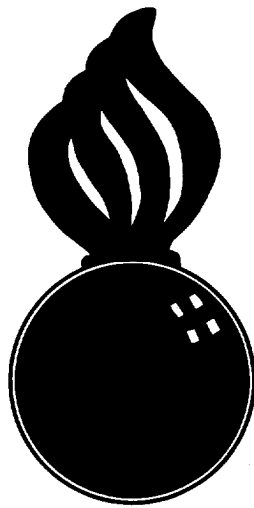


APPROVED
 BUREAU OF EXPLOSIVES
L. F. Brassmuck
 MILITARY ASSISTANT
 DATE 5/22/63



LOADING & BRACING (TL & LTL) IN CLOSED OR OPEN TOP VAN TRAILERS OF CBU ITEMS PACKED IN XM468 CONTAINER

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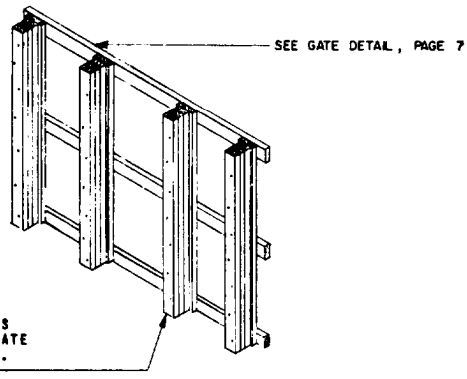
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LOADING & BRACING (TL & LTL) IN CLOSED OR OPEN TOP VAN TRAILERS OF CBU ITEMS PACKED IN XM468 CONTAINER			
DRAFTSMAN JDS	TRACER	ENGINEER DIW	SUBMITTED <i>Outman</i>
CHECKER GWP	CHECKER	ENGINEER	COMMANDER, SAVANNA ARMY DEPOT
REVISIONS			EXAMINED <i>R. E. Orbaugh</i>
			AMMUNITION PROCUREMENT & SUPPLY AGENCY
			APPROVED BY ORDER OF COMMANDER, ARMY MATERIEL COMMAND <i>Jenkins Col. Jenkins</i>
			ARMY SUPPLY & MAINTENANCE COMMAND
			MATERIEL COMMAND U.S.A.
			23 JULY 1963
		CLASS	DIVISION
		DRAWING	FILE
		19	48 7030 SPIIM2

DO NOT SCALE

GENERAL NOTES

- A. LOADS AS SHOWN ARE BASED ON VAN, CLOSED OR OPEN TOP, TRAILERS 40'-0" LONG x 7'-9" WIDE (INSIDE DIMENSIONS) AND 30'-0" LONG x 7'-6" WIDE (INSIDE DIMENSIONS) WITH WOOD, WOOD AND METAL, OR METAL FLOOR. NOTE: OPEN TOP EQUIPMENT IS PREFERRED, FOR EASY LOADING AND/OR UNLOADING. SEE GENERAL NOTE "B". MINIMUM LENGTH TRAILERS WHICH CAN BE UTILIZED TO TRANSPORT LOADS AS SHOWN ON PAGES 3 AND 4 ARE 38'-0" AND 24'-0", RESPECTIVELY. SEE "TYPICAL SOLID FILL BLOCKING" DETAIL BELOW.
- B. GROSS WEIGHT AND AXLE DISTRIBUTION OF WEIGHT AND OVERALL LENGTH OF VEHICLE WILL COMPLY WITH THE PERTINENT LAWS OF ALL STATES THROUGH WHICH SHIPMENT WILL PASS (CARRIERS' RESPONSIBILITY).
- C. DETAIL OF XM468 CONTAINER:
CONTAINER DIMENSIONS - 136" LONG x 30" (-) WIDE x 28-1/2" HIGH.
GROSS WEIGHT - 1,282 POUNDS (APPROX).
- D. STEEL STRAPPING, 1-1/4" x .035", WILL BE USED TO UNITIZE CONTAINERS AS SHOWN. IF THE CAPACITY OF THE MHE PERMITS, IT IS RECOMMENDED THAT CONTAINERS BE UNITIZED PRIOR TO PLACEMENT IN TRAILER. SEE GENERAL NOTE "B".
- E. ALL 1-1/4" STRAPPING WILL BE SEALED WITH TWO (2) SEALS AND TWO (2) CRIMPS PER SEAL.
- F. H.E. ITEM IS AN ICC CLASS "A" EXPLOSIVE. PROCEDURES SHOWN HEREIN ARE ALSO APPLICABLE FOR THE SHIPMENT OF XM468 CONTAINERS WITH INERT LOADED, EMPTY OR PRACTICE CBU ITEMS, AND OF EMPTY CONTAINERS.
- G. **CAUTION:** WHEN A UNITIZED STACK OF THREE (3) CONTAINERS IS HANDLED FROM ABOVE WITH A SPREADER-BAR/SLING ASSEMBLY THE LIFTING SLING(S) MUST ENCOMPASS AT LEAST THE TOP TWO CONTAINERS; FLAT REINFORCED PLIABLE COMPOSITION SLINGS ARE RECOMMENDED AND SHOULD BE PLACED THROUGH THE STACK TO CONTACT THE BOTTOM SURFACE OF THE SECOND LAYER CONTAINER SKIDS WHEN LIFTING.



