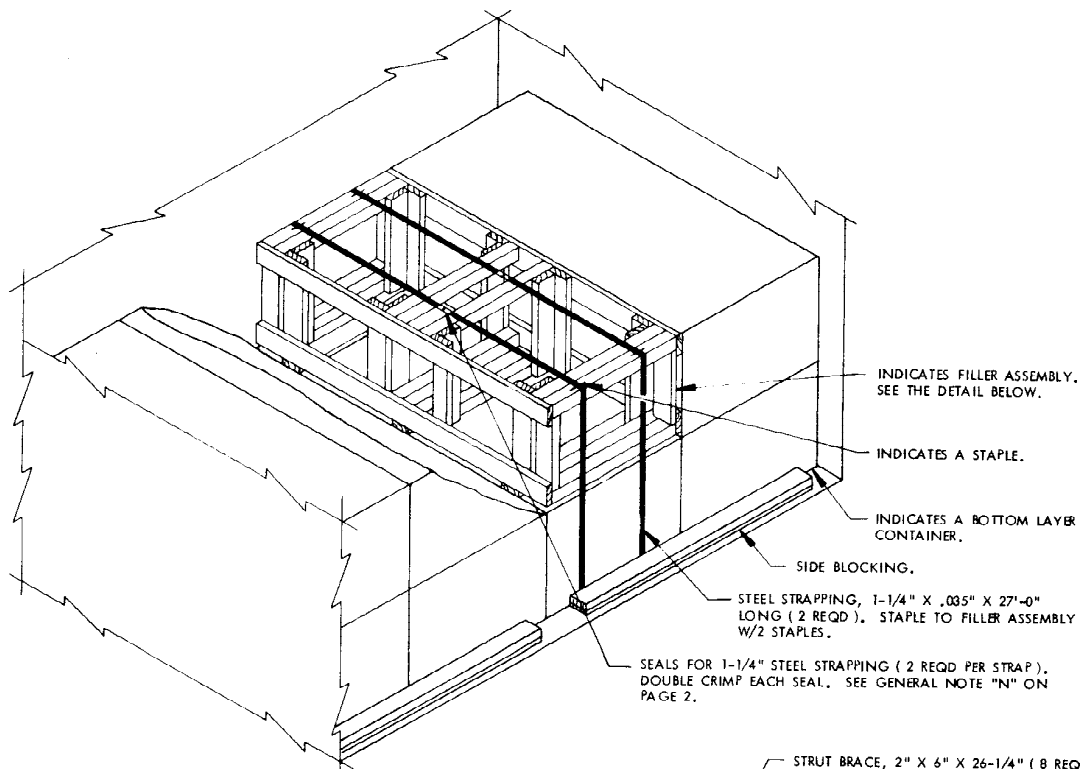
(CONTINUED ON PAGE 8)

LOAD AS SHOWN

ITEM	QUANTITY	WEIGHT (APPROX)
CNU-218/E CONTAINER (W/CBU ITEMS)	20	96,340 LBS
DUNNAGE		1,637 LBS
TOTAL WEIGHT		97,977 LBS

20-UNIT LOAD IN A 50'-6" LONG BY 9'-2" WIDE CONVENTIONAL BOX CAR

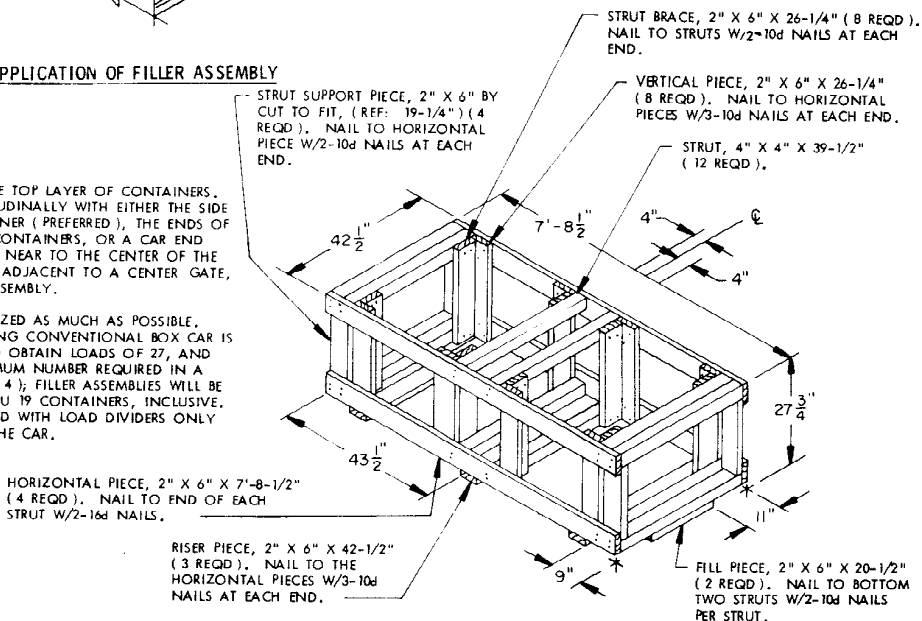




APPLICATION OF FILLER ASSEMBLY

SPECIAL NOTES:

1. THE FILLER ASSEMBLY IS TO BE USED ONLY IN THE TOP LAYER OF CONTAINERS. FILLER ASSEMBLIES MUST BE IN CONTACT LONGITUDINALLY WITH EITHER THE SIDE OF A CROSSWISE-POSITIONED TOP-LAYER CONTAINER (PREFERRED), THE ENDS OF TWO (2) LENGTHWISE-POSITIONED, TOP-LAYER CONTAINERS, OR A CAR END WALL. FILLER ASSEMBLIES SHOULD BE LOCATED AS NEAR TO THE CENTER OF THE CAR AS POSSIBLE, BUT MUST NOT BE POSITIONED ADJACENT TO A CENTER GATE, AN END WALL BULKHEAD, OR ANOTHER FILLER ASSEMBLY.
2. THE USE OF FILLER ASSEMBLIES SHOULD BE MINIMIZED AS MUCH AS POSSIBLE. THE MAXIMUM NUMBER REQUIRED IN A 50'-6" LONG CONVENTIONAL BOX CAR IS FIVE (5); FILLER ASSEMBLIES WILL BE REQUIRED TO OBTAIN LOADS OF 27, AND 21 THRU 25 CONTAINERS, INCLUSIVE. THE MAXIMUM NUMBER REQUIRED IN A 40'-6" LONG CONVENTIONAL BOX CAR IS FOUR (4); FILLER ASSEMBLIES WILL BE REQUIRED TO OBTAIN LOADS OF 21, AND 16 THRU 19 CONTAINERS, INCLUSIVE. FILLER ASSEMBLIES WILL BE USED IN CARS EQUIPPED WITH LOAD DIVIDERS ONLY AS NECESSARY TO FILL A LAYER IN AN END OF THE CAR.



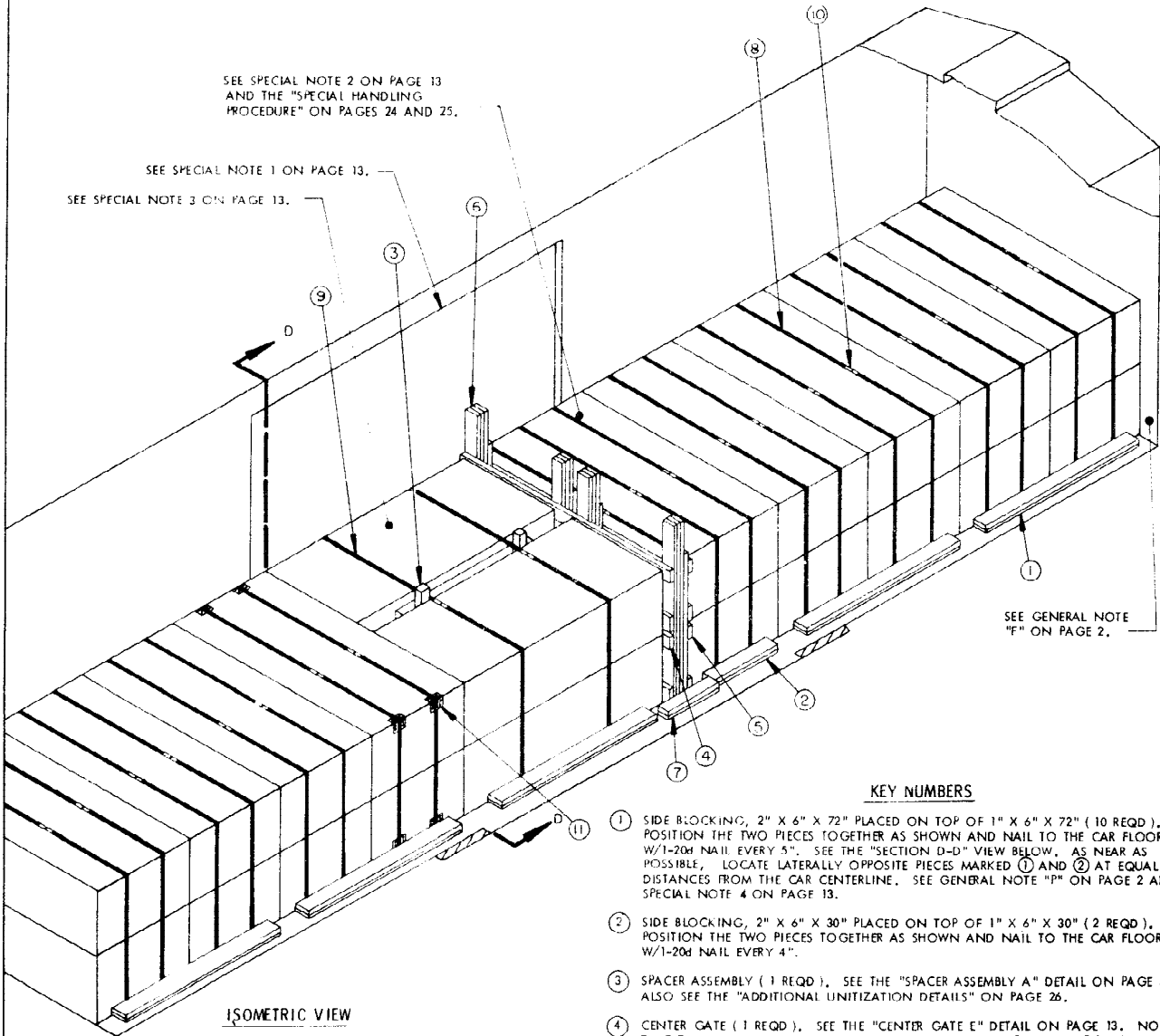
FILLER ASSEMBLY

FILLER ASSEMBLY DETAILS

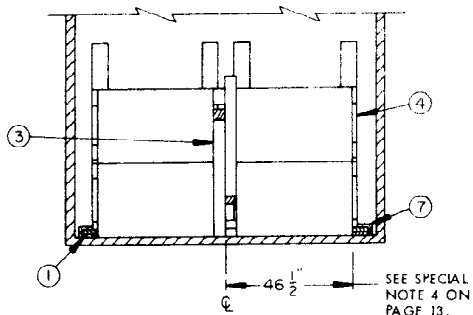
SEE SPECIAL NOTE 2 ON PAGE 13
AND THE "SPECIAL HANDLING
PROCEDURE" ON PAGES 24 AND 25.

SEE SPECIAL NOTE 1 ON PAGE 13.

SEE SPECIAL NOTE 3 ON PAGE 13.



ISOMETRIC VIEW

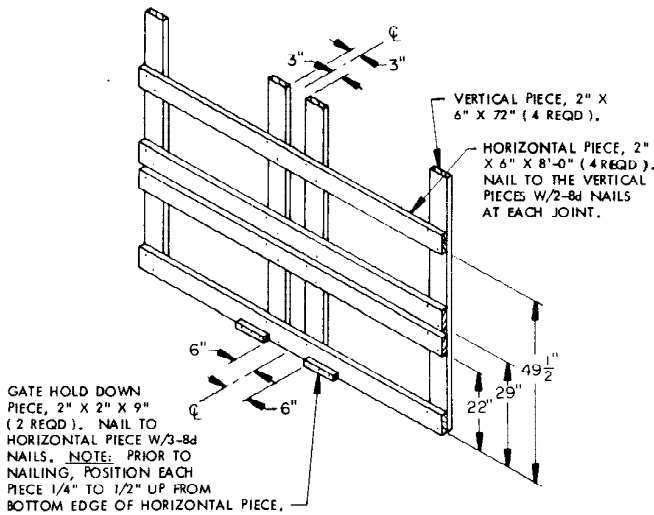


SECTION D-D

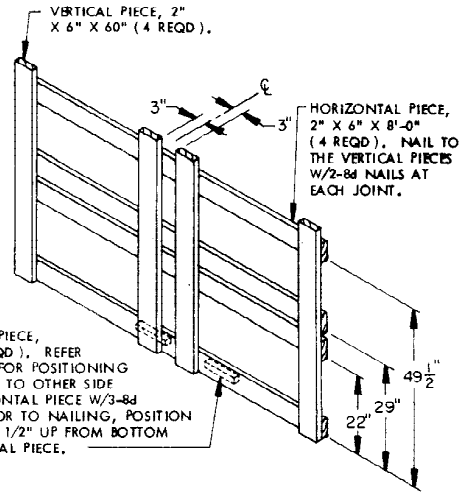
SEE GENERAL NOTE
"F" ON PAGE 2.

