REV NO. 3 APPROVED BY
BUREAU OF EXPLOSIVES
SUPERVISOR, MILITARY & INTERMODAL SERVICES
DATE 4/15/86

TOW

LOADING AND BRACING (TL & LTL) IN CLOSED OR OPEN TOP VAN TRAILERS OF GUIDED MISSILE PACKED ONE PER WIREBOUND WOODEN BOX (OVERPACK) UNPALLETIZED AND PALLETIZED (12 PER PALLET)

INDEX

THIS DOCUMENT INCLUDES PROCEDURES FOR CONVENTIONAL TYPE TRAILERS AND FOR TRAILERS EQUIPPED WITH MECHANICAL BRACING DEVICES AS APPROVED BY THE BUREAU OF EXPLOSIVES, ASSOCIATION OF AMERICAN RAILROADS. CAUTION: PROCEDURES SHOWN HEREIN, FOR BOTH TYPES OF TRAILERS, ARE ONLY APPLICABLE FOR HIGHWAY MOVEMENTS, NOT FOR CONTAINER/TRAILER-ON-FLAT-CAR MOVEMENTS.

THIS DRAWING, INCLUDING REVISION 3, SUPERSEDES DRAWING 19-48-5912-GM11T02, DATED FEBRUARY 1977 AND REVISION 2 THERETO, DATED FEBRUARY 1977.

DO NOT SCALE

REVISIONS			
3	DEC 85	WCE W.F.E.	for W. F. Ernst

DRAFTSMAN dh | PROJ ENG PB/WPF | AMSMI-LC-MP-DP C.E. Bell
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APPROVED, U.S. ARMY MISSILE COMMAND
for

APPROVED BY ORDER OF COMMANDING GENERAL, U.S. ARMY MATERIEL COMMAND (AMC)
William F. Ernst
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U.S. ARMY AMC DRAWING
DECEMBER 1985

CLASS	DIVISION	DRAWING	FILE
19	48	5912	GM 11T02

PROJECT GM 597-67

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 THE TOW GUIDED MISSILE PACKED ONE PER WIREBOUND WOODEN BOX (OVERPACK). SUBSEQUENT REFERENCE TO CONTAINER HEREIN MEANS THE WIREBOUND WOODEN BOX WITH CONTENTS. ALSO, SUBSEQUENT REFERENCE TO PALLET UNIT HEREIN MEANS THE PALLET UNIT OF TWELVE (12) WIREBOUND BOXES WITH CONTENTS.

C. FOR DETAILS OF WIREBOUND WOODEN BOX (OVERPACK) . SEE DRAWING NO. D10224699 (U. S. ARMY MISSILE COMMAND) , AND "CONTAINER" VIEW ON PAGE 3.

CONTAINER DIMENSIONS --- 58-1/4" LONG X 11-5/8" WIDE X 11-5/8" HIGH (APPROX).
GROSS WEIGHT ---------- 87 POUNDS (APPROX) .
CUBE ---------- 4.9 CUBIC FEET.

D. FOR DETAIL OF THE PALLET UNITS SEE U.S. ARMY AMC (DARCOM) DRAWING NO. 19-48-5229-GM20T01 AND "PALLET UNIT" VIEWS ON PAGE 3.

PALLET UNIT (4 WIDE BY 3 HIGH)
DIMENSIONS ---------- 58-1/4" LONG X 48" WIDE X 39-3/4" HIGH (APPROX).
GROSS WEIGHT -------- 1,127 POUNDS (APPROX).
CUBE ---------- 64.0 CUBIC FEET.

PALLET UNIT (3 WIDE BY 4 HIGH)
DIMENSIONS ---------- 35-1/4" LONG X 58-1/4" WIDE X 51-1/4" HIGH (APPROX).
GROSS WEIGHT ------- 1,112 POUNDS (APPROX).
CUBE ---------- 60.9 CUBIC FEET.

E. THIS ITEM WITH A HE WARHEAD OR A HEAT WARHEAD IS DOT SHIPPING NOMENCLATURE "ROCKET AMMUNITION WITH EXPLOSIVE PROJECTILE" , AND IS A DOT CLASS "A" EXPLOSIVE. THIS ITEM, WHEN SHIPPED UNDER DOT SHIPPING NOMENCLATURE "ROCKET MOTOR, CLASS A EXPLOSIVE" (TELEMETRY OR INERT LOADED PROJECTILES) , IS ALSO A DOT CLASS "A" EXPLOSIVE. THE OUTLOADING PROCEDURES SPECIFIED HEREIN CAN ALSO BE UTILIZED FOR THE SHIPMENT OF THE DEPICTED CONTAINERS WHEN THEY ARE LOADED WITH AN ITEM WHICH IS IDENTIFIED DIFFERENTLY BY NOMENCLATURE THAN THE ITEM DESIGNATED WITHIN THE DRAWING TITLE.

F. THE OUTLOADING PROCEDURES DEPICTED WITHIN THIS DOCUMENT ARE APPLICABLE FOR SHIPMENTS IN CONVENTIONAL TYPE VAN TRAILERS, AND FOR SHIPMENTS IN VAN TRAILERS EQUIPPED WITH VARIOUS TYPES OF SELF-CONTAINED MECHANICAL BRACING DEVICES (CROSS MEMBERS AND WALL MEMBERS) AND APPLY TO TRAILERS HAVING WOOD, OR WOOD AND METAL, OR ALL METAL FLOORS. VAN TRAILERS WHICH ARE 40'-0" LONG BY 7'-6" TO 8'-2" WIDE (INSIDE DIMENSION) HAVE BEEN SHOWN. HOWEVER, THE PROCEDURES ARE ALSO APPLICABLE FOR TRAILERS WHICH ARE EIGHTY-NINE INCHES (89") THRU NINETY-NINE (99") IN WIDTH AND FOR TRAILERS OF OTHER LENGTHS FROM THE SHORTEST TO THE LONGEST AVAILABLE (REF: 24' TO 53') , AND FOR STRAIGHT TRUCK VANS. THE LOADING AND BRACING PROCEDURES SPECIFIED HEREIN ARE ALSO ADEQUATE (CONFIGURATION WISE AND STRENGTH WISE) FOR LOADS IN SHORTER OR LONGER VANS AND IN NARROWER OR WIDER VANS THAN SHOWN. THE SPECIFIED BRACING IS ADEQUATE FOR LOADS WEIGHING UP TO AND INCLUDING THE MAXIMUM WEIGHTS PERMITTED BY LAW.

G. THE OUTLOADING PROCEDURES DEPICTED WITHIN THIS DOCUMENT FOR TRAILERS EQUIPPED WITH VARIOUS TYPES OF SELF-CONTAINED MECHANICAL BRACING DEVICES ARE LIMITED TO HIGHWAY MOVEMENTS ONLY. THE HEIGHT REQUIREMENTS SPECIFIED WITHIN THIS DRAWING FOR THE INSTALLATION OF CROSS MEMBERS ARE IDENTICAL WITH THOSE RECOMMENDED BY THE BUREAU OF EXPLOSIVES PAMPHLET 6C, AND APPENDICES THERETO. CAUTION: TRAILERS EQUIPPED WITH WALL MEMBERS WHICH DO NOT MEET THE LOCATION REQUIREMENTS MUST NOT BE USED.