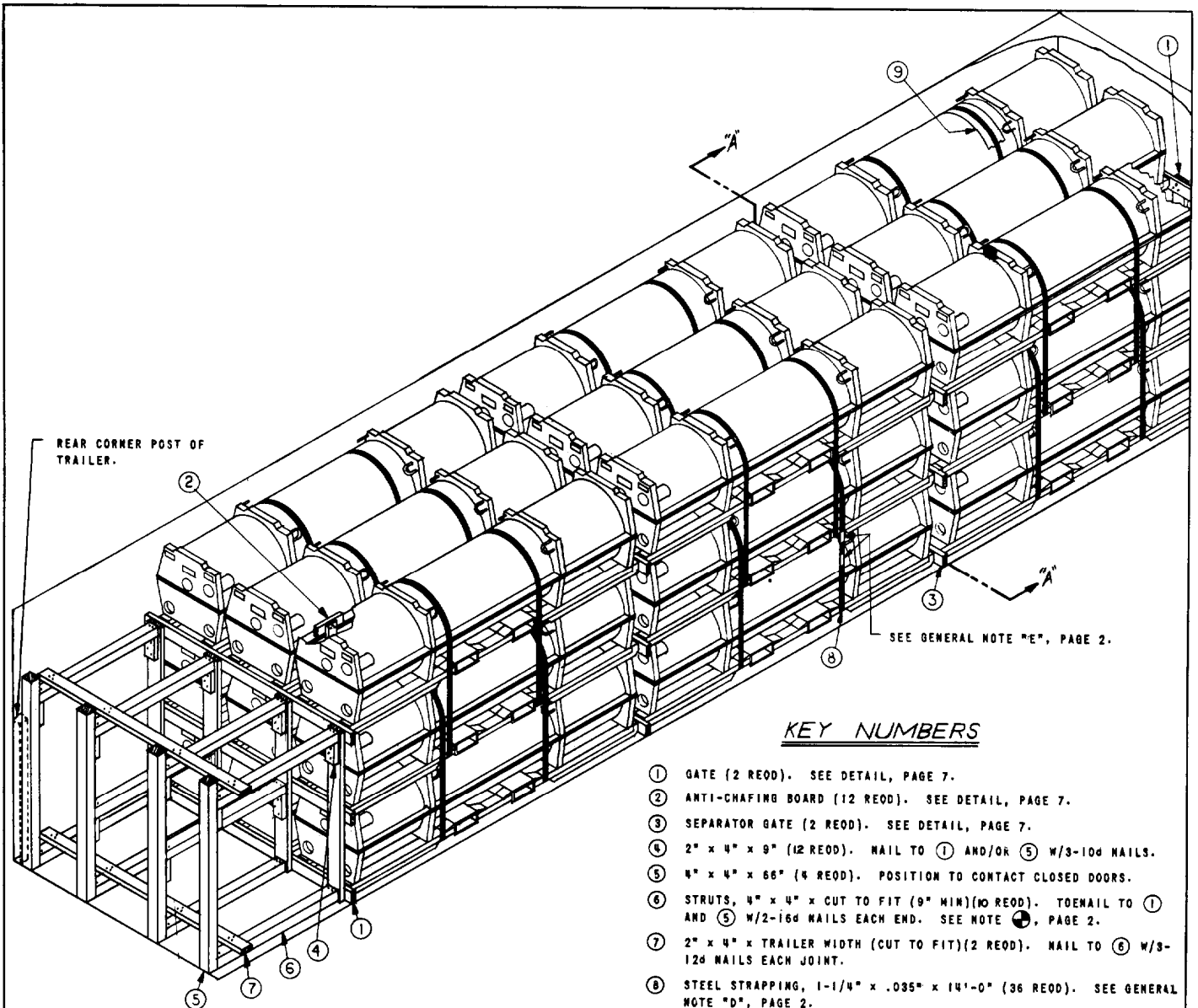
TYPICAL SOLID FILL BLOCKING

MATERIAL SPECIFICATIONS

LUMBER: SEE ORDM 3-4.
 NAILS: COMMON, CEMENT COATED, FED SPEC FF-N-105.
 ALT: ANNULAR-RING TYPE NAIL OF SAME SIZE.
 STRAPPING, STEEL: TYPE I, CLASS "A" OR "C", FED SPEC 00-S-781.

NOTE (C) :

WHEN SPACE AT REAR OF TRAILER IS LESS THAN 16" DELETE 4" x 4" UPRIGHTS AND USE SOLID FILL, 4" WIDE MATERIAL x THICKNESS REQUIRED TO CONTACT DOORS WHEN CLOSED. NAIL TO GATE UPRIGHTS AND/OR SELF W/10d NAILS. SEE DETAIL, ABOVE.