KEY NUMBERS

- ① SIDE BLOCKING, 2" X 6" X 72" PLACED ON TOP OF 1" X 6" X 72" (10 REQD). PRE-POSITION THE TWO PIECES TOGETHER AS SHOWN AND NAIL TO THE CAR FLOOR W/1-20d NAIL EVERY 5". SEE THE "SECTION D-D" VIEW BELOW. AS NEAR AS POSSIBLE, LOCATE LATERALLY OPPOSITE PIECES MARKED ① AND ② AT EQUAL DISTANCES FROM THE CAR CENTERLINE. SEE GENERAL NOTE "P" ON PAGE 2 AND SPECIAL NOTE 4 ON PAGE 13.
- ② SIDE BLOCKING, 2" X 6" X 30" PLACED ON TOP OF 1" X 6" X 30" (2 REQD). PRE-POSITION THE TWO PIECES TOGETHER AS SHOWN AND NAIL TO THE CAR FLOOR W/1-20d NAIL EVERY 4".
- ③ SPACER ASSEMBLY (1 REQD). SEE THE "SPACER ASSEMBLY A" DETAIL ON PAGE 5. ALSO SEE THE "ADDITIONAL UNITIZATION DETAILS" ON PAGE 26.
- ④ CENTER GATE (1 REQD). SEE THE "CENTER GATE E" DETAIL ON PAGE 13. NOTE THAT THIS GATE IS CONSTRUCTED WITH TALLER VERTICAL PIECES TO PERMIT NAILING OF THE SOLID FILL, PIECES MARKED ⑥.
- ⑤ CENTER GATE (1 REQD). SEE THE "CENTER GATE F" DETAIL ON PAGE 13.
- ⑥ SOLID FILL, 2" X 6" X 72" OR 1" X 6" X 72" (AS REQD). ALIGN WITH "CENTER GATE E" VERTICALS AND LAMINATE THE FIRST PIECE OF FILL TO THE TOP 12" OF "CENTER GATE E" VERTICALS W/4-10d NAILS. LAMINATE EACH ADDITIONAL PIECE OF FILL TO THE PRECEDING PIECE OF FILL W/4-10d NAILS. INSURE A TIGHT FIT BY DRIVING IN THE LAST PIECE OF SOLID FILL. NOTE: NAIL THE TOP EXPOSED PART OF EACH "CENTER GATE F" VERTICAL PIECE TO THE ADJACENT SOLID FILL PIECE W/2-10d NAILS.
- ⑦ CENTER GATE RETAINER, 2" X 6" X 24" (DOUBLED) (2 REQD). NAIL THE FIRST PIECE TO THE CAR FLOOR W/3-12d NAILS. NAIL THE SECOND PIECE TO THE FIRST IN A LIKE MANNER.
- ⑧ UNITIZING STRAP, 1-1/4" X .035" X 27'-0" LONG STEEL STRAPPING (18 REQD; TWO PER STACK OF 2 CROSSWISE-LOADED CONTAINERS). SEE GENERAL NOTE "T" ON PAGE 2, THE "UNITIZATION AND HANDLING PROCEDURES" ON PAGE 3 AND SPECIAL NOTE 4 ON PAGE 13.
- ⑨ BINDLING STRAP, 1-1/4" X .035" X 27'-0" LONG STEEL STRAPPING (2 REQD). SEE THE "ADDITIONAL UNITIZATION DETAILS" ON PAGE 26.
- ⑩ SEAL FOR 1-1/4" STRAPPING (40 REQD; 2 PER STRAP). DOUBLE CRIMP EACH SEAL. SEE GENERAL NOTE "N" ON PAGE 2.
- ⑪ ANTI-CHAFING MATERIAL (AS REQD). APPLY BETWEEN STRAPPING AND CONTAINER AT EDGES. SEE THE "UNITIZATION AND HANDLING PROCEDURES" ON PAGE 3.



CENTER GATE E



CENTER GATE F

GATE HOLD DOWN PIECE, 2" X 2" X 9" (2 REQD). REFER TO "CENTER GATE E" FOR POSITIONING DIMENSIONS. NAIL TO OTHER SIDE OF BOTTOM HORIZONTAL PIECE W/3-8d NAILS. NOTE: PRIOR TO NAILING, POSITION EACH PIECE 1/4" TO 1/2" UP FROM BOTTOM EDGE OF HORIZONTAL PIECE.

SPECIAL NOTES:

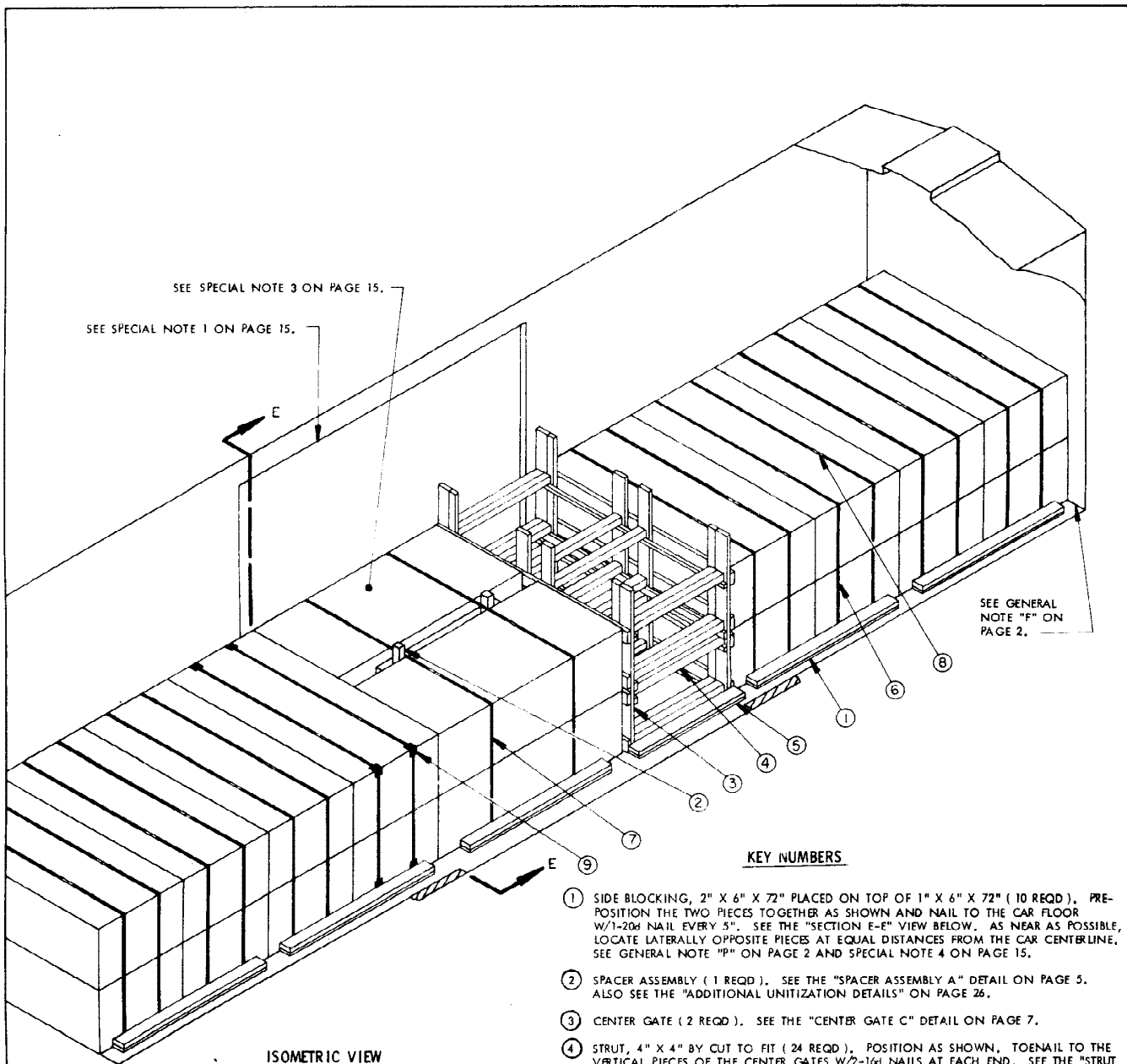
1. A 40'-6" LONG BY 9'-2" WIDE CONVENTIONAL TYPE BOX CAR EQUIPPED WITH 12'-0" WIDE THRU TYPE DOOR OPENINGS IS SHOWN. WIDER CARS AND CARS SLIGHTLY LONGER CAN BE USED. MINIMUM THRU TYPE DOOR OPENING WIDTH IS 8'-0" AND MINIMUM STAGGERED TYPE DOOR OPENING WIDTH IS 10'-0".
2. TO LOAD CROSSWISE-POSITIONED AND/OR LENGTHWISE-POSITIONED CONTAINERS, ONE OF THE FOLLOWING METHODS, DEPENDING ON LOADING RESTRICTIONS AND THE MATERIAL HANDLING EQUIPMENT AVAILABLE, CAN BE USED. THE NORMAL METHOD IN WHICH A FORKLIFT TRUCK IS USED TO LIFT AND CARRY THE CONTAINERS ONE AT A TIME USING THE CONTAINER FORK TINE POCKETS. THE TOP-HANDLING METHOD IN WHICH A FORKLIFT TRUCK IS USED TO LIFT AND CARRY THE CONTAINERS ONE AT A TIME USING SLINGS AND THE CONTAINER LIFT AND TIE DOWN POINTS OR END FORK TINE POCKETS. SEE SPECIAL NOTE 4 ON PAGE 24. IN THE ABOVE TWO METHODS THE FORKLIFT TRUCK CAN EITHER CARRY THE CONTAINER INTO THE CAR TO PLACE IT IN POSITION OR, IF MANEUVERING SPACE IS LIMITED OR A LOADING CONFIGURATION DICTATES, PLACE THE CONTAINER IN POSITION FROM A LOCATION PARTIALLY OR TOTALLY OUTSIDE OF THE CAR. FOR LOADING THE LAST CROSSWISE-POSITIONED STACK, A FORKLIFT TRUCK WITH A SLING MUST BE USED IF THE STACK IS NOT COMPLETELY WITHIN THE DOOR OPENING. IF THE STACK WILL NOT EXTEND BEHIND THE CAR SIDEWALL ON THE LOADING SIDE OF THE CAR, IT MAY BE POSITIONED BY END-HANDLING WITH A FORKLIFT TRUCK HAVING AT LEAST A 7,500-POUND RATING, OR IT MAY BE LOADED BY THE CONVEYOR METHOD DELINEATED BY SPECIAL NOTES 1 THRU 3 ON PAGE 24 AND THE FIGURES ON PAGE 25.
3. TO ALLOW LOADING OF THE FOUR LENGTHWISE-POSITIONED CONTAINERS (TWO UNITIZED STACKS), THE CAR FLOOR SPACE TO BE OCCUPIED BY THE CONTAINERS MUST BE DIRECTLY ADJACENT TO THE CAR DOOR OPENING ON THE LOADING SIDE OF THE CAR.
4. PRE-POSITIONING AND NAILING OF THE SIDE BLOCKING PRIOR TO LOADING OF THE CONTAINERS IS RECOMMENDED FOR ALL LOCATIONS EXCEPT THOSE IN THE DOORWAY AREAS. ALSO, IT IS RECOMMENDED THAT THREADING OF THE 1-1/4" X .035" X 27'-0" STEEL STRAPPING THROUGH THE FORK TINE POCKETS OF THE BOTTOM CONTAINER OF CROSSWISE-POSITIONED STACKS BE ACCOMPLISHED PRIOR TO LOADING.
5. A 22-UNIT LOAD IS SHOWN AS TYPICAL. IF THE LOAD LENGTH INCREASES DURING LOADING TO SUCH AN EXTENT THAT THERE IS INSUFFICIENT SPACE FOR THE INSTALLATION OF CENTER GATES "E" AND "F" AND SOLID FILL, PIECES MARKED (4), (5), AND (6), CENTER GATES "A" AND "B" AND SOLID FILL SHOWN AS PIECES MARKED (3), (4), AND (5) ON PAGE 4 MAY BE SUBSTITUTED. IF THERE IS NOT ENOUGH SPACE FOR THOSE PIECES, OMIT ONE CROSSWISE-POSITIONED STACK AND INSTALL CENTER BLOCKING AS SHOWN ON PAGE 14.