1. PALLET UNITS SHOULD BE LOADED TIGHTLY AGAINST EACH OTHER AND/OR AGAINST INSTALLED CROSS MEMBERS. VOIDS LENGTHWISE WITHIN A LOAD SHOULD BE MINIMUM. CROSS MEMBERS MUST BE PLACED AGAINST THE LADING AS TIGHTLY AS THE WALL MEMBER LOCKING HOLE SPACING PERMITS. EACH CROSS MEMBER WILL BE INSTALLED WITH EACH END ATTACHED AS NEARLY AS POSSIBLE IN A "MATED" POSITION (AT EQUAL HEIGHTS, AND AT EQUAL DISTANCES FROM THE END OF THE TRAILER).

(CONTINUED AT RIGHT)

MATERIAL SPECIFICATIONS

LUMBER ---------- SEE TM 743-200-1, DUNNAGE LUMBER AND FED SPEC MM-L-751.

NAILS ---------- FED SPEC FF-N-105; COMMON.

STRAPPING, STEEL - FED SPEC QQ-S-781; CLASS 1, TYPE I OR IV, HEAVY DUTY, FINISH A, B (GRADE 2), OR C.

SEAL, STRAP ------- FED SPEC QQ-S-781; TYPE D, STYLE I, II, OR IV, CLASS H, FINISH A, B (GRADE 2), OR C.

PLYWOOD --------- FED SPEC NN-P-530; GROUP B OR C, GRADE C-D (EXTERIOR), IF SPECIFIED GRADE IS NOT AVAILABLE, A BETTER EXTERIOR GRADE MAY BE SUBSTITUTED.

WIRE ---------- FED SPEC QQ-W-461.

TYGARD ---------- POLYESTER YARN, 1100 POUNDS/INCH OF WIDTH STRENGTH.

ADHESIVE --------- TYGARD ADHESIVE.

(GENERAL NOTES CONTINUED)

2. CROSS MEMBERS IN EMPTY TRAILERS AND THOSE UNUSED IN LOADED TRAILERS MUST BE "SECURED" FOR SHIPMENT. COMPONENTS ASSIGNED TO EACH TRAILER MUST REMAIN THEREWITH EVEN THOUGH UNUSED DURING SOME SHIPMENTS.

3. ONE (1) CROSS MEMBER WILL BE REQUIRED FOR EACH 10,000 POUNDS OF LADING AND SHOULD NOT BE RELIED UPON TO RETAIN A GREATER WEIGHT. CROSS MEMBERS WILL NOT BE DOUBLED; THAT IS, TWO CROSS MEMBERS AT THE SAME HEIGHT LOCATION WILL NOT BE PLACED SIDE BY SIDE.

H. SELECTION OF A VEHICLE TO BE USED TO TRANSPORT THE DESIGNATED ITEM MUST COMPLY WITH AR 55-355, CHAPTER 213, FOR EXPLOSIVES AND OTHER DANGEROUS ARTICLES, IN FULL.

J. 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, WEIGHT SHOULD BE VERIFIED BY ACTUALLY WEIGHING THE LOADED VEHICLE.

K. 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.

L. OTHER TYPES OF LADING ITEMS MAY BE LOADED INTO TRAILERS WHICH ARE PARTIALLY LOADED WITH THE DESIGNATED ITEMS, 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. IF THE CONVENTIONAL VAN TRAILER BEING USED IS EQUIPPED WITH A SQUARE FRONT OR WITH AN INSTALLED BULKHEAD, OMIT THE FORWARD BLOCKING ASSEMBLY, PIECE MARKED ① , AND POSITION THE PALLET UNITS DIRECTLY AGAINST THE FORWARD PORTION OF THE TRAILER; OMIT CROSS MEMBERS IN THE FORWARD END OF MECHANICAL VAN TRAILERS HAVING A SQUARE FRONT.

N. IN SOME INSTANCES CONTAINERS WILL ALREADY BE PALLETIZED WHEN OFFERED FOR LOADING. THESE PALLET UNITS SHOULD BE INSPECTED AND, AS REQUIRED, LOOSE UNITIZING STEEL STRAPPING MUST BE REPLACED.

O. PALLET UNITS WHICH DO NOT CONTAIN A FULL QUANTITY OF ITEMS CAN BE TRANSPORTED. SEE THE "SHIPMENT OF A PARTIAL PALLET UNIT" DETAILS AND SPECIAL NOTES ON PAGE 38. FOR "SHIPMENT OF LEFTOVER CONTAINERS", SEE THE DETAILS AND SPECIAL NOTES ON PAGE 37.

P. WHEN STEEL STRAPPING IS SEALED AT AN END-OVER-END LAP JOINT, A MINIMUM OF TWO (2) SEALS, BUTTED TOGETHER , WITH TWO (2) PAIRS OF CRIMPS PER SEAL, MUST BE USED TO SEAL THE JOINT.

Q. 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.

R. 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 PENATRATE 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.

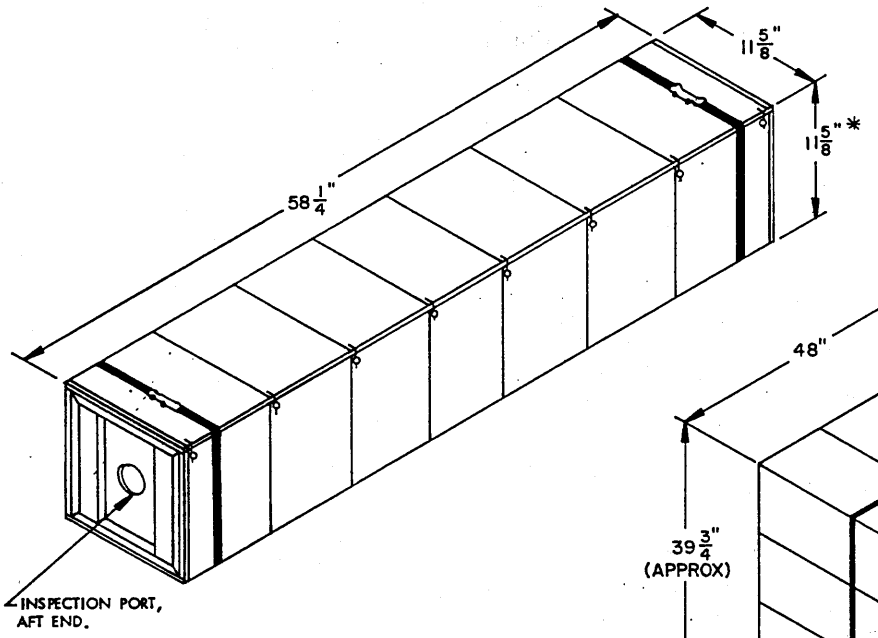
S. POWER DRIVEN STAPLES MAY BE USED AS ALTERNATIVE FASTENERS FOR NAILS WHEN CONSTRUCTING DUNNAGE ASSEMBLIES WHICH ARE TO BE USED IN THE DELINEATED TRAILER LOADS SHOWN THROUGHOUT THIS DRAWING. THE STAPLES TO BE USED MUST BE EQUAL IN LENGTH TO THE SPECIFIED NAIL SIZE AND MUST BE SUBSTITUTED ON A ONE STAPLE 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.