REAR CORNER POST OF TRAILER.

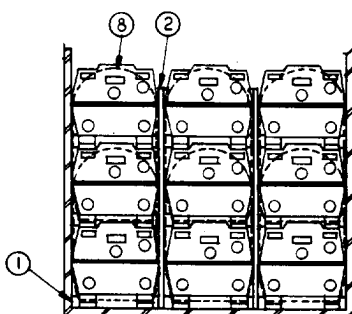
SEE GENERAL NOTE "E", PAGE 2.

ISOMETRIC VIEW

40'-0" LONG x 7'-9" WIDE TRAILER WITH WOOD, WOOD AND METAL OR METAL FLOOR

KEY NUMBERS

- ① GATE (2 REOD). SEE DETAIL, PAGE 7.
- ② ANTI-CHAFING BOARD (12 REOD). SEE DETAIL, PAGE 7.
- ③ SEPARATOR GATE (2 REOD). SEE DETAIL, PAGE 7.
- ④ 2" x 4" x 9" (12 REOD). NAIL TO ① AND/OR ⑤ W/3-10d NAILS.
- ⑤ 4" x 4" x 66" (4 REOD). POSITION TO CONTACT CLOSED DOORS.
- ⑥ STRUTS, 4" x 4" x CUT TO FIT (9" MIN)(NO REOD). TOENAIL TO ① AND ⑤ W/2-16d NAILS EACH END. SEE NOTE "C", PAGE 2.
- ⑦ 2" x 4" x TRAILER WIDTH (CUT TO FIT)(2 REOD). NAIL TO ⑥ W/3-12d NAILS EACH JOINT.
- ⑧ STEEL STRAPPING, 1-1/4" x .035" x 14'-0" (36 REOD). SEE GENERAL NOTE "D", PAGE 2.
- ⑨ ANTI-CHAFING, NEUTRAL BARRIER MATERIAL. PLACE UNDER ALL STRAPPING AT ALL POINTS OF CONTACT WITH CONTAINER.