BILL OF MATERIAL

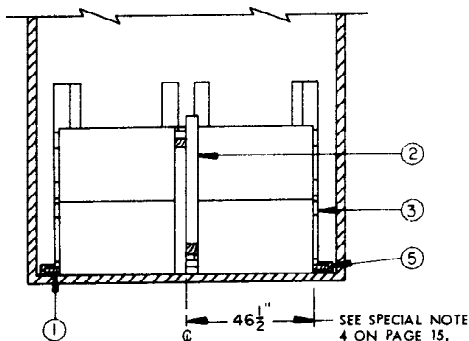
LUMBER	LINEAR FEET	BOARD FEET
1" X 6"	89	45
2" X 2"	3	1
2" X 6"	253	253
4" X 4"	26	35
NAILS	NO. REQD	POUNDS
8d (2-1/2")	76	3/4
10d (3")	64	1
12d (3-1/4")	20	1/2
20d (4")	154	5-1/2
60d (6")	16	1-3/4
STEEL STRAPPING, 1-1/4" X .035"	540' REQD	77 LBS
SEAL FOR 1-1/4" STRAPPING	40 REQD	3 LBS
ANTI-CHAFING MATERIAL	AS REQD	NIL

LOAD AS SHOWN

ITEM	QUANTITY	WEIGHT (APPROX)
CNU-218/E CONTAINER (W/CBU ITEMS)	22	105,974 LBS
DUNNAGE		925 LBS
TOTAL WEIGHT		106,899 LBS



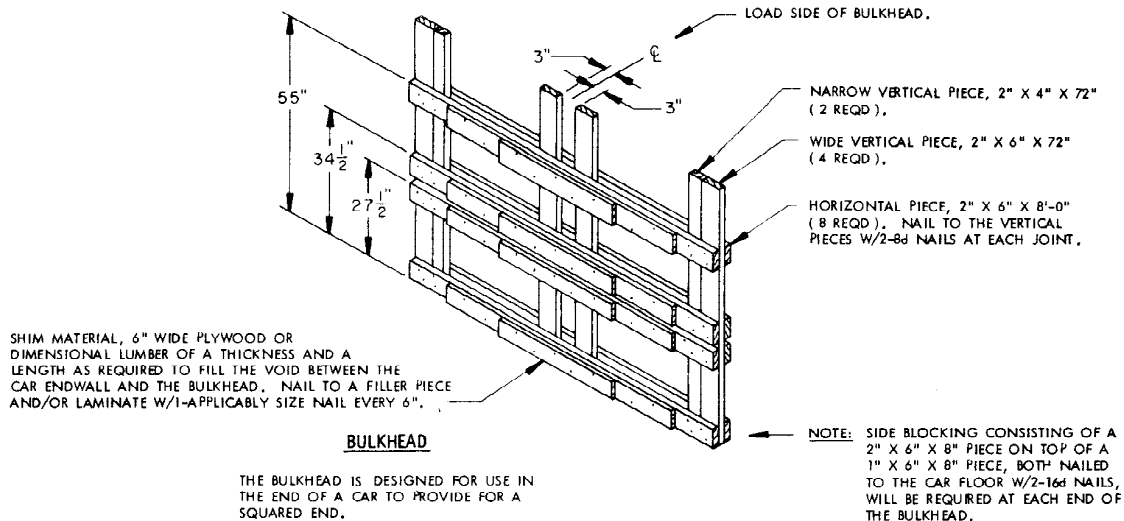
ISOMETRIC VIEW



SECTION E-E

KEY NUMBERS

- ① SIDE BLOCKING, 2" X 6" X 72" PLACED ON TOP OF 1" X 6" X 72" (10 REQD), PRE-POSITION THE TWO PIECES TOGETHER AS SHOWN AND NAIL TO THE CAR FLOOR W/1-20d NAIL EVERY 5". SEE THE "SECTION E-E" VIEW BELOW. AS NEAR AS POSSIBLE, LOCATE LATERALLY OPPOSITE PIECES AT EQUAL DISTANCES FROM THE CAR CENTERLINE. SEE GENERAL NOTE "P" ON PAGE 2 AND SPECIAL NOTE 4 ON PAGE 15.
- ② SPACER ASSEMBLY (1 REQD), SEE THE "SPACER ASSEMBLY A" DETAIL ON PAGE 5. ALSO SEE THE "ADDITIONAL UNITIZATION DETAILS" ON PAGE 26.
- ③ CENTER GATE (2 REQD), SEE THE "CENTER GATE C" DETAIL ON PAGE 7.
- ④ STRUT, 4" X 4" BY CUT TO FIT (24 REQD), POSITION AS SHOWN, TOENAIL TO THE VERTICAL PIECES OF THE CENTER GATES W/2-16d NAILS AT EACH END, SEE THE "STRUT INSTALLATION" DETAIL ON PAGE 7.
- ⑤ CENTER GATE RETAINER, 2" X 6" X 54" (DOUBLED) (2 REQD), NAIL THE FIRST PIECE TO THE CAR FLOOR W/7-12d NAILS. NAIL THE SECOND PIECE TO THE FIRST IN A LIKE MANNER.
- ⑥ UNITIZING STRAP, 1-1/4" X .035" X 27'-0" LONG STEEL STRAPPING (16 REQD; 2 PER STACK OF 2 CROSSWISE-LOADED CONTAINERS), SEE GENERAL NOTE "T" ON PAGE 2, THE "UNITIZATION AND HANDLING PROCEDURES" ON PAGE 3 AND SPECIAL NOTE 4 ON PAGE 15.
- ⑦ BUNDLING STRAP, 1-1/4" X .035" X 27'-0" LONG STEEL STRAPPING (2 REQD), SEE THE "ADDITIONAL UNITIZATION DETAILS" ON PAGE 26.
- ⑧ SEAL FOR 1-1/4" STRAPPING (36 REQD; 2 PER STRAP), DOUBLE CRIMP EACH SEAL. SEE GENERAL NOTE "N" ON PAGE 2.
- ⑨ ANTI-CHAFING MATERIAL (AS REQD), APPLY BETWEEN STRAPPING AND CONTAINER AT EDGES. SEE THE "UNITIZATION AND HANDLING PROCEDURES" ON PAGE 3.



BILL OF MATERIAL		
LUMBER	LINEAR FEET	BOARD FEET
1" X 6"	60	30
2" X 2"	51	17
2" X 4"	40	27
2" X 6"	190	190
4" X 4"	121	161
NAILS	NO. REQD	POUNDS
8d (2-1/2")	172	2
12d (3-1/4")	28	1/2
16d (3-1/2")	96	2-1/4
20d (4")	140	5
60d (6")	16	1-3/4
STEEL STRAPPING, 1-1/4" X .035" ---	486' REQD	71 LBS
SEALS FOR 1-1/4" STRAPPING -----	36 REQD	2 LBS
ANTI-CHAFING MATERIAL -----	A5 REQD	NIL

SPECIAL NOTES:

1. A 40'-6" LONG BY 9'-2" WIDE CONVENTIONAL TYPE BOX CAR EQUIPPED WITH 12'-0" WIDE THRU TYPE DOOR OPENINGS IS SHOWN. WIDER CARS AND CARS SLIGHTLY LONGER CAN BE USED. MINIMUM THRU TYPE DOOR OPENING WIDTH IS 8'-0" AND MINIMUM STAGGERED TYPE DOOR OPENING WIDTH IS 10'-0".
2. TO LOAD CROSSWISE-POSITIONED AND/OR LENGTHWISE-POSITIONED CONTAINERS, ONE OF THE FOLLOWING METHODS, DEPENDING ON LOADING RESTRICTIONS AND THE MATERIAL HANDLING EQUIPMENT AVAILABLE, CAN BE USED. THE NORMAL METHOD IN WHICH A FORKLIFT TRUCK IS USED TO LIFT AND CARRY THE CONTAINERS ONE AT A TIME USING THE CONTAINER FORK TINE POCKETS, THE TOP-HANDLING METHOD IN WHICH A FORKLIFT TRUCK IS USED TO LIFT AND CARRY THE CONTAINERS ONE AT A TIME USING SLINGS AND THE CONTAINER LIFT AND TIE DOWN POINTS OR END FORK TINE POCKETS. SEE SPECIAL NOTE 4 ON PAGE 24. IN THE ABOVE TWO METHODS THE FORKLIFT TRUCK CAN EITHER CARRY THE CONTAINER INTO THE CAR TO PLACE IT IN POSITION OR, IF MANEUVERING SPACE IS LIMITED OR A LOADING CONFIGURATION DICTATES, PLACE THE CONTAINER IN POSITION FROM A LOCATION PARTIALLY OR TOTALLY OUTSIDE OF THE CAR. ONE OTHER METHOD, THE CONVEYOR METHOD, CAN BE USED TO LOAD CROSSWISE-POSITIONED CONTAINERS WHICH WILL OCCUPY FLOOR SPACE DIRECTLY ADJACENT TO THE CAR DOOR OPENING. SEE SPECIAL NOTES 1 THRU 3 ON PAGE 24 AND THE FIGURES ON PAGE 25. NOTE: TO USE THE CONVEYOR METHOD TO LOAD CROSSWISE-POSITIONED CONTAINERS, THE FLOOR SPACE TO BE OCCUPIED BY THE CONTAINERS MUST BE DIRECTLY ADJACENT TO THE CAR DOOR OPENING ON THE LOADING SIDE OF THE CAR.
3. TO ALLOW LOADING OF THE FOUR LENGTHWISE-POSITIONED CONTAINERS (TWO UNITIZED STACKS), THE CAR FLOOR SPACE TO BE OCCUPIED BY THE CONTAINERS MUST BE DIRECTLY ADJACENT TO THE CAR DOOR OPENING ON THE LOADING DOCK SIDE OF THE CAR.
4. PRE-POSITIONING AND NAILING OF THE SIDE BLOCKING PRIOR TO LOADING OF THE CONTAINERS IS RECOMMENDED FOR ALL LOCATIONS EXCEPT THOSE IN THE DOORWAY AREAS. ALSO, IT IS RECOMMENDED THAT THREADING OF THE 1-1/4" X .035" X 27'-0" STEEL STRAPPING THROUGH THE FORK TINE POCKETS OF THE BOTTOM CONTAINER OF CROSSWISE-POSITIONED STACKS BE ACCOMPLISHED PRIOR TO LOADING.

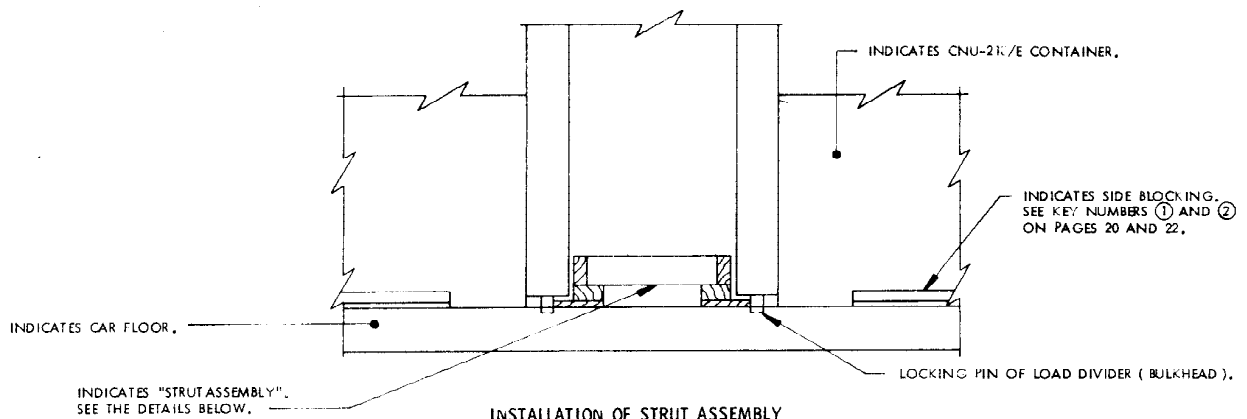
LOAD AS SHOWN

ITEM	QUANTITY	WEIGHT (APPROX)
CNU-218/E CONTAINER (W/CBU ITEM) -----	20 -----	96,340 LBS
DUNNAGE -----		1,147 LBS
TOTAL WEIGHT -----		97,487 LBS

GENERAL NOTES

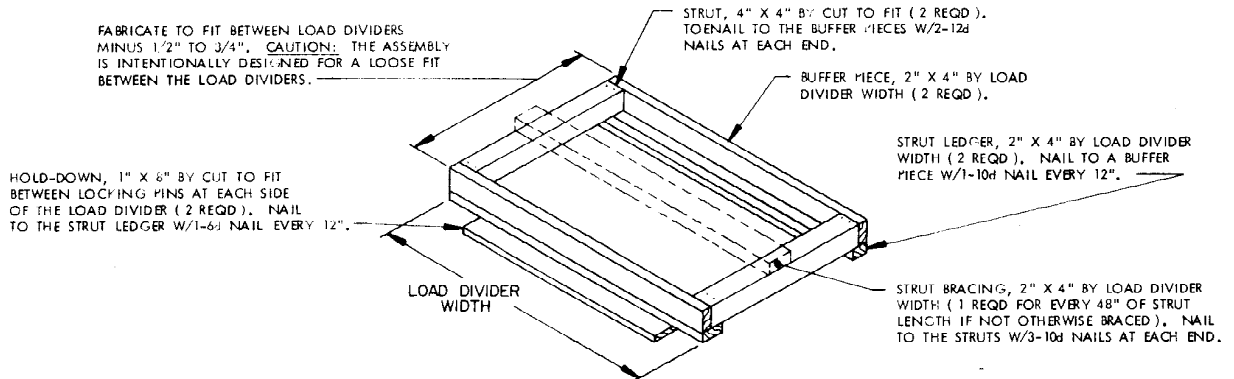
FOR CARS EQUIPPED WITH LOAD DIVIDERS (BULKHEADS).