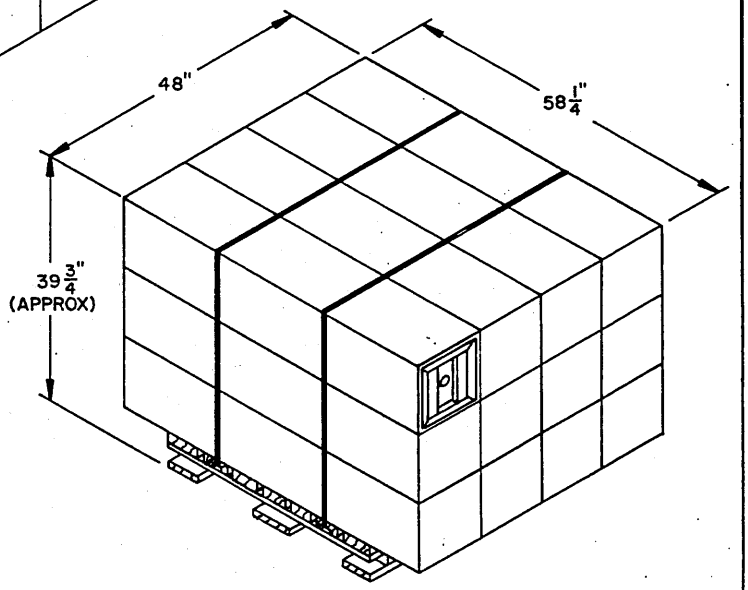
T. CONVERSION TO METRIC EQUIVALENTS: DIMENSIONS WITHIN THIS DOCUMENT ARE EXPRESSED IN INCHES, AND WEIGHTS ARE EXPRESSED IN POUNDS. WHEN NECESSARY, THE METRIC EQUIVALENTS MAY BE COMPUTED ON THE BASIS OF ONE INCH EQUALS 25.4MM AND ONE POUND EQUALS 0.454KG.

U. PORTIONS OF THE TRAILERS, SUCH AS SIDEWALLS, END WALLS, AND ROOFS, HAVE NOT BEEN SHOWN IN THE LOAD VIEWS FOR CLARITY PURPOSES.

V. FOR ADDITIONAL GUIDANCE, ATTENTION IS DIRECTED TO THE "SPECIAL NOTES" SECTIONS WHICH ARE IMMEDIATELY ADJACENT TO THE DEPICTED OUTLOADING METHODS.

* THESE 11-5/8" HEIGHT AND WIDTH DIMENSIONS DO NOT INCLUDE THE PROTRUSION OF THE STAPLED WIRE AND THE WIRE LOOP FASTENERS. THE OVER-ALL HEIGHT AND WIDTH DIMENSIONS ARE APPROXIMATELY 12".

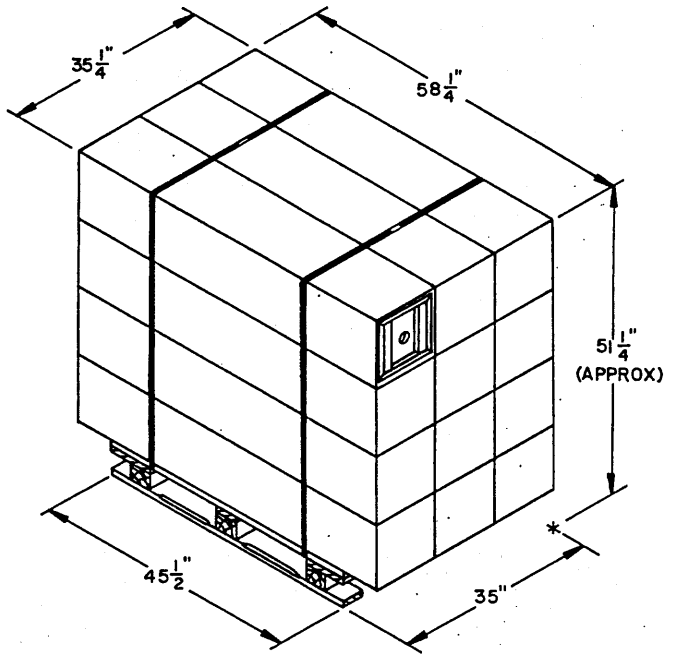




CONTAINER

CONTAINER DATA:

GROSS WEIGHT ———— 87 POUNDS (APPROX).
CUBE ———— 4.9 CUBIC FEET.



PALLET UNIT (3-WIDE BY 4-HIGH)

FOR FABRICATION OF THIS UNIT, SEE U.S. ARMY AMC (DARCOM) DRAWING NO. 19-48-5229-GM20T01.

PALLET UNIT DATA:

NUMBER OF CONTAINERS —— TWELVE (12).
GROSS WEIGHT ———— 1,112 POUNDS (APPROX).
CUBE ———— 60.9 CUBIC FEET.

PALLET UNIT (4-WIDE BY 3-HIGH)

FOR FABRICATION OF THIS UNIT, SEE U.S. ARMY AMC (DARCOM). DRAWING NO. 19-48-5229-GM20T01.

PALLET UNIT DATA:

NUMBER OF CONTAINERS —— TWELVE (12).
GROSS WEIGHT ———— 1,126 POUNDS (APPROX).
CUBE ———— 64.0 CUBIC FEET.

REVISIONS

REVISION NO. 1, DATED MAY 1970, CONSISTS OF:

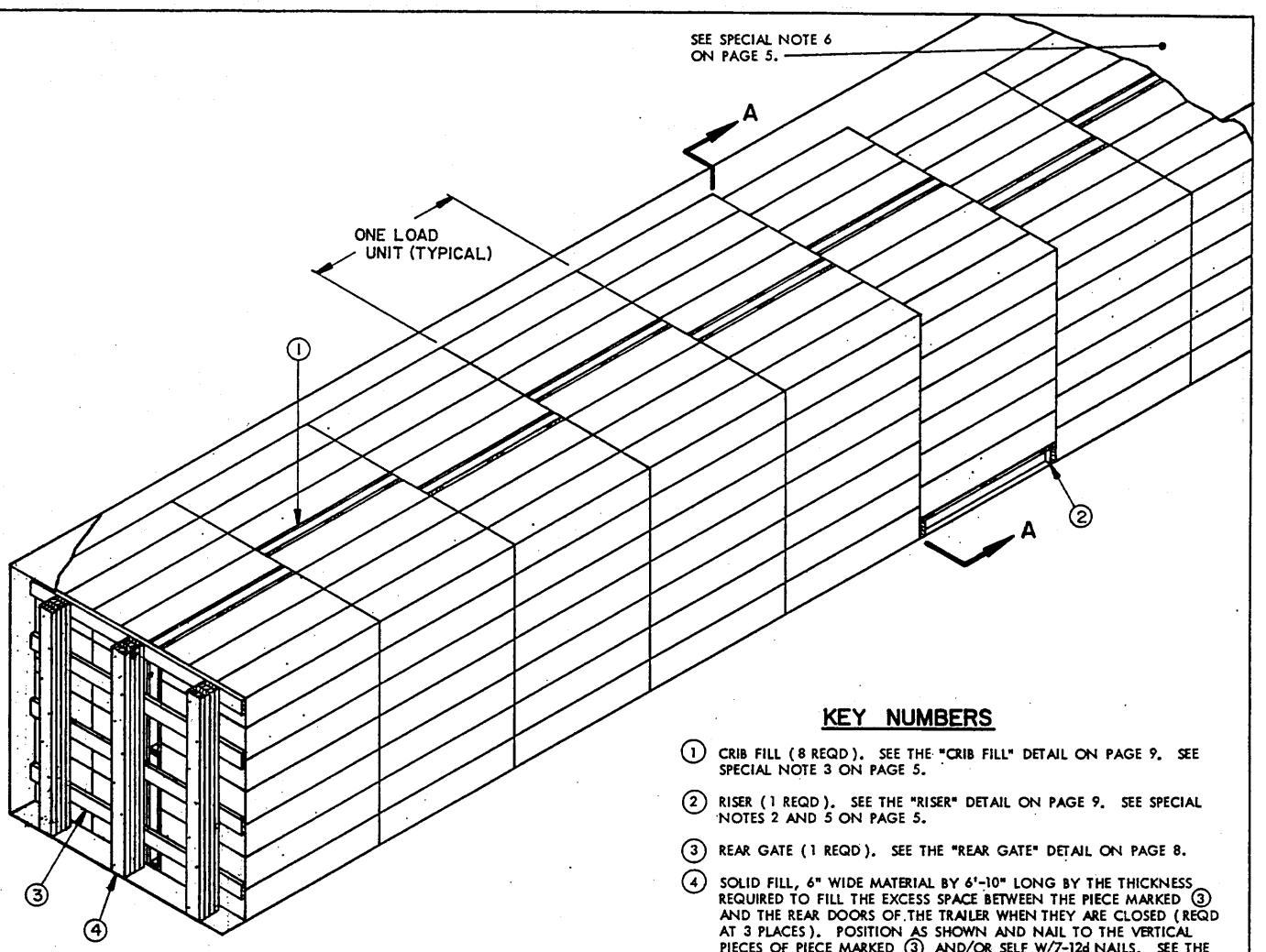
1. CHANGED OUTLOADING PROCEDURES FOR REDESIGNED PALLET UNIT.

REVISION NO. 2, DATED FEBRUARY 1977, CONSISTS OF:

1. CHANGING DRAWING FILE NUMBER FROM GM11A133 TO GM11T02.
2. UPDATING THE GENERAL NOTES AND MATERIAL SPECIFICATIONS.
3. CHANGING THE CONTAINER UNIT AND PALLET UNIT WEIGHTS.
4. UPDATING THE PALLET UNIT DETAIL TO COMPLY WITH DRAWING NO. 19-48-5229-GM20T01.
5. ADDING PROCEDURES FOR SHIPMENT OF LEFTOVER CONTAINERS AND PARTIAL PALLETS.

REVISION NO. 3, DATED DECEMBER 1985, CONSISTS OF:

1. UPDATING THE GENERAL NOTES AND MATERIAL SPECIFICATIONS.
2. ADDING PROCEDURES FOR 3-WIDE BY 4-HIGH PALLET UNIT.
3. CHANGING PROCEDURES TO INCLUDE WIDER TRAILERS AND TRAILERS EQUIPPED WITH ROLL-UP TYPE DOORS.
4. ADDING THE TYGARD METHOD OF REAR BLOCKING.



ISOMETRIC VIEW

SEE NOTE BELOW.

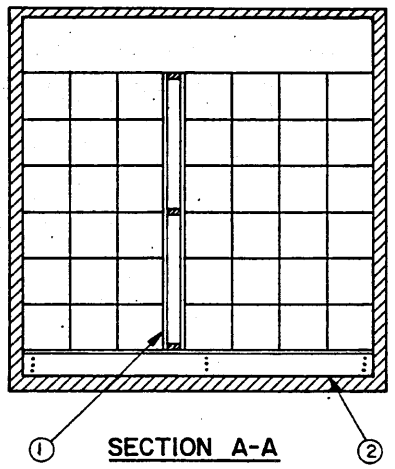
KEY NUMBERS

(1) CRIB FILL (8 REQD). SEE THE "CRIB FILL" DETAIL ON PAGE 9. SEE SPECIAL NOTE 3 ON PAGE 5.

(2) RISER (1 REQD). SEE THE "RISER" DETAIL ON PAGE 9. SEE SPECIAL NOTES 2 AND 5 ON PAGE 5.

(3) REAR GATE (1 REQD). SEE THE "REAR GATE" DETAIL ON PAGE 8.

(4) SOLID FILL, 6" WIDE MATERIAL BY 6'-10" LONG BY THE THICKNESS REQUIRED TO FILL THE EXCESS SPACE BETWEEN THE PIECE MARKED (3) AND THE REAR DOORS OF THE TRAILER WHEN THEY ARE CLOSED (REQD AT 3 PLACES). POSITION AS SHOWN AND NAIL TO THE VERTICAL PIECES OF PIECE MARKED (3) AND/OR SELF W/7-12d NAILS. SEE THE "ALT REAR BLOCKING-METHOD A" DETAIL ON PAGE 8. THIS ALTERNATIVE TYPE OF BLOCKING IS REQUIRED IN LIEU OF SOLID FILL MATERIAL WHEN THE SPACE BETWEEN THE REAR OF THE LOAD AND THE REAR DOORS OF THE TRAILER WHEN THEY ARE CLOSED MEASURES 12" OR MORE. SEE GENERAL NOTES "R" AND "S" ON PAGE 2.



SECTION A-A

*TRAILERS EQUIPPED WITH ROLL-UP TYPE DOORS MAY BE USED; HOWEVER, THE TYGARD METHOD OF REAR BLOCKING MUST BE INSTALLED IN CONVENTIONAL VAN TRAILERS. SEE THE "TYGARD METHOD" ON PAGE 40 AND "PROCEDURES FOR CONVENTIONAL VAN TRAILERS EQUIPPED WITH ROLL-UP DOORS" ON PAGE 41. NOTE THAT THE TYGARD METHOD FOR TRAILERS EQUIPPED WITH ROLL-UP TYPE DOORS MAY ALSO BE USED IN TRAILERS EQUIPPED WITH HINGED DOORS.