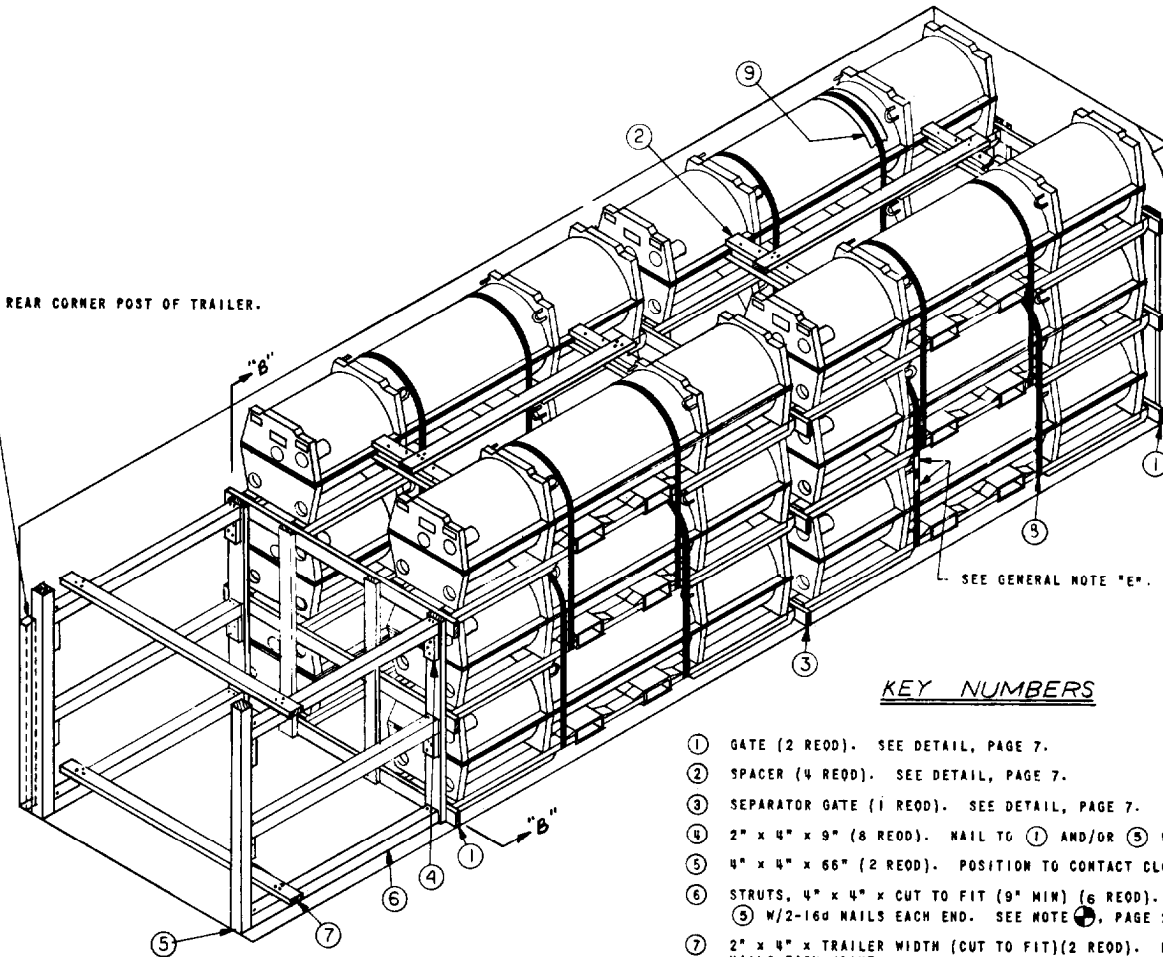


SECTION "A-A"

BILL OF MATERIAL		
LUMBER	LINEAL FEET	BOARD FEET
1" x 4"	101	34
2" x 4"	130	87
2" x 6"	39	39
4" x 4"	72	96
NAILS	NO. REOD	POUNDS
6d (2")	90	1/2
10d (3")	105	1-3/4
12d (3 1/2")	24	1/2
16d (3 1/2")	42	1
STRAPPING, STEEL, 1-1/4" x .035" - 504' REOD -72 LBS		
ANTI-CHAFING MATERIAL - AS REOD		

LOAD AS SHOWN

ITEM	QUANTITY	WEIGHT
CONTAINERS, XM468	27	34,614 LBS(APPROX)
DUNNAGE		715 LBS
TOTAL WEIGHT		35,329 LBS(APPROX)



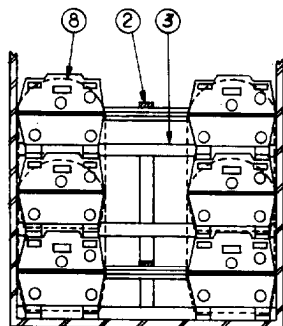
SEE GENERAL NOTE "E", PAGE 2.

KEY NUMBERS

- ① GATE (2 REOD). SEE DETAIL, PAGE 7.
- ② SPACER (4 REOD). SEE DETAIL, PAGE 7.
- ③ SEPARATOR GATE (1 REOD). SEE DETAIL, PAGE 7.
- ④ 2" x 4" x 9" (8 REOD). NAIL TO ① AND/OR ⑤ W/3-10d NAILS.
- ⑤ 4" x 4" x 66" (2 REOD). POSITION TO CONTACT CLOSED DOORS.
- ⑥ STRUTS, 4" x 4" x CUT TO FIT (9" MIN) (6 REOD). TOENAIL TO ① AND ⑤ W/2-16d NAILS EACH END. SEE NOTE "C", PAGE 2.
- ⑦ 2" x 4" x TRAILER WIDTH (CUT TO FIT)(2 REOD). NAIL TO ⑥ W/3-12d NAILS EACH JOINT.
- ⑧ STEEL STRAPPING, 1-1/4" x .035" x 14'-0" (16 REOD). SEE GENERAL NOTE "D", PAGE 2.
- ⑨ ANTI-CHAFING, NEUTRAL BARRIER MATERIAL. PLACE UNDER ALL STRAPPING AT ALL POINTS OF CONTACT WITH CONTAINER.

ISOMETRIC VIEW

30'-0" LONG x 7'-6" WIDE TRAILER WITH WOOD, WOOD AND METAL OR METAL FLOOR.