- A. THE UNLOADING PROCEDURES SPECIFIED ON PAGES 20 THRU 23 ARE FOR CUSHIONED BOX CARS EQUIPPED WITH LOAD DIVIDERS (BULKHEADS). CAUTION: ONLY CARS EQUIPPED WITH LOAD DIVIDERS MANUFACTURED BY EVANS, EQUIPCO, OR PRECO MAY BE USED. LOAD DIVIDERS MANUFACTURED BY TRANSCO ARE NOT ACCEPTABLE, WHETHER OF ALUMINUM OR STEEL CONSTRUCTION. THE DEPICTED PROCEDURES ARE APPLICABLE FOR CARS OF VARIOUS LENGTHS AND WIDTHS. THE AAR MECHANICAL DESIGNATION CLASS FOR THESE CARS, AS IDENTIFIED IN THE "OFFICIAL RAILWAY EQUIPMENT REGISTER", WILL BE RBL, XI, OR XII.
- B. THE USE OF LOAD DIVIDER EQUIPPED CARS WILL ELIMINATE THE NEED FOR CENTER GATES, STRUTS, AND CENTER GATE RETAINERS, WHICH ARE REQUIRED IN CONVENTIONAL BOX CAR LOADS. THIS WILL ACCOUNT FOR A CONSIDERABLE SAVING IN MATERIAL AND LABOR COSTS. THEREFORE, EVERY EFFORT SHOULD BE MADE TO ACQUIRE CUSHIONED CARS EQUIPPED WITH LOAD DIVIDERS FOR SHIPMENT OF AMMUNITION ITEMS.
- C. LOAD DIVIDER CARS MAY BE EQUIPPED EITHER WITH CONVENTIONAL SLIDING DOORS OR WITH PLUG DOORS. CAUTION: DUNNAGE MATERIAL MUST NOT BE NAILED TO ANY PLUG DOOR, WHETHER AUXILIARY OR MAIN. ALSO, AFTER THE PLUG DOORS ON A CAR ARE CLOSED AND READY FOR THE INSTALLATION OF CAR SEALS, A PIECE OF WIRE OF SUITABLE SIZE WILL BE USED IN ADDITION TO, AND IN CONJUNCTION WITH, EACH CAR SEAL USED TO SEAL THE CAR. THE WIRE WILL BE THREADED THRU THE HOLES IN THE DOOR LATCH ASSEMBLY ONE OR MORE TIMES, AND THE WIRE ENDS WILL BE TWISTED TOGETHER.
- D. THE SELECTION OF RAIL CARS FOR THE TRANSPORT OF CNU-218/E CONTAINERS AND THEIR CONTENTS IS THE RESPONSIBILITY OF THE ORIGINATING CARRIER AND THE SHIPPER. ONLY CARS WHICH HAVE "SOUND" FLOORS AND ARE IN OTHERWISE PROPER CONDITION, IN ACCORDANCE WITH THE REQUIREMENTS OF THE APPLICABLE REGULATORY DOCUMENTS, WILL BE SELECTED. REFER TO GENERAL NOTE "E" ON PAGE 2 FOR ADDITIONAL REQUIREMENTS. NOTICE: ONLY CUSHIONED CARS THAT HAVE SLIDING CENTER SILL TYPE CUSHIONING DEVICES OR END-OF-CAR TYPE DEVICES WHICH HAVE AT LEAST FIFTEEN INCHES (15") OF TRAVEL ARE ACCEPTABLE.
- E. NAILING TO A CAR SIDEWALL IS NOT REQUIRED. THEREFORE, BOX CARS EQUIPPED WITH ADJUSTABLE SIDE FILLERS THAT HAVE 3/8" OR THICKER PANELS MAY BE USED. HOWEVER, THESE SIDE FILLERS MUST NOT BE USED FOR LATERAL BLOCKING; THEY MUST BE RETRACTED AND LOCKED AGAINST THE CAR SIDEWALL. A "FILL PIECE" MUST BE INSTALLED IN THE VOID BETWEEN THE CAR SIDEWALL AND THE SIDE FILLER PANEL. SEE THE "TYPICAL TYPE A" VIEW ON PAGE 19 FOR GUIDANCE. IF THE BACK OF THE SIDE FILLER PANELS ARE REINFORCED WITH VERTICAL AND HORIZONTAL STEEL MEMBERS AS SHOWN IN THE "TYPICAL TYPE B" VIEW ON PAGE 19, THE "FILL PIECE" MATERIAL IS NOT REQUIRED.
- F. NOTICE: AFTER THE LOAD DIVIDERS ARE POSITIONED AGAINST THE LADING, AND THE LOCKING PINS ARE ENGAGED IN THE HOLES OF THE RAILS, THE LOWER LOCKING PINS MUST BE INSPECTED TO ENSURE THAT THE PINS ARE FULLY ENGAGED IN THE LOCKING HOLES. IF THE PINS ARE NOT FULLY SEATED IN THE LOCKING HOLES, THE LINKAGE MECHANISM WILL BE ADJUSTED AS REQUIRED SO THAT THE PINS WILL BE FULLY SEATED INTO THE LOCKING HOLES OF THE LOWER RAILS. IF PRESENT, DEBRIS MUST BE REMOVED FROM BENEATH THE LOCKING HOLES WHICH HAVE BEEN SELECTED FOR SECURING LOAD DIVIDERS.
- G. A "STRUT ASSEMBLY" MUST BE INSTALLED BETWEEN THE LOAD DIVIDERS IF THE CAR CONTAINS CLASS A OR CLASS B EXPLOSIVES AND THE LOAD IN EITHER END OF THE CAR WEIGHS 50,000 POUNDS OR MORE. A STRUT ASSEMBLY IS NOT REQUIRED FOR LOADS OF CLASS C EXPLOSIVES. NOTE THAT THE STRUT ASSEMBLY MAY BE OMITTED FROM LOADS OF CLASS A OR B EXPLOSIVES WEIGHING 50,000 POUNDS WHEN THE LADING AND ADEQUATE BLOCKING AND BRACING ARE POSITIONED TO COMPLETELY FILL THE SPACE BETWEEN THE INSTALLED LOAD DIVIDERS. DETAILS OF STRUT ASSEMBLIES FOR USE BETWEEN 2-PIECE LOAD DIVIDERS AND BETWEEN 1-PIECE LOAD DIVIDERS ARE SHOWN ON PAGE 17. IN THE EVENT THAT A STRUT ASSEMBLY IS OF SUCH A LENGTH THAT THE 4" X 4" STRUTS OF THE ASSEMBLY ARE LONGER THAN 12'-0", A SPECIAL HOLD-DOWN ASSEMBLY MUST BE USED. SEE THE "STRUT ASSEMBLY HOLD-DOWN" DETAILS ON PAGE 18 FOR GUIDANCE.
- H. CAUTION: CARS EQUIPPED WITH LOAD DIVIDERS MUST NOT BE USED FOR SHIPMENT OF EXPLOSIVES SUCH AS DYNAMITE, TNT, BLACK POWDER, SMOKELESS POWDER (PROPELLANT EXPLOSIVES), TETRYL AND SIMILAR EXPLOSIVES (EXCEPT AS A COMPONENT PART OF AMMUNITION OR PROPELLING CHARGES) WHICH ARE LIABLE TO SIFT OR BECOME LODGED IN THE MECHANISM OF THE LOADING AND BRACING DEVICE IN THE EVENT OF A CONTAINER FAILURE.
- I. FOR ADDITIONAL GUIDANCE, ATTENTION IS DIRECTED TO THE "SPECIAL NOTES" SECTION IMMEDIATELY ADJACENT TO A DEPICTED UNLOADING METHOD.



INSTALLATION OF STRUT ASSEMBLY

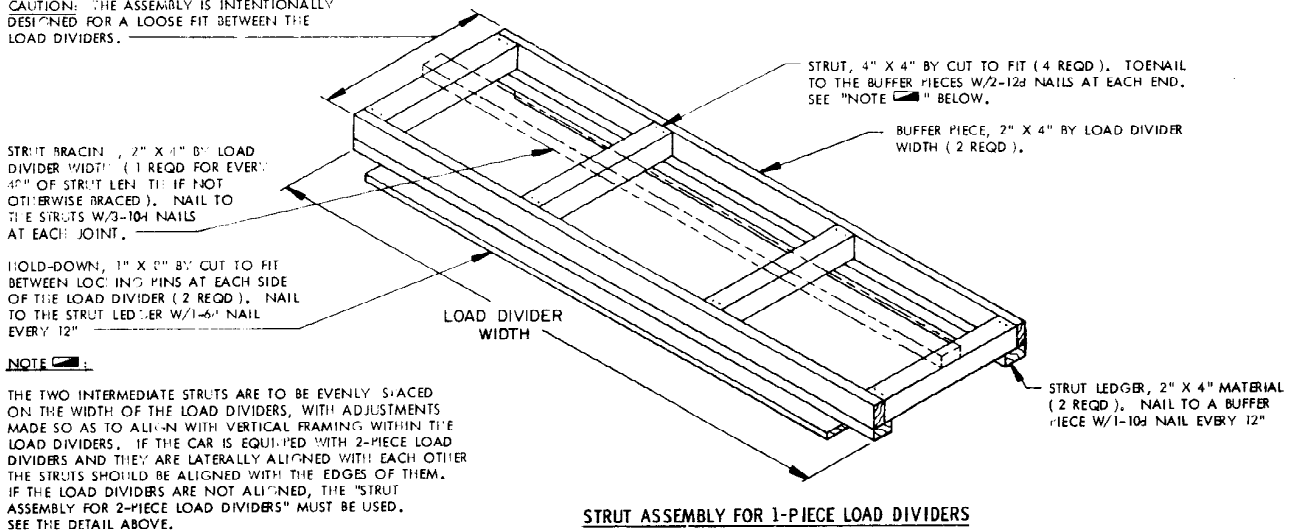
THIS VIEW SHOWS THE STRUT ASSEMBLY INSTALLED BETWEEN THE LOAD DIVIDERS (BULKHEADS). NOTE THE 1/2" TO 3/4" (TOTAL) SPACE INTENTIONALLY PROVIDED BETWEEN THE ASSEMBLY AND THE LOAD DIVIDERS.



STRUT ASSEMBLY FOR 2-PIECE LOAD DIVIDERS

A STRUT ASSEMBLY IS REQUIRED WHEN THE LOAD BEHIND EITHER LOAD DIVIDER EXCEEDS 50,000 POUNDS OF CLASS A OR CLASS B EXPLOSIVES. A STRUT ASSEMBLY IS NOT REQUIRED FOR LOADS OF CLASS C EXPLOSIVES, REGARDLESS OF THE WEIGHT OF THE LOAD. IF A STRUT ASSEMBLY IS LONGER THAN 12'-0", THE ASSEMBLY MUST BE HELD DOWN IN THE CENTER. SEE THE DETAILS ON PAGE 18 FOR GUIDANCE.

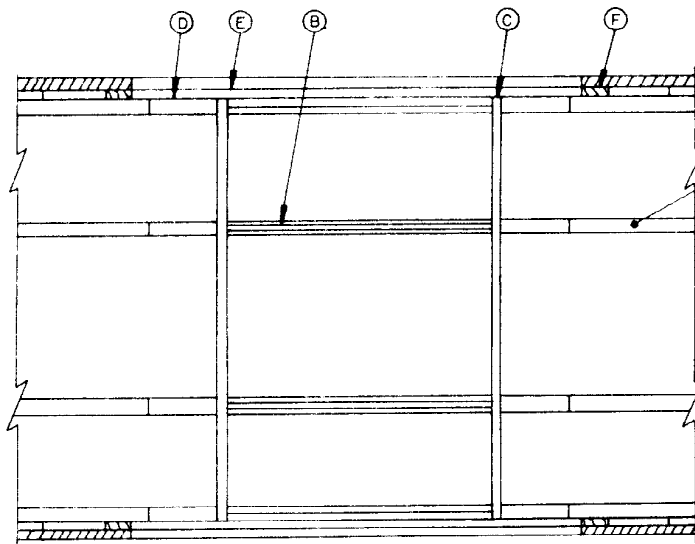
FABRICATE TO FIT BETWEEN LOAD DIVIDERS MINUS 1/2" TO 3/4". CAUTION: THE ASSEMBLY IS INTENTIONALLY DESIGNED FOR A LOOSE FIT BETWEEN THE LOAD DIVIDERS.



STRUT ASSEMBLY FOR 1-PIECE LOAD DIVIDERS

A STRUT ASSEMBLY IS REQUIRED WHEN THE LOAD BEHIND EITHER LOAD DIVIDER EXCEEDS 50,000 POUNDS OF CLASS A OR CLASS B EXPLOSIVES. A STRUT ASSEMBLY IS NOT REQUIRED FOR LOADS OF CLASS C EXPLOSIVES, REGARDLESS OF THE WEIGHT OF THE LOAD. IF A STRUT ASSEMBLY IS LONGER THAN 12'-0", THE ASSEMBLY MUST BE HELD DOWN IN THE CENTER. SEE THE DETAILS ON PAGE 18 FOR GUIDANCE.

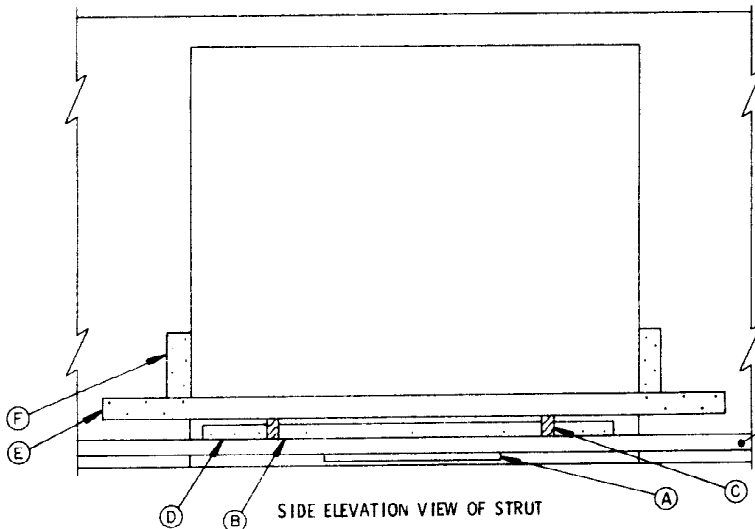
PROVISIONS FOR BOX CARS EQUIPPED WITH LOAD DIVIDERS (BULKHEADS)



INDICATES A 4" X 4" STRUT OF THE STRUT ASSEMBLY.