371-UNIT LOAD IN A 40'-0" LONG X 7'-6" WIDE TRAILER (UNPALLETIZED)

SPECIAL NOTES:

1. A 371-UNIT LOAD IS SHOWN IN A SQUARE-FRONT TRAILER WHICH IS 7'-6" WIDE BY 7'-6" HIGH (INSIDE DIMENSIONS) BY 40'-0" LONG. SEE SPECIAL NOTES 5 AND 7.

2. A 343-UNIT LOAD CAN BE OUTLOADED IN A 35'-0" LONG TRAILER, SEVEN (7) STACKS OF FOURTY-NINE (49) CONTAINERS EACH. DELETE THE "RISER" AND USE REAR BLOCKING AS DEPICTED FOR THE 40'-0" LONG TRAILER. IF A TRAILER LENGTH OF 36'-0" TO 39'-0" IS USED, REFER TO THE "ALT REAR BLOCKING-METHOD A" DETAILED ON PAGE 8.

3. A WIDER OR A NARROWER TRAILER THAN SHOWN MAY BE USED FOR SHIPPING THE DEPICTED LOAD. ADJUST THE WIDTH OF THE "CRIB FILL" AS NECESSARY TO PROVIDE A "TIGHT" LOAD ACROSS THE WIDTH OF THE TRAILER. ALSO, THE "CRIB FILL" SHOULD BE ALTERNATED AS SHOWN IN THE "ISOMETRIC VIEW" ON PAGE 4.

4. A TRAILER WITH A LESSER INSIDE HEIGHT THAN SHOWN CAN BE USED FOR SHIPPING THE DEPICTED LOAD. THE LADING HEIGHT OF THE LOAD SHOWN IS APPROXIMATELY 6'-10-1/2". THEREFORE, THE MINIMUM INSIDE HEIGHT OF A TRAILER TO BE USED TO SHIP A 7-HIGH LOAD MUST BE AT LEAST 7'-0" AT THE EAVES.

5. THE USE OF THE "RISER ASSEMBLY" IS ONLY SPECIFIED FOR THE DEPICTED LOAD TO SHOW TYPICAL APPLICATION. WITHOUT THE "RISER ASSEMBLY", 392-UNITS CAN BE SHIPPED IN THE SAME SIZE TRAILER SHOWN. IF THE HEIGHT OF THE DOOR OPENING PREVENTS THE PLACEMENT OF THE SEVENTH (7TH) LAYER OF THE MOST REARWARD STACK; DECREASE THE HEIGHT OF THE SECOND STACK FROM THE REAR TO SIX (6) CONTAINERS HIGH WITH A "RISER ASSEMBLY" UNDER THE FIRST LAYER, DECREASE THE HEIGHT OF THE MOST REARWARD STACK TO SIX (6) CONTAINERS HIGH AND MAKE NECESSARY HEIGHT CHANGES TO THE "REAR GATE". ADDITIONALLY, TO SATISFY THE NUMBER OF CONTAINERS TO BE SHIPPED, THE LOAD AS SHOWN MAY BE INCREASED OR DECREASED BY MULTIPLES OF SEVEN (7) CONTAINERS BY ADJUSTING THE LOCATION OF THE DEPICTED "RISER ASSEMBLY", OR CHANGED AS REQUIRED BY THE USE OF NARROWER "RISER" OR "FILLER" ASSEMBLIES AS DETAILED ON PAGES 9 AND 10.

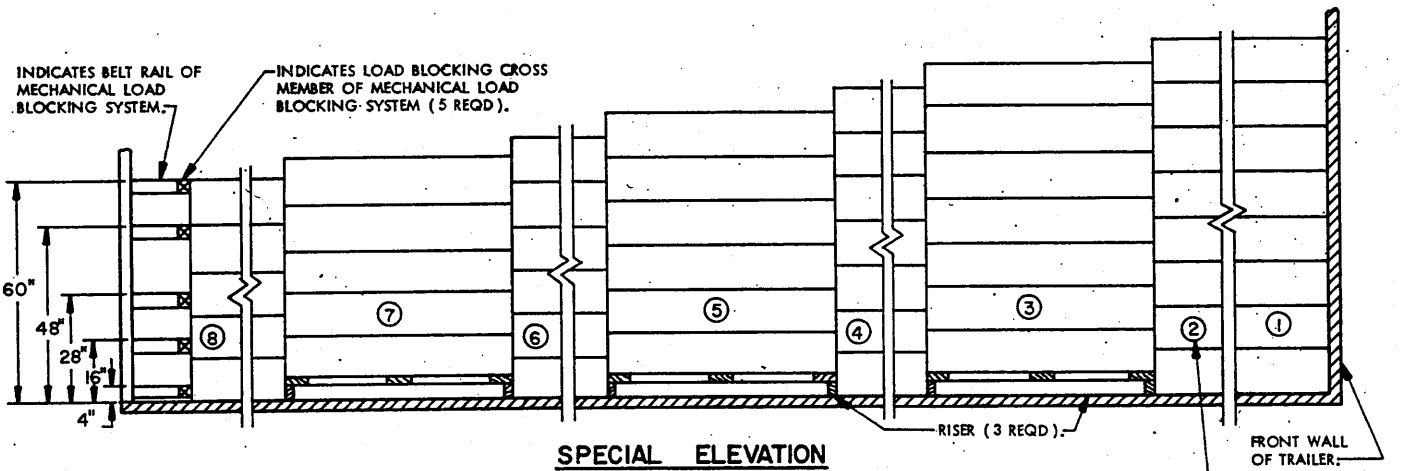
6. IF THE TRAILER BEING LOADED HAS ROUNDED CORNERS AT THE FORWARD END, REFER TO PAGE 11 FOR "FORWARD BLOCKING A" DETAIL AND SPECIFICATIONS WHICH MUST BE USED. NOTE: A 40'-0" LONG TRAILER HAVING ROUNDED CORNERS WITH A RADIUS OF 5" OR MORE CANNOT BE USED TO SHIP AN EIGHT (8) CONTAINER LONG LOAD. IF A TRAILER IS EQUIPPED WITH ROUNDED CORNERS WITH A RADIUS OF 5" OR MORE, OR HAS A ROUND FRONT, A SEVEN (7) CONTAINER LONG LOAD IS THE MAXIMUM LENGTH LOAD THAT CAN BE SHIPPED IN A 40'-0" LONG TRAILER.