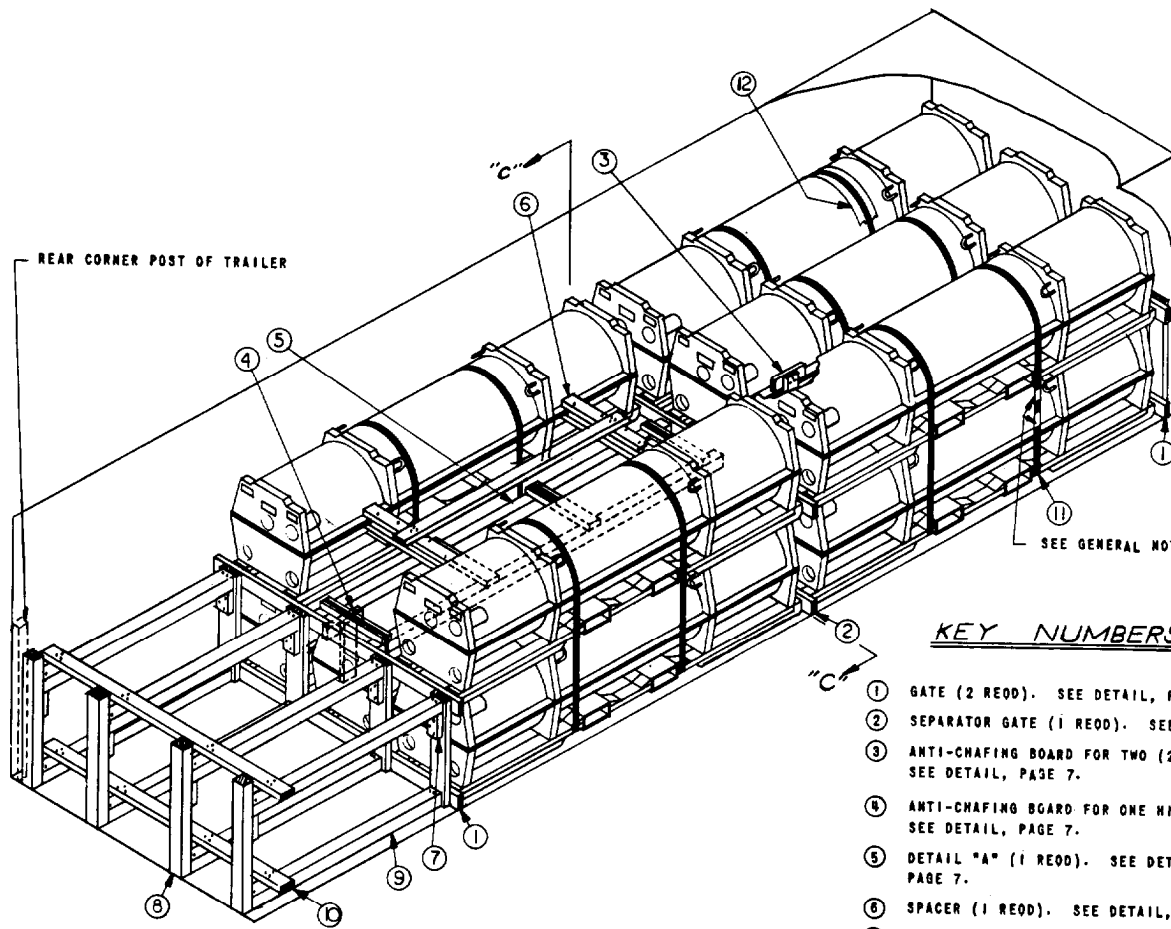
SECTION "B-B"

BILL OF MATERIAL

LUMBER	LINEAL FEET	BOARD FEET
1" x 4"	15	5
2" x 4"	184	123
2" x 6"	39	39
4" x 4"	50	67
NAILS		
	NO. REOD	POUNDS
6d (2")	27	1/4
10d (3")	200	3
12d (3 1/2")	12	1/4
16d (3 1/2")	24	1/2
STRAPPING, STEEL, 1-1/4" x .035" - 22d REOD - 32 LBS		
ANTI-CHAFING MATERIAL - AS REOD		

LOAD AS SHOWN

ITEM	QUANTITY	WEIGHT
CONTAINER, XM468	12	15,384 LBS (APPROX)
DUNNAGE		681 LBS
TOTAL WEIGHT		16,065 LBS (APPROX)



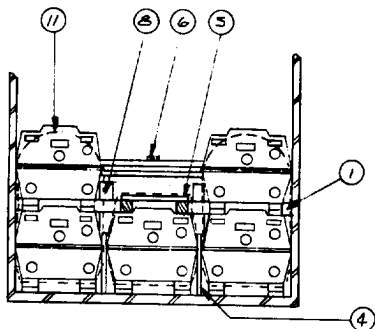
SEE GENERAL NOTE "E", PAGE 2.

KEY NUMBERS (LTL)

- ① GATE (2 REED). SEE DETAIL, PAGE 7.
- ② SEPARATOR GATE (1 REED). SEE DETAIL, PAGE 7.
- ③ ANTI-CHAFING BOARD FOR TWO (2) HIGH STACKS (4 REED). SEE DETAIL, PAGE 7.
- ④ ANTI-CHAFING BOARD FOR ONE HIGH STACK (4 REED). SEE DETAIL, PAGE 7.
- ⑤ DETAIL "A" (1 REED). SEE DETAIL AND NOTE ●, PAGE 7.
- ⑥ SPACER (1 REED). SEE DETAIL, PAGE 7.
- ⑦ 2" x 4" x 9" (8 REED). NAIL TO ① AND ⑧ W/3-10d NAILS.
- ⑧ 4" x 4" x 39" (4 REED). POSITION TO CONTACT CLOSED DOORS.
- ⑨ STRUTS, 4" x 4" x CUT TO FIT (9" MIN) (8 REED). TO NAIL TO ① AND ⑧ W/2-16d NAILS EACH END. SEE NOTE ●, PAGE 2.
- ⑩ 2" x 4" x TRAILER WIDTH (CUT TO FIT) (2 REED). NAIL TO ③ W/3-12d NAILS EACH JOINT.
- ⑪ STEEL STRAPPING, 1-1/4" x .035" x 14'-0" (10 REED). SEE GENERAL NOTE "D", PAGE 2.
- ⑫ ANTI-CHAFING, NEUTRAL BARRIER MATERIAL. PLACE UNDER ALL STRAPPING AT ALL POINTS OF CONTACT WITH CONTAINER.