PLAN VIEW OF STRUT
ASSEMBLY HOLD DOWN

THIS PLAN VIEW AND THE SIDE ELEVATION VIEW BELOW DEPICT THE HOLD-DOWN BLOCKING WHICH IS REQUIRED WHEN THE STRUTS OF THE "STRUT ASSEMBLY" USED IN A LOAD DIVIDER CAR ARE LONGER THAN 12'-0". NOTE THAT THE SPECIAL STRUT HOLD-DOWN AND THE STRUT ASSEMBLY ARE ONLY REQUIRED IF THE LOAD BEHIND EITHER LOAD DIVIDER IS MORE THAN 50,000 POUNDS, AND ONLY FOR LOADS OF CLASS A OR CLASS B EXPLOSIVES.

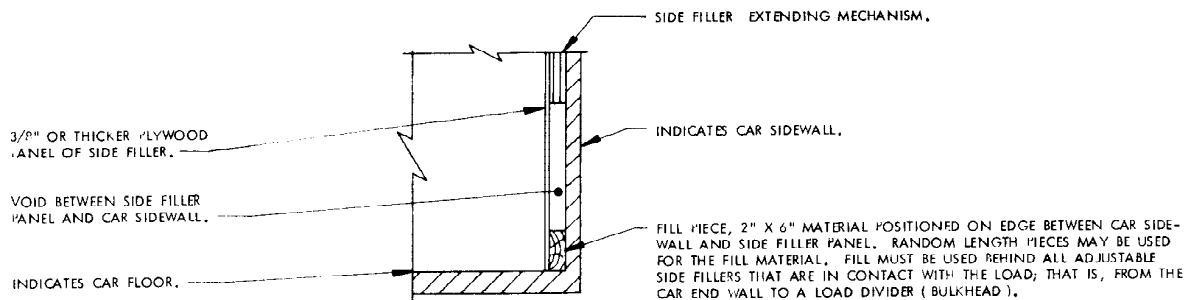


INDICATES A 4" X 4" STRUT OF THE STRUT ASSEMBLY.

SIDE ELEVATION VIEW OF STRUT
ASSEMBLY HOLD DOWN

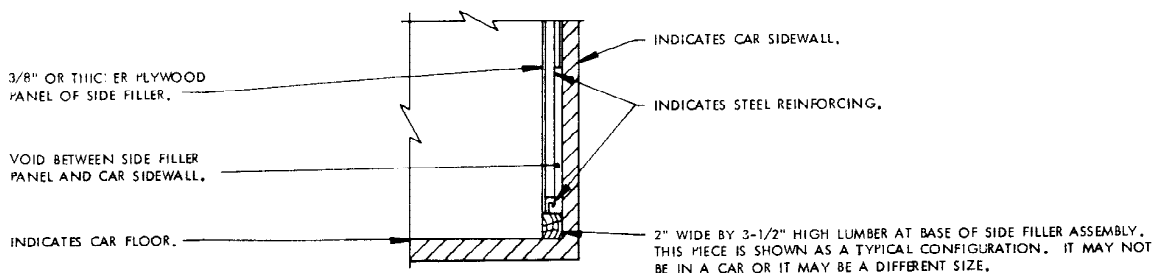
KEY LETTERS

- (A) FILLER PIECE, 2" X 4" X 48" (4 REQD), POSITION SO AS TO BE CENTERED IN THE DOORWAY AREA AND NAIL TO THE BOTTOM SURFACE OF A STRUT W/4-10d NAILS.
- (B) SPACER PIECE, 2" X 4" X 72" (4 REQD), POSITION ON EDGE AND SO AS TO BE CENTERED IN THE DOORWAY AREA AND TOENAIL TO A STRUT W/3-12d NAILS ON EACH SIDE.
- (C) HOLD-DOWN PIECE, 2" X 6" BY CAR WIDTH (CUT TO FIT IF THE CAR HAS PLUG DOORS, OR 2" X 6" BY CAR WIDTH PLUS 4" IF THE CAR HAS CONVENTIONAL SLIDING DOORS) (2 REQD), NAIL TO EACH PIECE MARKED (B) W/2-12d NAILS AND TOENAIL TO THE STRUTS W/2-12d NAILS AT EACH JOINT.
- (D) BRACE PIECE, 4" X 4" X 18" (8 REQD), POSITION AGAINST A PIECE MARKED (C) AND TOENAIL TO A STRUT W/3-12d NAILS ON EACH SIDE.
- (E) DOOR SWANNER PIECE, 2" X 6" BY DOOR OPENING WIDTH PLUS 48" (2 REQD), NAIL TO A CAR DOOR POST/SIDE WALL OR TO A NAILING STRIP W/5-12d NAILS AT EACH END. NOTE: PRIOR TO NAILING THESE PIECES IN PLACE, THE STRUTS OF THE STRUT ASSEMBLY ARE TO BE PRESSED DOWNWARD UNTIL THE PIECES MARKED (A) ARE TOUCHING OR ARE ALMOST TOUCHING THE FLOOR OF THE CAR.
- (F) HOLD-DOWN CLEAT, 2" X 4" X 18" (4 REQD), NAIL TO A CAR DOOR POST/SIDE WALL OR TO A NAILING STRIP W/5-12d NAILS.



TYPICAL TYPE A

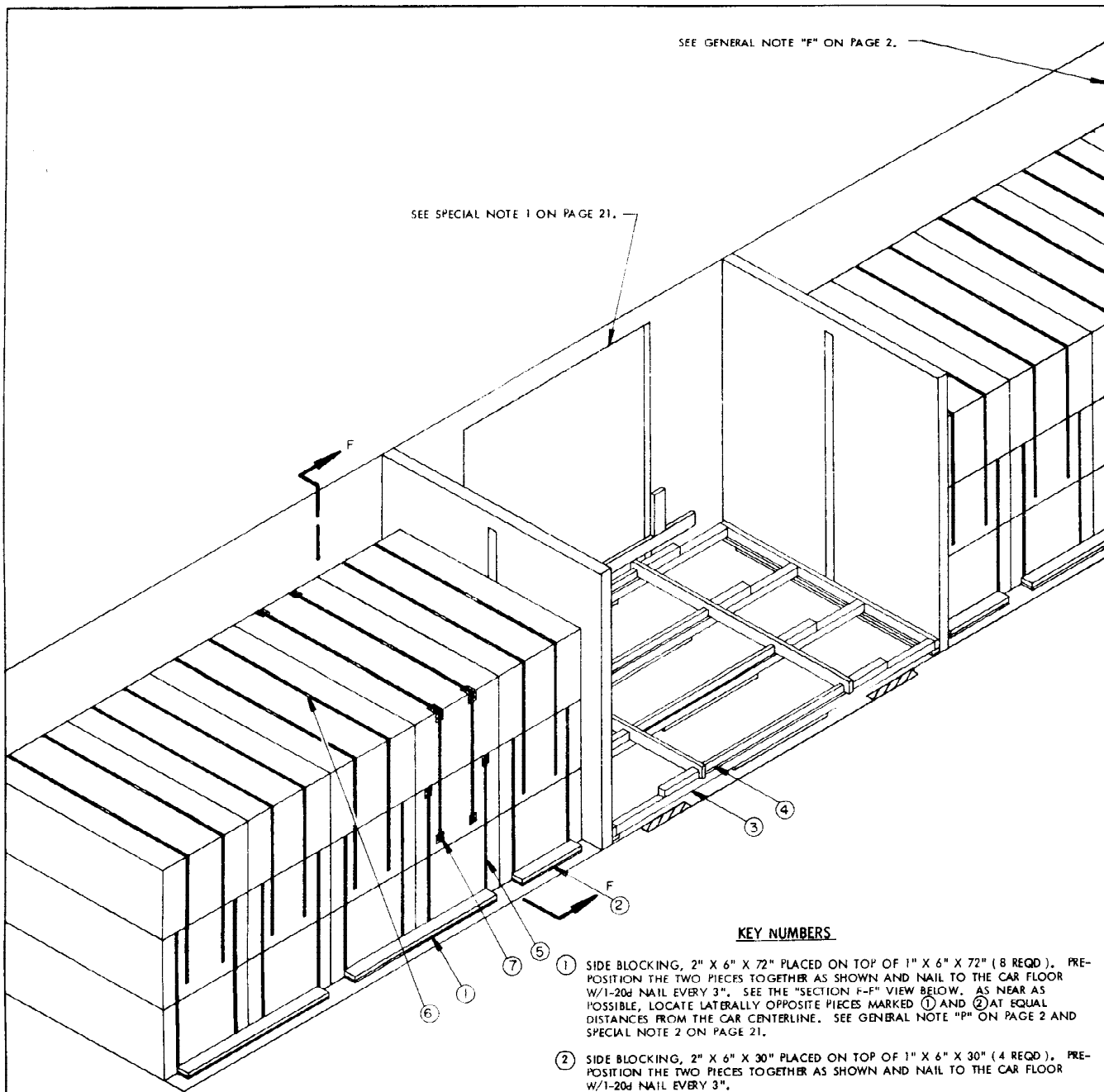
THIS VIEW SHOWS THE INSTALLATION OF A "FILL PIECE" IN A CAR EQUIPPED WITH A STANDARD ADJUSTABLE SIDE FILLER.



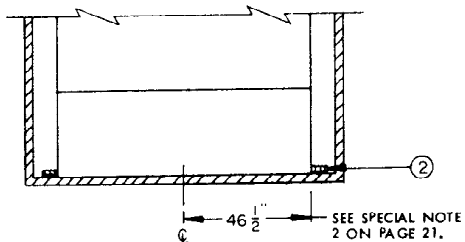
TYPICAL TYPE B

THIS VIEW SHOWS A TYPICAL SECTION OF A CAR EQUIPPED WITH HEAVY DUTY, STEEL REINFORCED, ADJUSTABLE SIDE FILLERS. A "FILL PIECE", AS SHOWN IN THE "TYPICAL TYPE A" DETAIL ABOVE, IS NOT REQUIRED IN CARS SO EQUIPPED.

SEE SPECIAL NOTE 1 ON PAGE 21.



ISOMETRIC VIEW



SECTION F-F

KEY NUMBERS

- ① SIDE BLOCKING, 2" X 6" X 72" PLACED ON TOP OF 1" X 6" X 72" (8 REQD). PRE-POSITION THE TWO PIECES TOGETHER AS SHOWN AND NAIL TO THE CAR FLOOR W/1-20d NAIL EVERY 3". SEE THE "SECTION F-F" VIEW BELOW. AS NEAR AS POSSIBLE, LOCATE LATERALLY OPPOSITE PIECES MARKED ① AND ② AT EQUAL DISTANCES FROM THE CAR CENTERLINE. SEE GENERAL NOTE "P" ON PAGE 2 AND SPECIAL NOTE 2 ON PAGE 21.
- ② SIDE BLOCKING, 2" X 6" X 30" PLACED ON TOP OF 1" X 6" X 30" (4 REQD). PRE-POSITION THE TWO PIECES TOGETHER AS SHOWN AND NAIL TO THE CAR FLOOR W/1-20d NAIL EVERY 3".
- ③ STRUT ASSEMBLY (1 REQD). SEE THE DETAILS ON PAGE 17. ALSO SEE GENERAL NOTE "G" ON PAGE 16.
- ④ STRUT ASSEMBLY HOLD-DOWN (1 REQD). SEE THE DETAILS ON PAGE 18. ALSO SEE GENERAL NOTE "G" ON PAGE 16.
- ⑤ UNITIZING STRAP, 1-1/4" X .035" X 27'-0" LONG STEEL STRAPPING (40 REQD, 4 PER STACK OF 3 CONTAINERS). SEE GENERAL NOTE "T" ON PAGE 2, THE "ADDITIONAL UNITIZATION DETAILS" ON PAGE 26, AND SPECIAL NOTE 2 ON PAGE 21.
- ⑥ SEAL FOR 1-1/4" STRAPPING (80 REQD; 2 PER STRAP). DOUBLE CRIMP EACH SEAL. SEE GENERAL NOTE "N" ON PAGE 2.
- ⑦ ANTI-CHAFING MATERIAL (AS REQD). APPLY BETWEEN STRAPPING AND CONTAINER AT EDGES. SEE THE "UNITIZATION AND HANDLING PROCEDURES" ON PAGE 3.