(CONTINUED AT RIGHT)

(SPECIAL NOTES CONTINUED)

7. IF THE INSIDE HEIGHT OF THE VAN BEING USED PERMITS, SUCH AS WILL BE THE CASE WITH A HIGH-VOLUME VAN, THE CONTAINERS CAN BE STACKED EIGHT (8) LAYERS HIGH THROUGHOUT THE FORWARD PORTION OF THE VAN. THE TWO REARWARD STACKS WILL BE LIMITED TO SEVEN (7) LAYERS IN HEIGHT, WITH A "RISER ASSEMBLY" UNDER THE SECOND FROM REAR STACK. A MAXIMUM SIZE LOAD OF 434 CONTAINERS CAN BE LOADED BY THE PROCEDURES JUST DESCRIBED. REAR BLOCKING FOR THE INCREASED LOAD WILL BE AS SPECIFIED FOR THE LOAD SHOWN ON PAGE 4 AND THE "CRIB FILL" ASSEMBLIES WILL BE INCREASED IN HEIGHT AS SPECIFIED ON PAGE 9.

8. IF THE TRAILER BEING OUTLOADED CONTAINS MECHANICAL BRACING DEVICES, SUCH AS A WALL BELT RAIL AND LOAD BLOCKING CROSS MEMBERS, WHICH CONFORM TO SPECIFICATIONS SET FORTH WITHIN THE BUREAU OF EXPLOSIVES PAMPHLET 6C AND THE APPENDICES THERETO, THEY MAY BE USED AT THE REAR OF THE LOAD IN LIEU OF THE "REAR GATE" AND "SOLID FILL", PIECES MARKED ③ AND ④, OR THE "GATE AND STRUT" METHOD. 364 CONTAINERS CAN BE LOADED IN A 40'-0" LONG, HIGH-VOLUME VAN AS SHOWN BY THE "SPECIAL ELEVATION" DETAIL BELOW. THE REAR CONTAINER STACK WHICH IS AGAINST THE CROSS MEMBERS IS LIMITED TO FIVE (5) CONTAINERS HIGH. A 364 CONTAINER LOAD WILL REQUIRE THREE (3) "RISER" ASSEMBLIES. THE LOAD WILL CONSIST OF: TWO (2) EIGHT-CONTAINER HIGH STACKS AT THE FRONT OF THE TRAILER, ONE (1) SEVEN-CONTAINER HIGH STACK ON A RISER, ONE (1) SEVEN-CONTAINER HIGH STACK, ONE (1) SIX-CONTAINER HIGH STACK ON A RISER, ONE (1) SIX-CONTAINER HIGH STACK, ONE (1) FIVE-CONTAINER HIGH STACK ON A RISER, AND (1) FIVE-CONTAINER HIGH STACK AT THE REAR AGAINST THE CROSS MEMBERS. IF THE INSIDE HEIGHT OF A TRAILER PROHIBITS AN EIGHT-CONTAINER HIGH STACK, THE FOUR (4) FORWARD STACKS WILL BE LIMITED TO SEVEN-CONTAINER HIGH STACKS, RESULTING IN A 350 CONTAINER LOAD. POSITION THE CROSS MEMBERS TIGHTLY AGAINST THE CONTAINERS AT THE REAR OF THE LOAD. SEE THE "SPECIAL ELEVATION" VIEW FOR CROSS MEMBER LOCATION AND QUANTITY REQUIREMENTS. THE MECHANICAL BRACING DEVICE SYSTEM OF A TRAILER MUST HAVE A LENGTH OF AT LEAST 39'-2" AS MEASURED FROM THE FRONT WALL OF THE TRAILER. TRAILERS HAVING A SHORTER MECHANICAL SYSTEM WILL BE LIMITED TO A LOAD CONSISTING OF LESS-THAN EIGHT (8) CONTAINER STACKS IN LENGTH. IF A TRAILER HAS ROUNDED CORNERS AT THE FORWARD END, POSITION FIVE (5) CROSS MEMBERS AT THE FRONT OF THE TRAILER AT HEIGHTS SPECIFIED IN THE "SPECIAL ELEVATION" VIEW. NOTE THAT A 40'-0" TRAILER WITH ROUNDED CORNERS WILL ONLY HOLD SEVEN (7) STACKS. ALSO, A TRAILER WITH ROUNDED CORNERS AT THE FORWARD END MUST HAVE A SYSTEM LENGTH OF 34'-6" FOR A SEVEN (7) STACK LOAD. THE STACK ADJACENT TO THE CROSS MEMBERS AT THE FRONT OF A TRAILER IS LIMITED TO A FIVE-CONTAINER HIGH STACK. SEE GENERAL NOTE "G" ON PAGE 2.



SPECIAL ELEVATION

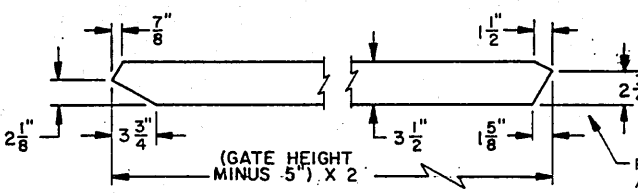
SEE SPECIAL NOTE 8 ABOVE. A TOLERANCE OF PLUS OR MINUS 2" WILL BE ALLOWED FOR THE VERTICAL POSITIONING OF THE CROSS MEMBERS.

BILL OF MATERIAL

LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	311	104
1" X 6"	23	12
2" X 4"	116	78
2" X 6"	141	141
NAILS	**NO. REQD**	**POUNDS**
6d (2")	315	2
10d (3")	54	1
12d (3-1/4")	63	1

LOAD AS SHOWN

ITEM	QUANTITY	WEIGHT (APPROX).
CONTAINER	371	32,277 LBS
DUNNAGE		674 LBS
TOTAL WEIGHT		32,951 LBS



KNEE BRACE

4" X 4" MATERIAL

SEE SPECIAL NOTE 4 BELOW.

ISOMETRIC VIEW

KEY NUMBERS

(1) CRIB FILL (3 REQD). SEE THE "CRIB FILL" DETAIL ON PAGE 9.

(2) FILLER (1 REQD). SEE THE "FILLER" DETAIL ON PAGE 10.

(3) RISER (1 REQD). SEE THE "RISER" DETAIL ON PAGE 9.

(4) GATE (1 REQD). SEE THE "REAR-OF-LOAD GATE" DETAIL ON PAGE 10. AND GENERAL NOTES "R" AND "S" ON PAGE 2.

(5) FLOOR CLEAT, 2" X 4" BY CUT TO FIT (52" REF) (3 REQD).

(6) POCKET CLEAT, 2" X 4" X 12" (3 REQD). NAIL TO PIECE MARKED (5) W/5-10d NAILS. TOENAIL TO PIECE MARKED (4) W/2-12d NAILS AT EACH JOINT.

(7) KNEE BRACE, 4" X 4" X 61" (3 REQD). SEE THE "KNEE BRACE" DETAIL ABOVE FOR THE BEVEL CUTS REQUIRED. TOENAIL TO PIECES MARKED (4) AND (5) W/2-16d NAILS AT EACH END.

(8) FORWARD HEADER, 4" X 4" BY TRAILER WIDTH MINUS 1/2" (1 REQD). TOENAIL TO PIECE MARKED (7) W/2-16d NAILS AT EACH JOINT. SEE SPECIAL NOTE 7 AT LEFT.