TYPICAL LTL

30'-0" LONG x 7'-9" WIDE TRAILER WITH WOOD, WOOD AND METAL OR METAL FLOOR.

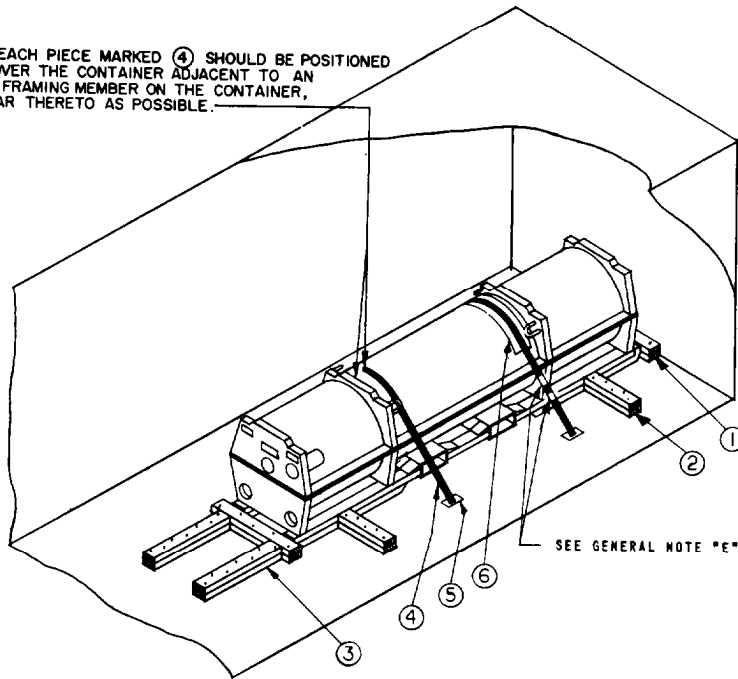


SECTION "C-C"

NOTE

SEE PAGE 8 FOR TYPICAL LTL BLOCKING IN TRAILER WITH WOOD AND/OR METAL FLOOR.

CAUTION: EACH PIECE MARKED ④ SHOULD BE POSITIONED TO PASS OVER THE CONTAINER ADJACENT TO AN EXTERIOR FRAMING MEMBER ON THE CONTAINER, OR AS NEAR THERETO AS POSSIBLE.



TYPICAL LTL

TRAILER WITH WOOD OR WOOD AND METAL FLOOR ONLY

KEY NUMBERS (LTL)

- ① 2" x 4" x 32" (DOUBLED)(2 REOD). POSITION FORWARD PC ① DIRECTLY AGAINST FRONT WALL OF TRAILER. NAIL FIRST PIECE TO TRAILER FLOOR W/5-12d NAILS. NAIL SECOND PIECE TO FIRST IN LIKE MANNER. SEE NOTE ⊗.
- ② 2" x 4" x 18" (DOUBLED)(4 REOD). NAIL FIRST PIECE TO TRAILER FLOOR W/5-12d NAILS. NAIL SECOND PIECE TO FIRST IN LIKE MANNER.
- ③ 2" x 4" x 30" (DOUBLED)(2 REOD). ALIGN WITH CONTAINER SKIDS. NAIL FIRST PIECE TO TRAILER FLOOR W/7-12d NAILS. NAIL SECOND PIECE TO FIRST IN LIKE MANNER.
- ④ STEEL STRAPPING, 1-1/4" x .035" x 10'-0" (2 REOD).
- ⑤ STRAP ANCHOR PLATE (4 REOD). NAIL TO TRAILER FLOOR W/6-NO. 27 RING LOCK NAILS.
- ⑥ ANTI-CHAFING, NEUTRAL BARRIER MATERIAL. PLACE UNDER ALL STRAPPING AT ALL POINTS OF CONTACT WITH CONTAINER.

2" x 6" x CUT TO FIT. (DOUBLED)(4 REOD). POSITION AGAINST STRONG POINTS OF TRAILER FRONT WALL. LAMINATE W/5-12d NAILS.

2" x 4" x CUT TO FIT (1 REOD). NAIL W/3-12d NAILS EACH JOINT.

2" x 4" x TRAILER WIDTH (CUT TO FIT). (DOUBLED). LAMINATE W/1-12d NAIL EVERY 12".

TOENAIL W/2-12d NAILS EACH JOINT.

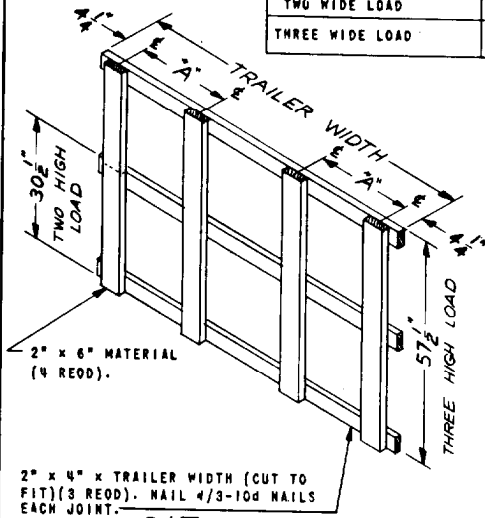
FORWARD BLOCKING

FOR ONE HIGH AND MORE THAN ONE WIDE LOAD IN ROUND FRONT TRAILERS.