SPECIAL NOTES:

1. A 50'-6" LONG BY 9'-2" WIDE CUSHIONED BOX CAR EQUIPPED WITH LOAD DIVIDERS (BULKHEADS) AND 8'-0" WIDE THRU TYPE DOOR OPENINGS IS SHOWN. WIDER CARS OF OTHER LENGTHS (SIXTY FOOT CARS WILL NOT BE USED), AND/OR CARS WITH WIDER DOOR OPENINGS CAN BE USED. MINIMUM DOOR OPENING WIDTHS TO ALLOW LOADING ARE 8'-0" FOR THRU TYPE DOOR OPENINGS AND 10'-0" FOR STAGGERED TYPE DOOR OPENINGS.
2. PRE-POSITIONING AND NAILING OF THE SIDE BLOCKING PRIOR TO LOADING OF THE CONTAINERS IS RECOMMENDED FOR ALL LOCATIONS EXCEPT THOSE IN THE DOORWAY AREAS. ALSO, IT IS RECOMMENDED THAT THREADING OF THE 1-1/4" X .035" X 27'-0" STEEL STRAPPING THROUGH THE FORK TINE POCKETS OF THE BOTTOM AND MIDDLE CONTAINERS BE ACCOMPLISHED PRIOR TO LOADING. SEE THE "ADDITIONAL UNITIZATION DETAILS" ON PAGE 26.
3. THE STRUT ASSEMBLY, PIECE MARKED (1), IS REQUIRED IF THE LOAD IN EITHER END OF THE CAR EXCEEDS 90,000 POUNDS. THIS WOULD BE ELEVEN (11) OR MORE CONTAINERS WITH CONTENTS. NOTE THAT THE STRUT ASSEMBLY MAY BE OMITTED IF THE ENTIRE LOAD CONSISTS OF CLASS C EXPLOSIVES.
4. THE DEPICTED LOAD MAY BE INCREASED OR DECREASED TO SUIT THE QUANTITY OF CONTAINERS BEING SHIPPED, PROVIDED LOAD LIMITS ARE NOT EXCEEDED AND LOADING REQUIREMENTS AS SPECIFIED IN GENERAL NOTES "J" AND "K" ON PAGE 2 ARE MET. THE LOAD DIVIDERS (BULKHEADS) CAN BE POSITIONED NEARER TO OR FARTHER AWAY FROM THE CAR END WALLS, THEREBY DECREASING OR INCREASING THE NUMBER OF CONTAINERS BY MULTIPLES OF ONE (1), TWO (2) OR THREE (3), DEPENDING ON THE NUMBER OF LAYERS OF CONTAINERS. ALSO TO FACILITATE OTHER QUANTITIES WHICH CANNOT BE ACHIEVED BY MOVING THE LOAD DIVIDERS (BULKHEADS) AND/OR ELIMINATING AN ENTIRE LAYER OF CONTAINERS, FILLER ASSEMBLIES AS SHOWN ON PAGE 11 WILL BE USED. NOTE: AS MUCH AS POSSIBLE, LOADS SHOULD BE MADE WITH A MINIMUM USE OF FILLER ASSEMBLIES. SEE THE LOAD ON PAGE 22. CAUTION: RISER ASSEMBLIES AS SHOWN IN THE LOAD ON PAGE 8 WILL NOT BE USED IN LOADS IN CUSHIONED BOX CARS EQUIPPED WITH LOAD DIVIDERS (BULKHEADS).
5. TO LOAD THE CROSSWISE-POSITIONED CONTAINERS, ONE OF THE FOLLOWING METHODS, DEPENDING ON LOADING RESTRICTIONS AND THE MATERIAL HANDLING EQUIPMENT AVAILABLE, CAN BE USED. THE NORMAL METHOD IN WHICH A FORK-LIFT TRUCK IS USED TO LIFT AND CARRY THE CONTAINERS ONE AT A TIME USING THE CONTAINER FORK TINE POCKETS. THE TOP-HANDLING METHOD IN WHICH A FORKLIFT TRUCK IS USED TO LIFT AND CARRY THE CONTAINERS ONE AT A TIME USING SLINGS AND THE CONTAINER LIFT AND TIE DOWN POINTS OR END FORK TINE POCKETS. SEE SPECIAL NOTE 4 ON PAGE 24. IN THE ABOVE TWO METHODS THE FORKLIFT TRUCK CAN EITHER CARRY THE CONTAINER INTO THE CAR TO PLACE IT IN POSITION OR, IF MANEUVERING SPACE IS LIMITED OR A LOADING CONFIGURATION DICTATES, PLACE THE CONTAINER IN POSITION FROM A LOCATION PARTIALLY OR TOTALLY OUTSIDE OF THE CAR. ONE OTHER METHOD, THE CONVEYOR METHOD, CAN BE USED TO LOAD CROSSWISE-POSITIONED CONTAINERS WHICH WILL OCCUPY FLOOR SPACE DIRECTLY ADJACENT TO THE CAR DOOR OPENING. SEE SPECIAL NOTES 1 THRU 3 ON PAGE 24 AND THE FIGURES ON PAGE 25. NOTE: TO USE THE CONVEYOR METHOD TO LOAD CROSSWISE-POSITIONED CONTAINERS, THE FLOOR SPACE TO BE OCCUPIED BY THE CONTAINERS MUST BE DIRECTLY ADJACENT TO THE CAR DOOR OPENING ON THE LOADING SIDE OF THE CAR.

BILL OF MATERIAL		
LUMBER	LINEAR FEET	BOARD FEET
1" X 6"	58	29
1" X 8"	17	11
2" X 4"	77	51
2" X 6"	107	107
4" X 4"	67	89
NAILS	NO. REQD	POUNDS
6d (2")	16	1/4
10d (3")	34	3/4
12d (3-1/4")	160	2-3/4
20d (4")	232	8-1/2
STEEL STRAPPING, 1-1/4" X .035" -----	1080' REQD -----	154 LBS
SEAL FOR 1-1/4" X .035" STRAPPING ---	80 REQD ----	5 LBS
ANTI-CHAFING MATERIAL -----	AS REQD ----	NIL

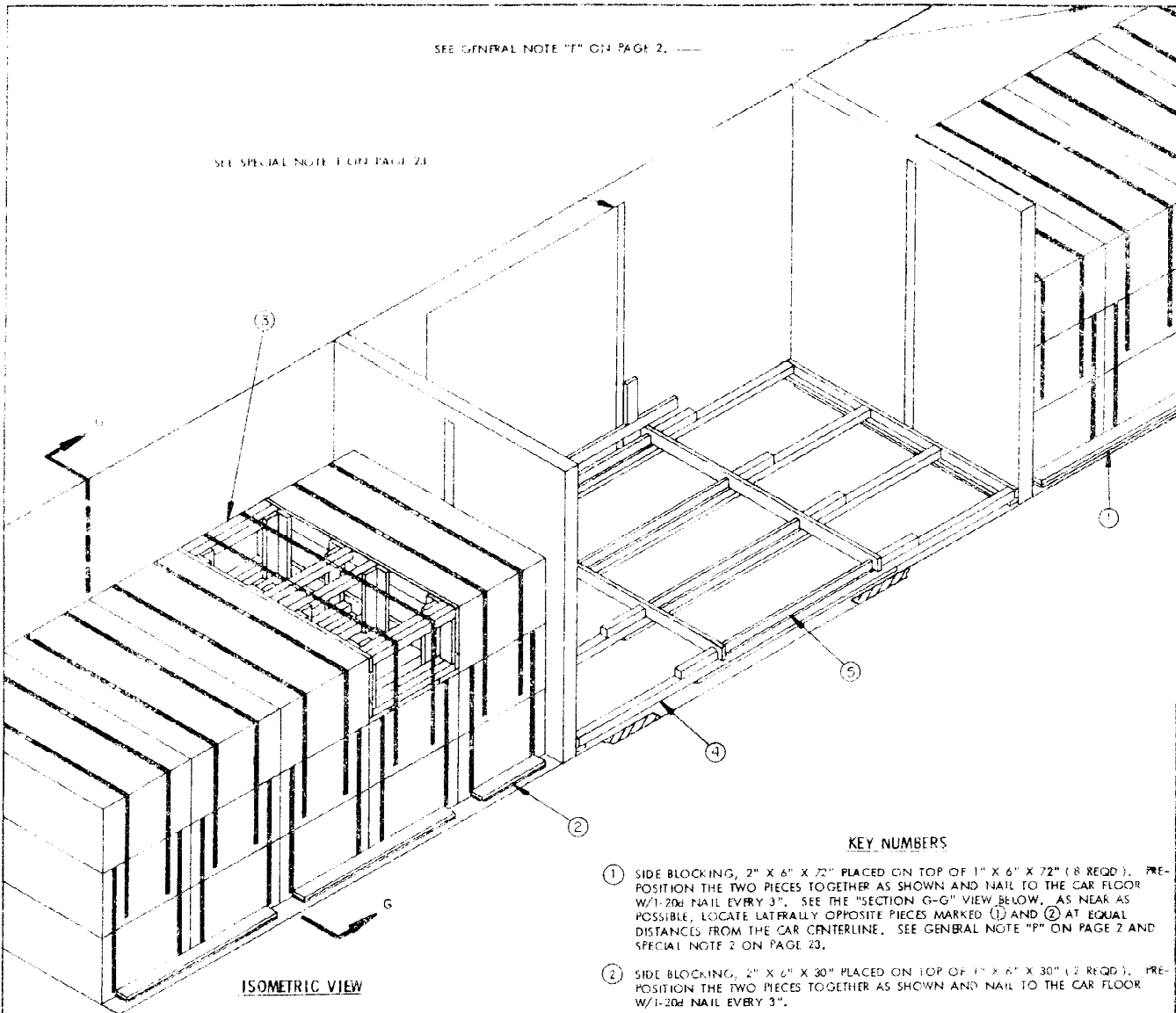
LOAD AS SHOWN

ITEM	QUANTITY	WEIGHT (APPROX)
CNU-218/E CONTAINER		
(W/CBU ITEM) -----	30 -----	144,510 LBS
DUNNAGE -----		889 LBS
TOTAL WEIGHT -----		145,399 LBS

30-UNIT LOAD IN A 50'-6" LONG BY 9'-2" WIDE BOX CAR EQUIPPED WITH LOAD DIVIDERS (BULKHEADS)

SEE GENERAL NOTE "F" ON PAGE 2.

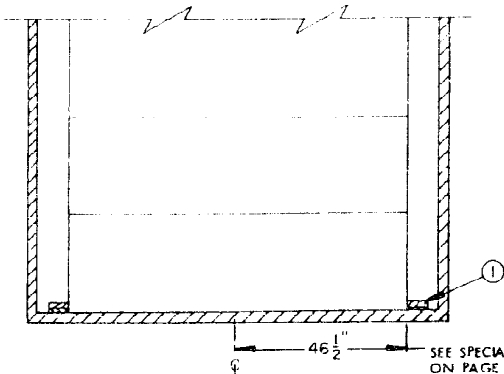
SEE SPECIAL NOTE 1 ON PAGE 23.



ISOMETRIC VIEW

KEY NUMBERS

- ① SIDE BLOCKING, 2" X 6" X 72" PLACED ON TOP OF 1" X 6" X 72" (8 REQD). PRE-POSITION THE TWO PIECES TOGETHER AS SHOWN AND NAIL TO THE CAR FLOOR W/1-20d NAIL EVERY 3". SEE THE "SECTION G-G" VIEW BELOW. AS NEAR AS POSSIBLE, LOCATE LATERALLY OPPOSITE PIECES MARKED ① AND ② AT EQUAL DISTANCES FROM THE CAR CENTERLINE. SEE GENERAL NOTE "P" ON PAGE 2 AND SPECIAL NOTE 2 ON PAGE 23.
- ② SIDE BLOCKING, 2" X 6" X 30" PLACED ON TOP OF 1" X 6" X 30" (2 REQD). PRE-POSITION THE TWO PIECES TOGETHER AS SHOWN AND NAIL TO THE CAR FLOOR W/1-20d NAIL EVERY 3".
- ③ FILLER ASSEMBLY (1 REQD). SEE THE DETAIL ON PAGE 11 AND SPECIAL NOTE 4 ON PAGE 23.
- ④ STRUT ASSEMBLY (1 REQD). SEE THE DETAILS ON PAGE 17. ALSO SEE GENERAL NOTE "G" ON PAGE 16.
- ⑤ STRUT ASSEMBLY HOLD DOWN (1 REQD). SEE THE DETAILS ON PAGE 18. ALSO SEE GENERAL NOTE "G" ON PAGE 16.



SECTION G-G

SEE SPECIAL NOTE 2 ON PAGE 23.