(9) REAR HEADER, 4" X 4" BY TRAILER WIDTH MINUS 1/2" (1 REQD). POSITION TO CONTACT REAR DOORS OF THE TRAILER WHEN THEY ARE CLOSED. SEE SPECIAL NOTE 2 ON THIS PAGE.

(10) SIDE STRUT, 4" X 4" BY CUT TO FIT BETWEEN PIECES MARKED (8) AND (9) (2 REQD). TOENAIL TO PIECES MARKED (8) AND (9) W/2-16d NAILS AT EACH END.

(11) CENTER CLEAT, 2" X 4" X 18" (1 REQD). NAIL TO PIECE MARKED (8) W/4-12d NAILS.

(12) DIAGONAL BRACE, 2" X 4" BY CUT TO FIT (2 REQD). DOUBLE BEVEL EACH END WITH 45° CUTS. INSTALL AT A 45° ANGLE AS SHOWN AND TOENAIL TO PIECES MARKED (8) AND (10) W/2-16d NAILS AT EACH END.

(13) BACK-UP CLEAT, 2" X 4" X 24" (2 REQD). NAIL TO PIECE MARKED (10) W/6-12d NAILS.

(14) STRUT BRACING, 2" X 4" BY TRAILER WIDTH (CUT TO FIT) (MINIMUM OF 1 REQD). INSTALL ONE (1) NEAR REAR END OF STRUTS MARKED (10) AS SHOWN. ONE (1) ADDITIONAL PIECE REQUIRED FOR EVERY 7'-0" OF STRUT LENGTH. NAIL TO PIECES MARKED (10) W/3-12d NAILS AT EACH END.

SPECIAL NOTES:

1. THESE LTL OUTLOADING PROCEDURES ARE SHOWN DEPICTING THE USE OF "KNEE-BRACE" BLOCKING IN A 7'-6" WIDE TRAILER. WIDER OR NARROWER TRAILERS CAN BE USED.

2. THE "K-BRACE" BLOCKING, SHOWN AS PIECES MARKED (8) THROUGH (14) IS ADEQUATE FOR RETAINING NOT MORE THAN 18,000 POUNDS OF LADING.

3. CRIB FILL, PIECES MARKED (1), SHOULD BE OFF-SET THROUGHOUT THE LENGTH OF THE LOAD AS SHOWN. ONE OR MORE FILLER ASSEMBLIES, PIECES MARKED (2), MAY BE USED IN PLACE OF OMITTED CONTAINERS IN THE TOP LAYER ONLY. A RISER, PIECE MARKED (3), MUST BE USED WHEN LONGITUDINALLY ADJACENT STACKS ARE STEPPED UP OR DOWN.

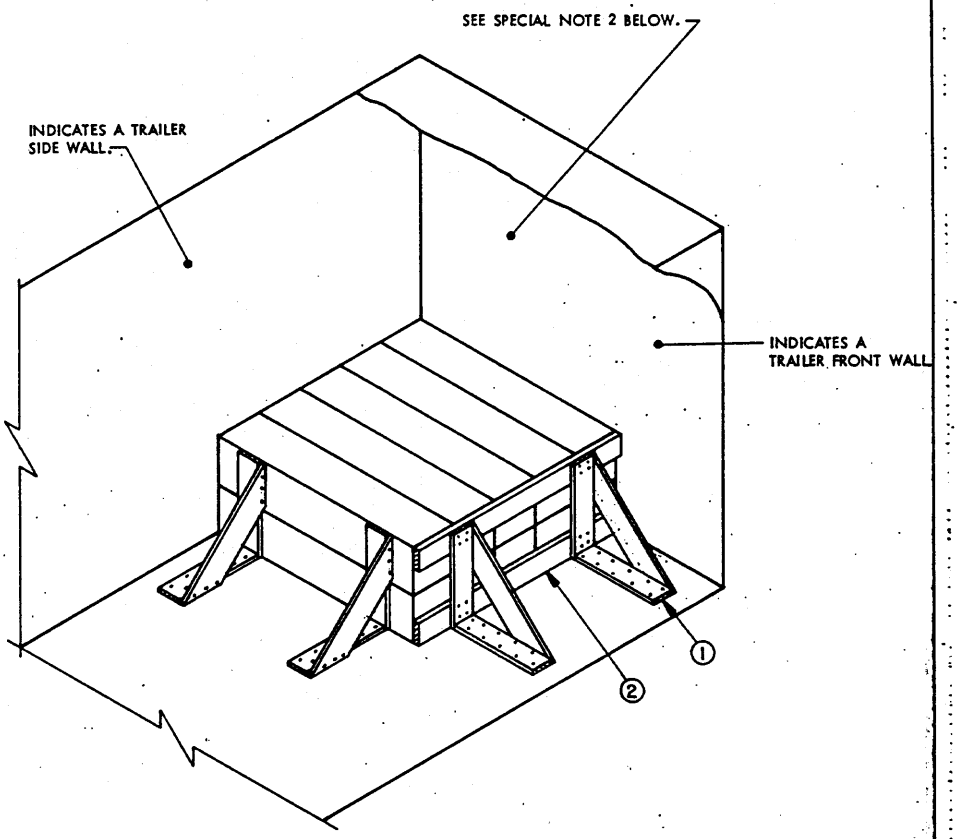
4. IF THE TRAILER BEING LOADED HAS ROUNDED CORNERS AT THE FORWARD END, REFER TO PAGE 11 FOR "FORWARD BLOCKING A" DETAIL AND SPECIFICATIONS WHICH MUST BE USED.

5. IF THE TRAILER BEING OUTLOADED CONTAINS MECHANICAL BRACING DEVICES AS DESCRIBED IN GENERAL NOTE "G" ON PAGE 2, THEY MAY BE USED IN LIEU OF PIECES MARKED (4) THRU (14). POSITION THE CROSS MEMBERS AT THE 4", 16", AND 28" HEIGHT DIMENSIONS FOR THE LOAD SHOWN ABOVE. INSTALL CROSS MEMBERS TIGHTLY AGAINST THE BOXES. SEE "SPECIAL ELEVATION" VIEW AND SPECIAL NOTE 8 ON PAGE 5 FOR ADDITIONAL GUIDANCE.

6. THE USE OF FILLER AND RISER ASSEMBLIES IS SPECIFIED FOR THE DEPICTED LOAD ONLY TO SHOW A TYPICAL APPLICATION. RISER AND FILLER ASSEMBLIES MAY BE USED IN THE LOAD AS REQUIRED TO ADJUST THE LOADING PATTERN FOR THE NUMBER OF CONTAINERS TO BE SHIPPED.

7. TRAILERS EQUIPPED WITH ROLL-UP TYPE DOORS MAY BE USED; HOWEVER, SPECIAL REAR BLOCKING MUST BE INSTALLED. SEE THE "PROCEDURES FOR CONVENTIONAL VAN TRAILERS EQUIPPED WITH ROLL-UP TYPE DOORS" ON PAGES 39 THRU 41 FOR GUIDANCE. THE NAILED-HEADER METHOD IS SHOWN ON PAGE 39, AND SHOULD BE USED IF POSSIBLE IN LIEU OF PIECES MARKED (8) THRU (14). THE TYGARD METHOD IS SHOWN ON PAGES 40 AND 41, AND MAY BE USED IN LIEU OF PIECES MARKED (4) THRU (14).