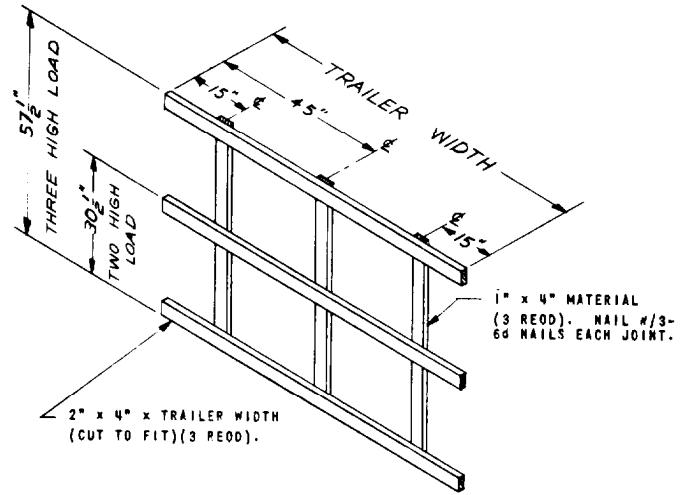
NOTE ⊗:

WHEN LOADING A ONE HIGH ONE WIDE LOAD IN ROUND FRONT TRAILERS USE "FILL" MATERIAL, AS REQUIRED BETWEEN FORWARD PC ① AND TRAILER END WALL, TO PROVIDE SOLID BEARING. FOR TWO OR THREE WIDE LOAD SEE FORWARD BLOCKING DETAIL ON THIS PAGE.

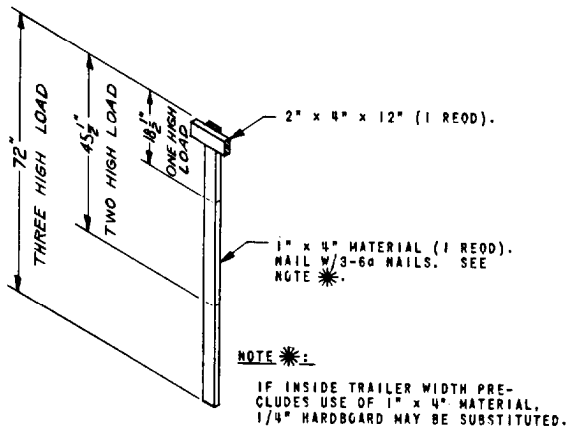
	DIM "A"
TWO WIDE LOAD	26"
THREE WIDE LOAD	30-1/2"