SPECIAL NOTES:

1. A 50'-6" LONG BY 9'-2" WIDE CUSHIONED BOX CAR EQUIPPED WITH LOAD DIVIDERS (BULKHEADS) AND 8'-0" WIDE THRU TYPE DOOR OPENINGS IS SHOWN. WIDER CARS OF OTHER LENGTHS (SIXTY FOOT CARS WILL NOT BE USED), AND/OR CARS WITH WIDER DOOR OPENINGS CAN BE USED. MINIMUM DOOR OPENING WIDTHS TO ALLOW LOADING ARE 8'-0" FOR THRU TYPE DOOR OPENINGS AND 10'-0" FOR STAGGERED TYPE DOOR OPENINGS.
2. PRE-POSITIONING AND NAILING OF THE SIDE BLOCKING PRIOR TO LOADING OF THE CONTAINERS IS RECOMMENDED FOR ALL LOCATIONS EXCEPT THOSE IN THE DOORWAY AREAS. ALSO, IT IS RECOMMENDED THAT THREADING OF THE 1-1/4" X .035" X 27'-0" LONG STEEL STRAPPING THROUGH THE FORK TINE POCKETS OF THE BOTTOM AND MIDDLE CONTAINERS BE ACCOMPLISHED PRIOR TO LOADING. SEE THE "ADDITIONAL UNITIZATION DETAILS" ON PAGE 26.
3. THE STRUT ASSEMBLY, PIECE MARKED (4), IS REQUIRED IF THE LOAD IN EITHER END OF THE CAR EXCEEDS 50,000 POUNDS. THIS WOULD BE ELEVEN (11) OR MORE CONTAINERS WITH CONTENTS. NOTE THAT THE STRUT ASSEMBLY MAY BE OMITTED IF THE ENTIRE LOAD CONSISTS OF CLASS C EXPLOSIVES.
4. THE DEPICTED LOAD MAY BE INCREASED OR DECREASED TO SUIT THE QUANTITY OF CONTAINERS BEING SHIPPED, PROVIDED LOAD LIMITS ARE NOT EXCEEDED AND LOADING REQUIREMENTS AS SPECIFIED IN GENERAL NOTES "J" AND "K" ON PAGE 2 ARE MET. THE LOAD DIVIDERS (BULKHEADS) CAN BE POSITIONED NEARER TO OR FARTHER AWAY FROM THE CAR END WALLS, THEREBY DECREASING OR INCREASING THE NUMBER OF CONTAINERS BY MULTIPLES OF ONE (1), TWO (2) OR THREE (3), DEPENDING ON THE NUMBER OF LAYERS OF CONTAINERS. THE DEPICTED LOAD SHOWS THE MAXIMUM LENGTH STRUT ASSEMBLY AND STRUT ASSEMBLY HOLD-DOWN WHICH WILL BE USED. TO FACILITATE OTHER QUANTITIES WHICH CANNOT BE ACHIEVED BY MOVING THE LOAD DIVIDERS (BULKHEADS) AND/OR ELIMINATING A LAYER OF CONTAINERS, FILLER ASSEMBLIES AS SHOWN ON PAGE 11 WILL BE USED. NOTE: AS MUCH AS POSSIBLE, LOADS SHOULD BE MADE WITH A MINIMUM USE OF FILLER ASSEMBLIES. THE 26-UNIT LOAD SHOWN ON PAGE 22 IS A TYPICAL LOAD WHICH REQUIRES THE USE OF A FILLER ASSEMBLY. NOT ALL LOADS IN LOAD DIVIDER EQUIPPED CUSHIONED BOX CARS WILL REQUIRE FILLER ASSEMBLIES. CAUTION: RISER ASSEMBLIES AS SHOWN IN THE LOAD ON PAGE 8 WILL NOT BE USED IN LOADS IN CUSHIONED BOX CARS EQUIPPED WITH LOAD DIVIDERS (BULKHEADS).
5. TO LOAD CROSSWISE-POSITIONED CONTAINERS, ONE OF THE FOLLOWING METHODS, DEPENDING ON LOADING RESTRICTIONS AND THE MATERIAL HANDLING EQUIPMENT AVAILABLE, CAN BE USED. THE NORMAL METHOD IN WHICH A FORKLIFT TRUCK IS USED TO LIFT AND CARRY THE CONTAINERS ONE AT A TIME USING THE CONTAINER SIDE FORK TINE POCKETS. THE TOP-HANDLING METHOD IN WHICH A FORKLIFT TRUCK IS USED TO LIFT AND CARRY THE CONTAINERS ONE AT A TIME USING SLINGS AND THE CONTAINER LIFT AND TIE DOWN POINTS OR END FORK TINE POCKETS. SEE SPECIAL NOTE 4 ON PAGE 24. IN THE ABOVE TWO METHODS THE FORKLIFT TRUCK CAN EITHER CARRY THE CONTAINER INTO THE CAR TO PLACE IT IN POSITION OR, IF MANEUVERING SPACE IS LIMITED OR A LOADING CONFIGURATION DICTATES, PLACE THE CONTAINER IN POSITION FROM A LOCATION PARTIALLY OR TOTALLY OUTSIDE OF THE CAR. ONE OTHER METHOD, THE CONVEYOR METHOD, CAN BE USED TO LOAD CROSSWISE-POSITIONED CONTAINERS WHICH WILL OCCUPY FLOOR SPACE DIRECTLY ADJACENT TO THE CAR DOOR OPENING. SEE SPECIAL NOTES 1 THRU 3 ON PAGE 24 AND THE FIGURES ON PAGE 25. NOTE: TO USE THE CONVEYOR METHOD TO LOAD CROSSWISE-POSITIONED CONTAINERS, THE FLOOR SPACE TO BE OCCUPIED BY THE CONTAINERS MUST BE DIRECTLY ADJACENT TO THE CAR DOOR OPENING ON THE LOADING SIDE OF THE CAR.

BILL OF MATERIAL		
LUMBER	LINEAR FEET	BOARD FEET
1" X 6"	53	27
1" X 8"	17	11
2" X 4"	78	52
2" X 6"	189	189
4" X 4"	121	161
NAILS	NO. REQD	POUNDS
6d (2")	16	1/4
10d (3")	140	2-1/4
12d (3-1/4")	160	2-3/4
16d (3-1/2")	48	1-1/4
20d (4")	212	7-3/4
STEEL STRAPPING, 1-1/4" X .035" --- 972' REQD ---- 138 LBS		
SEALS FOR 1-1/4" STRAPPING ----- 72 REQD ---- 4 LBS		
ANTI-CHAFING MATERIAL ----- AS REQD ---- NIL		

LOAD AS SHOWN

ITEM	QUANTITY	WEIGHT (APPROX)
CNU-218/E CONTAINER		
(W/CBU ITEM) -----	26 -----	125,242 LBS
DUNNAGE -----		1,256 LBS
TOTAL WEIGHT -----		126,498 LBS

SPECIAL NOTES:

(FOR CONVEYOR METHOD OF LOADING CNU-218/E CONTAINERS INTO BOX CARS REFER TO SPECIAL NOTES 1 THRU 3 BELOW AND FIGURES 1 THRU 6 ON PAGE 25. FOR THE ALTERNATE TOP-HANDLING METHOD, REFER TO SPECIAL NOTE 4 BELOW.)

1. PURPOSE: THE MAIN PURPOSE OF THE CONVEYOR METHOD OF LOADING CNU-218/E CONTAINERS INTO BOX CARS IS TO ENABLE THE LAST STACK OF TWO CROSSWISE-POSITIONED CNU-218/E CONTAINERS TO BE LOADED INTO A 50'-6" BOX CAR FOR A 28-CONTAINER LOAD, AND/OR INTO A 40'-6" BOX CAR FOR A 22-CONTAINER LOAD WHEN A FORKLIFT TRUCK HAVING AT LEAST A 7500-POUND LOAD RATING IS NOT AVAILABLE FOR END-HANDLING OF THE CONTAINERS. SEE PAGES 4 AND 12, RESPECTIVELY. DUE TO THE LIMITED MANEUVERING SPACE AVAILABLE INSIDE THE BOX CAR, THESE CONTAINER STACKS CANNOT BE PLACED INSIDE THE BOX CAR BY DRIVING THE FORKLIFT TRUCK INTO THE BOX CAR, AS IS DONE WHEN LOADING ALL OTHER CROSSWISE-LOADED CONTAINERS. THEY CAN BE LOADED USING THE CONVEYOR METHOD AFTER ALL OTHER CROSSWISE-POSITIONED CONTAINER STACKS ARE IN PLACE. THE CONVEYOR METHOD CAN ALSO BE USED IN ANY OTHER SITUATION WHERE IT IS APPLICABLE.

2. EQUIPMENT AND MATERIAL REQUIRED:

- A. FORKLEIFT 6,000-POUND CAPACITY MINIMUM
- B. CONVEYORS 2 CONVEYORS, ROLLER, ABOVE RAIL, GRAVITY, STRAIGHT, 18 INCHES OVERALL WIDTH BY APPROXIMATELY 72 INCHES LONG, 2-1/2" OD ROLLERS, 4-INCH X 5.4 POUNDS PER FOOT CHANNEL SIDE RAILS, 500 POUNDS PER FOOT CAPACITY MINIMUM, FSC 2910, OTHER CONVEYORS OF EQUAL FUNCTIONAL CAPABILITY MAY BE USED.
- C. LUMBER
 1" X 6" X 9" BOARD, AS REQUIRED
 1" X 6" X 48" BOARD, AS REQUIRED
 2" X 6" X 9" BOARD, AS REQUIRED
 2" X 6" X 48" BOARD, AS REQUIRED
 2" X 6" X LENGTH AS REQUIRED PLANKS, AS REQUIRED
 4" X 4" X 48" BLOCK, AS REQUIRED
 4" X 6" X 9" BLOCK, AS REQUIRED

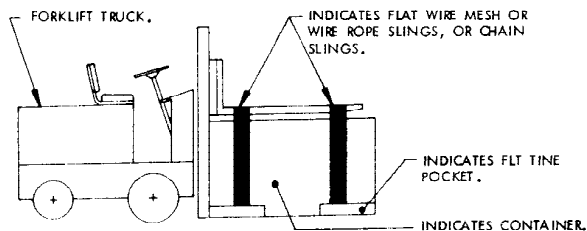
3. OPERATING PROCEDURES:

- A. PRE-POSITION THE CONVEYORS SIDE BY SIDE NEAR THE EDGE OF THE LOADING DOCK WITH A SPACE BETWEEN THE CONVEYORS TO GET AN OUTSIDE TO OUTSIDE DIMENSION OF 42" ACROSS THE CONVEYORS. DETERMINE IF 2" X 6" BY LENGTH AS REQUIRED PLANKS ARE REQUIRED ON THE FLOOR OF THE BOX CAR OR ON THE LOADING DOCK. THE PURPOSE OF THE PLANKS IS TO PROVIDE A LEVEL ROLLING SURFACE FROM THE DOCK ONTO THE BOX CAR FLOOR. IF THE DOCK IS APPROXIMATELY LEVEL WITH THE BOX CAR FLOOR, NO PLANKS WILL BE REQUIRED. IF NOT, PRE-POSITION TWO SETS OF PLANKS ON THE BOX CAR FLOOR OR ON THE LOADING DOCK, WHICHEVER IS LOWER. EACH SET WILL CONSIST OF TWO STACKS OF PLANKS SIDE BY SIDE IN CONTACT. THE TOPS OF THE PLANK STACKS WILL BE APPROXIMATELY LEVEL WITH THE BOX CAR FLOOR OR THE LOADING DOCK, WHICHEVER IS HIGHER. A PLANK STACK SET WILL BE CENTERED IN LINE WITH EACH PRE-POSITIONED CONVEYOR IF IT IS ON THE BOX CAR FLOOR, OR UNDER EACH PRE-POSITIONED CONVEYOR IF IT IS ON THE LOADING DOCK. THE PLANKS WILL BE OF A LENGTH TO CONTACT THE SIDE OF THE DOCK OR THE SIDE OF THE BOX CAR ON ONE END. IF THE DOCK IS HIGHER, PLANK LENGTH WILL ALSO ALLOW FOR PLACEMENT OF THE END BLOCKING BETWEEN THE BOTTOM CNU-218/E CONTAINER OF THE CONTAINER STACK AND THE BOX CAR FLOOR WHEN THE CONTAINER STACK IS APPROXIMATELY CENTERED CROSSWISE IN THE BOX CAR.
- B. REFER TO FIGURE 1 ON PAGE 25. LOAD THE CNU-218/E CONTAINERS ONTO THE CONVEYORS ONE AT A TIME USING THE SIDE FORK TINE POCKETS. THE CONTAINER ENDS FARTHEST AWAY FROM THE BOX CAR WILL BE FLUSH WITH THE ENDS OF THE CONVEYORS AT THAT END, THUS PROVIDING AN OVERHANG OF THE CONTAINERS OVER THE CONVEYORS AT THE OTHER END. UNITIZE THE CONTAINER STACK LENGTHWISE WITH STEEL STRAPPING. SEE THE "UNITIZATION AND HANDLING PROCEDURES" ON PAGE 3. PUSH THE CONTAINER STACK AND CONVEYOR ASSEMBLY INTO THE BOX CAR WITH A 6,000 POUND MINIMUM FORKLIFT TRUCK BY USING THE END FORK TINE POCKETS OF THE BOTTOM CONTAINER. MAKE SURE THAT THE CONVEYORS REMAIN IN PLACE UNDER THE CONTAINER STACK AND THAT THE PLANKS, IF USED, REMAIN IN PLACE UNDER THE CONVEYORS, SO THAT THE ENTIRE ASSEMBLY GOES INTO THE BOX CAR STRAIGHT. ALSO MAKE SURE, AS NEARLY AS POSSIBLE, TO CENTER THE CONTAINER STACK CROSSWISE IN THE BOX CAR BEFORE CONTINUING ON WITH THIS PROCEDURE.
- C. REFER TO FIGURE 2 ON PAGE 25. PLACE 2" X 6" X 48" AND 1" X 6" X 48" BOARDS, AS REQUIRED, IN A STACK UNDER THE END OF THE CONTAINER STACK FARTHEST AWAY FROM THE FORKLIFT TRUCK TO FORM END BLOCKING (CRIBBING). THE TOP OF THE END BLOCKING WILL COME AS CLOSE AS POSSIBLE TO THE BOTTOM OF THE CONTAINER STACK. LIFT THE END OF THE CONTAINER STACK WITH THE FORKLIFT TRUCK SO IT IS SUPPORTED ON ONE END BY THE FORKLIFT TRUCK AND ON THE OTHER END BY THE END BLOCKING. THE CONTAINER STACK WILL BE END-LIFTED UNTIL IT IS CLEAR OF THE CONVEYORS.

(CONTINUED AT RIGHT)

(SPECIAL NOTES CONTINUED)

- D. REFER TO FIGURE 3 ON PAGE 25. STACK 4" X 6" X 9", 2" X 6" X 9" AND 1" X 6" X 9" BOARDS AS REQUIRED UNDER THE CENTER OF THE LIFTED END OF THE CONTAINER STACK TO FORM SAFETY BLOCKING. THE SAFETY BLOCKING MUST BE OF SUFFICIENT HEIGHT TO ALLOW FOR CLEARANCE BETWEEN THE BOTTOM OF THE CONTAINER STACK AND THE CONVEYORS WHEN THE CONTAINER STACK RESTS ON IT. LOWER THE END OF THE CONTAINER STACK ONTO THE SAFETY BLOCKING. MAKE SURE THE CONTAINER STACK IS STABLE AND REMOVE THE FORKLIFT TRUCK. THE CONVEYORS AND THE PLANKS IF USED, CAN THEN SAFELY BE PULLED OUT FROM UNDER THE CONTAINER STACK AT THE FORKLIFT TRUCK END. PLACE 2" X 6" X 48" BOARDS AND 4" X 4" X 48" BLOCKS AS REQUIRED IN A STACK UNDER THE CONTAINER STACK TO FORM CENTER BLOCKING. CENTER BLOCKING SHOULD BE SLIGHTLY OFF CENTER AWAY FROM THE FORKLIFT TRUCK END OF THE CONTAINER STACK.
- E. REFER TO FIGURE 4 ON PAGE 25. WITH THE FORKLIFT TRUCK, LIFT THE END OF THE CONTAINER STACK AND REMOVE THE SAFETY BLOCKING. LOWER THE END OF THE CONTAINER STACK UNTIL THE CONTAINER STACK ROCKS ON THE CENTER BLOCKING AND UNTIL THE OTHER END OF THE CONTAINER STACK CLEARS THE END BLOCKING.
- F. REFER TO FIGURE 5 ON PAGE 25. REMOVE THE END BLOCKING. LIFT THE END OF THE CONTAINER STACK UNTIL THE OTHER END OF THE CONTAINER STACK IS RESTING ON THE BOX CAR FLOOR AND THE CENTER OF THE CONTAINER STACK CLEARS THE CENTER BLOCKING.
- G. REFER TO FIGURE 6 ON PAGE 25. REMOVE THE CENTER BLOCKING. LOWER THE END OF THE CONTAINER STACK ONTO THE BOX CAR FLOOR. TO MORE CLOSELY CENTER THE CONTAINER STACK IN THE BOX CAR, SLIGHTLY END-LIFT AND PUSH OR PULL IT WITH THE FORKLIFT TRUCK. REMOVE THE FORKLIFT TRUCK.
- H. TO MOVE THE CONTAINER STACK UP SNUGLY AGAINST THE ADJACENT CROSSWISE-POSITIONED CONTAINER STACK, THE ENDS OF IT CAN BE SLID INTO PLACE BY BUMPING WITH THE REAR OF THE FORKLIFT TRUCK, USING A 2" X 6" BOARD OF SUFFICIENT HEIGHT AS A PAD.
4. IN THE TOP-HANDLING METHOD A CONTAINER IS LIFTED BY A FORKLIFT TRUCK, THRU THE USE OF WIRE MESH, WIRE ROPE, OR CHAIN SLINGS BETWEEN THE CONTAINER LIFT AND TIE DOWN POINTS, OR THE END FORKLIFT TRUCK TINE POCKETS AND THE FORK TINES, WHICH ARE IN AN ABOVE-THE-CONTAINER POSITION. THE TOP-HANDLING METHOD OF LOADING CONTAINERS CAN BE USED TO LOAD CONTAINERS IN ANY SITUATION, PROVIDING MANEUVERING AND OVERHEAD CLEARANCES ARE ADEQUATE. INCLUDED ARE THOSE SITUATIONS WHICH WOULD OTHERWISE REQUIRE THE USE OF THE CONVEYOR METHOD AS NOTED IN SPECIAL NOTE 1 ON THIS PAGE. IN THE SITUATIONS NOTED IN SPECIAL NOTE 1, THE FORK TINES ARE ABOVE THE CONTAINER AND NEED NOT BE WITHDRAWN FROM THE CONTAINER FORK TINE POCKETS UPON CONTAINER PLACEMENT, AS IS NORMALLY DONE. NOTE: CARE MUST BE TAKEN TO ASSURE THAT OVERHEAD CLEARANCE INSIDE THE BOX CAR IS ADEQUATE.



METHOD FOR TOP-HANDLING OF CONTAINER

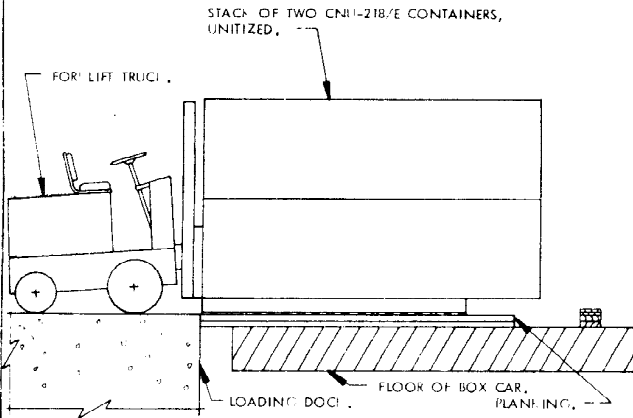


FIGURE 1

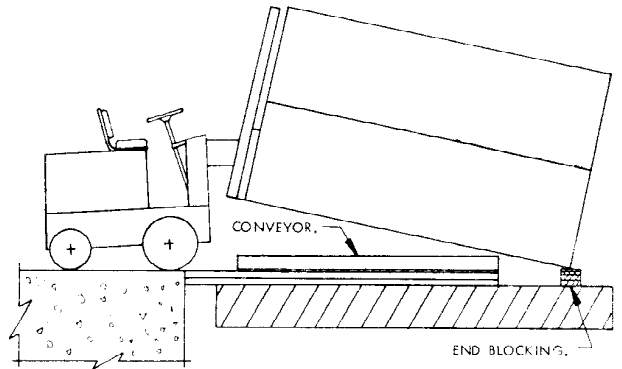


FIGURE 2

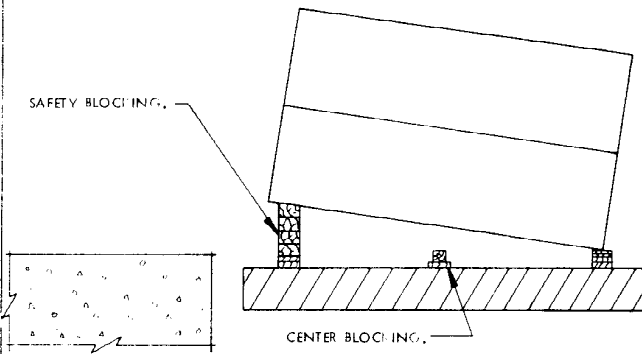


FIGURE 3

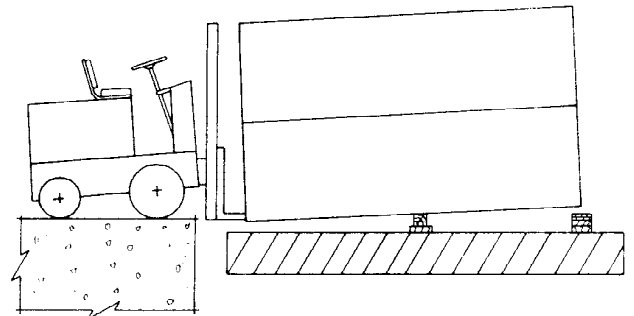


FIGURE 4

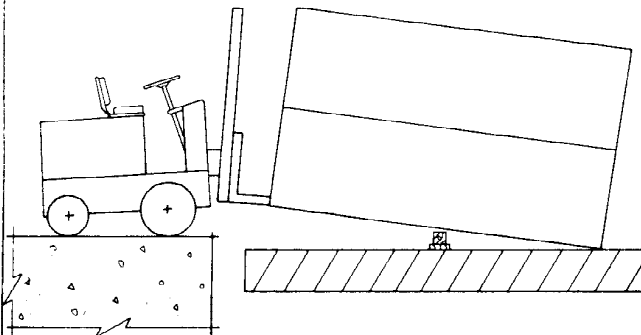


FIGURE 5

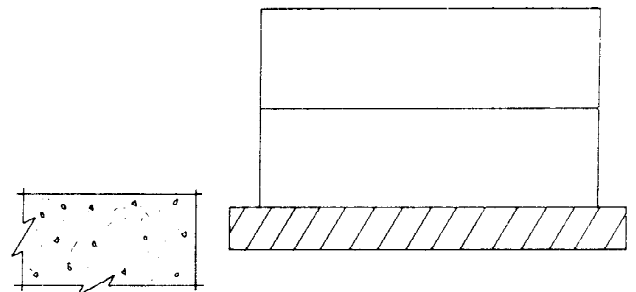
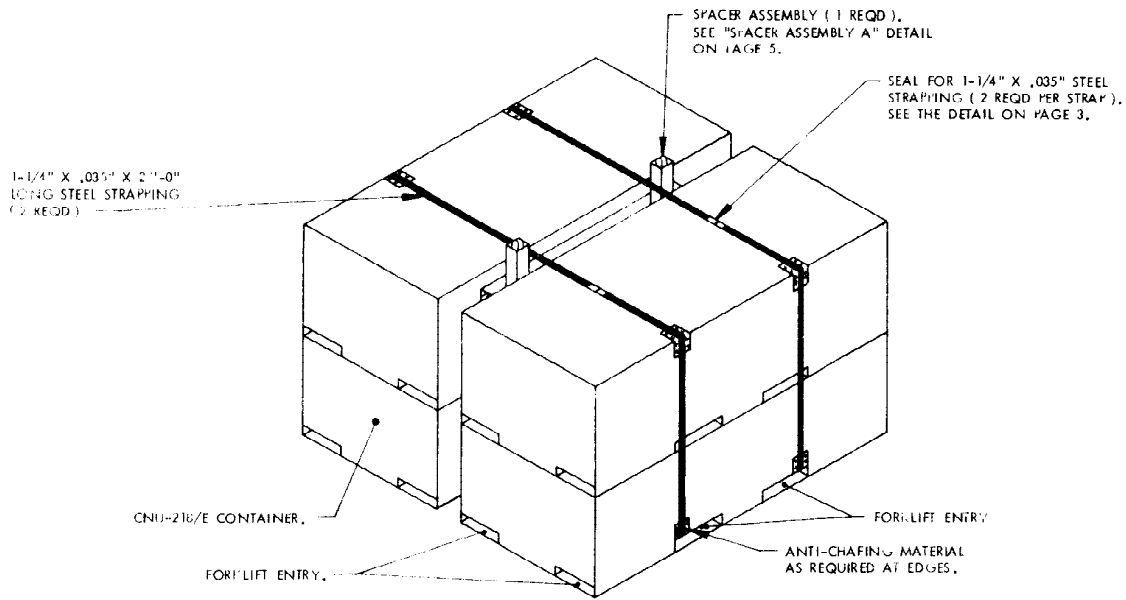
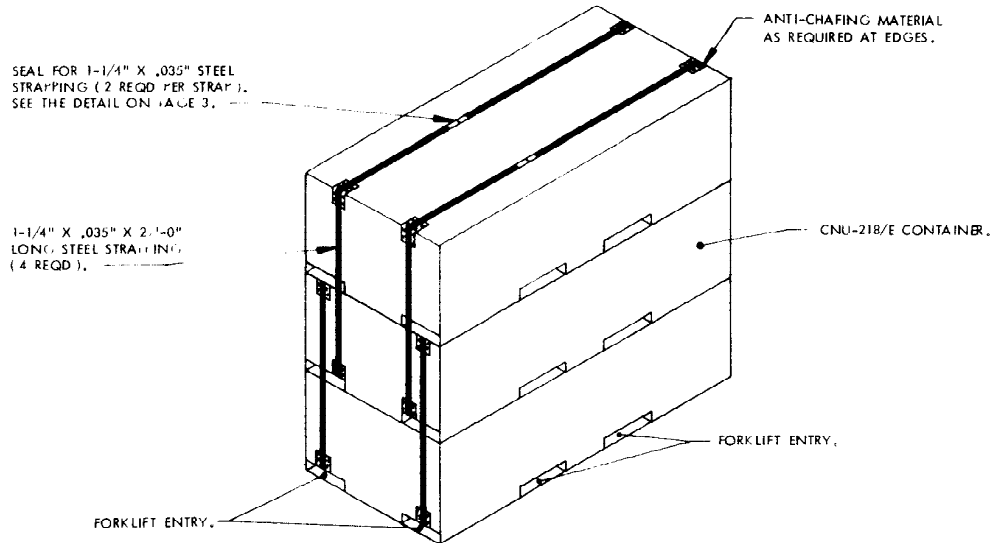


FIGURE 6

SEE THE SPECIAL NOTES ON PAGE 24 FOR PROCEDURAL GUIDANCE.



UNITIZATION DETAIL FOR LENGTHWISE-LOADED STACKS



UNITIZATION DETAIL FOR THREE-CONTAINER-HIGH, CROSSWISE-LOADED STACK

SPECIAL NOTES:

1. WHEN LOADING THE THREE (3) HIGH STACK, THE BOTTOM TWO CONTAINERS MUST BE UNITIZED WITH TWO (2) 1-1/4" X .035" X 27'-0" STEEL STRAPS WHICH ARE SEALED WITH TWO (2) DOUBLE CRIMPED SEALS EACH ON TOP OF THE MIDDLE CONTAINER BEFORE THE TOP CONTAINER CAN BE LOADED AND UNITIZED TO THE MIDDLE CONTAINER.

ADDITIONAL UNITIZATION DETAILS