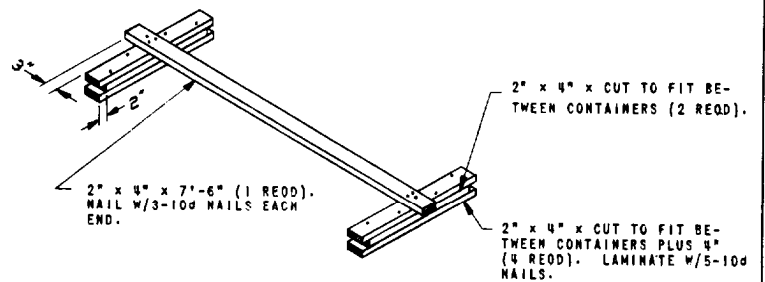
GATE



SEPARATOR GATE

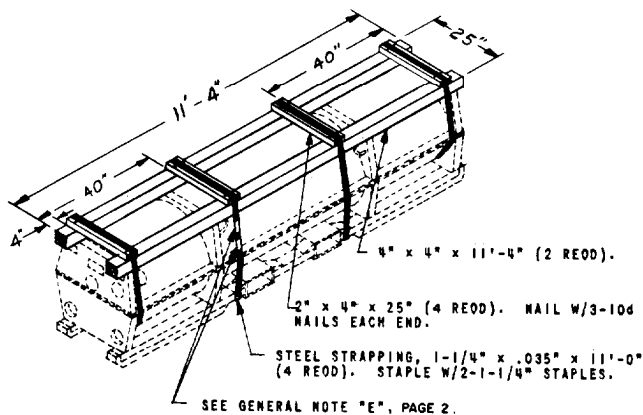


ANTI-CHAFING BOARD

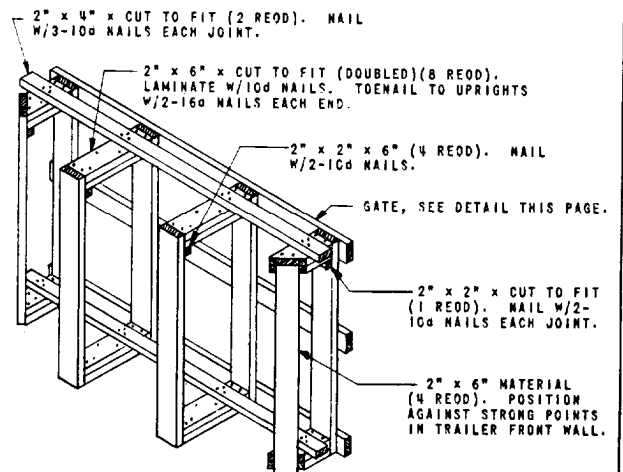


SPACER

NOTE
 WHEN A LOAD IS BEING SHIPPED WHICH CONTAINS A SMALLER QUANTITY OF CONTAINERS THAN LOADS SHOWN HEREIN, A "FILLER ASSEMBLY" OR ASSEMBLIES, DETAIL "A" SHOWN ON THIS PAGE, MAY BE USED AS APPLICABLE IN PLACE OF CONTAINER(S) OMITTED FROM THE TOP LOAD LAYER.

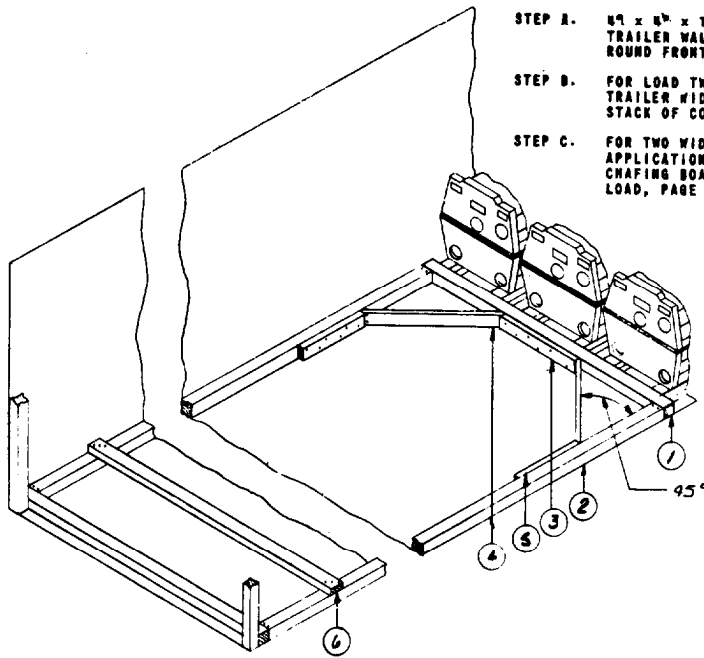


DETAIL "A"
 SEE NOTE



FORWARD BLOCKING
 FOR TWO OR THREE HIGH LOAD IN ROUND FRONT TRAILERS.

FLOOR LINE BLOCKING FOR ONE HIGH LOAD,
TWO OR THREE CONTAINERS WIDE



- STEP A. 4" x 4" x TRAILER WIDTH (CUT TO FIT). POSITION AT FRONT TRAILER WALL (FOR SQUARE FRONT TRAILER)... SEE PC ①. FOR ROUND FRONT TRAILERS SEE FORWARD BLOCKING DETAIL, PAGE 6.
- STEP B. FOR LOAD TWO OR THREE CONTAINERS LONG, POSITION 4" x 4" x TRAILER WIDTH (CUT TO FIT) ON TRAILER FLOOR BETWEEN EACH STACK OF CONTAINERS. SEE PC ①.
- STEP C. FOR TWO WIDE LOAD SEE SPACER DETAIL, PAGE 7. FOR PROPER APPLICATION SEE LOAD, PAGE 5. FOR THREE WIDE LOAD SEE ANTI-CHAFING BOARD DETAIL, PAGE 7. FOR PROPER APPLICATION SEE LOAD, PAGE 3.

KEY NUMBERS

TYPICAL LTL BLOCKING

FOR TRAILERS WITH WOOD, WOOD AND METAL OR ALL METAL FLOOR.

- ① 4" x 4" x TRAILER WIDTH (2 REOD). POSITION AS SHOWN.
- ② 4" x 4" x CUT TO FIT (2 REOD). TOENAIL TO ① W/2-16d NAILS EACH END.
- ③ 2" x 4" x 30" (1 REOD). NAIL TO ① W/6-12d NAILS.
- ④ 2" x 4" x CUT TO FIT (2 REOD). DOUBLE BEVEL EACH END 45°. NAIL TO ① AND ② W/2-16d NAILS EACH END.
- ⑤ 2" x 4" x 24" (2 REOD). NAIL TO ② W/6-12d NAILS.
- ⑥ 2" x 4" x TRAILER WIDTH (MIN 1 REOD). POSITION EVERY 7'-0". NAIL TO ② W/3-12d NAILS EACH END.