TYPICAL LTL (69-UNIT LOAD) UNPALLETIZED



ISOMETRIC VIEW

SPECIAL NOTES:

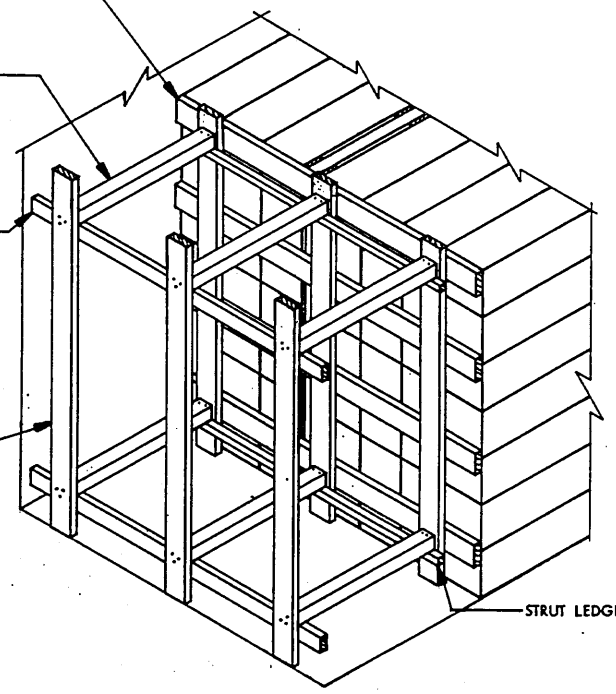
1. THESE OUTLOADING PROCEDURES DEPICT THE OUTLOADING OF A TWO (2) CONTAINER HIGH LOAD IN A TRAILER WHICH HAS A NAILABLE FLOOR, TRAILERS WITH A NON-NAILABLE FLOOR CANNOT BE USED. CONTAINERS WILL NOT BE STACKED MORE THAN TWO (2) HIGH WHEN USING THE LTL BRACE.
2. IF THE TRAILER BEING LOADED HAS ROUNDED CORNERS AT THE FORWARD END, TWO ADDITIONAL LTL BRACES MAY BE USED AT THE FORWARD END OF THE LADING.
3. NOT LESS THAN TWO (2) LTL BRACES MARKED (1) SHALL BE USED FOR LONGITUDINAL BRACING, ALSO AN LTL BRACE MUST BE USED AT EVERY FOURTH (4TH) JOINT FOR LATERAL BLOCKING AS SHOWN ABOVE.

KEY NUMBERS

(1) LTL BRACE (4 REQD). SEE DETAIL ON PAGE 10. NAIL TO PIECE MARKED (2) W/4-6d NAILS AT EACH JOINT. NAIL TO THE TRAILER FLOOR W/10-6d NAILS. SEE GENERAL NOTE "R." ON PAGE 2.

(2) HORIZONTAL PIECE, 2" X 4" BY LENGTH TO SUIT (2 REQD). POSITION AS SHOWN.

TYPICAL LTL (10-UNIT LOAD) UNPALLETIZED



NOTE ● :

THIS "REAR BLOCKING" ASSEMBLY AS SHOWN IS DESIGNED FOR USE AT THE REAR END OF A SEVEN (7) LAYER UNPALLETIZED LOAD AS DEPICTED ON PAGE 4 WHEN THE DISTANCE BETWEEN THE REAR OF THE LOAD AND TRAILER REAR DOORS, WHEN THEY ARE CLOSED, MEASURES 12" OR MORE. THIS PROCEDURE IS ALSO APPLICABLE TO OTHER HEIGHT LOADS. REFER TO "CHART A" BELOW FOR ADDITIONAL GUIDANCE. NOTE: STRUTS LONGER THAN 53" SHOULD NOT BE USED. TO ACCOMPLISH THIS, ADJUST THE QUANTITY OF LAYERS AND/OR LOAD UNITS TO FILL THE LENGTH OF THE TRAILER AS MUCH AS POSSIBLE.

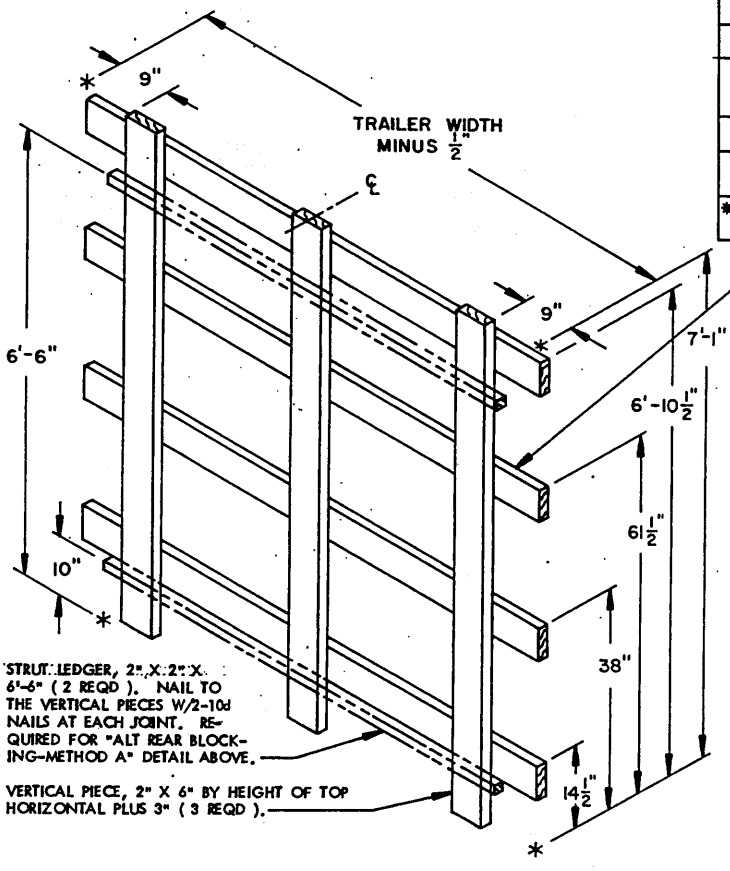
ALT REAR BLOCKING-METHOD A

SEE "NOTE ● " ABOVE.

CHART A

NO. OF LAYERS	8	6	5	4	3	2
TOP HORIZONTAL	7'-10"	70-1/2"	59"	47"	35-1/2"	23-1/2"
INTERMEDIATE HORIZONTAL (S)	6'-6" 50" 37-1/2"	50" 26-1/2"	38" 26-1/2"	26-1/2"	X	X
BOTTOM HORIZONTAL	14-1/2"	14-1/2"	14-1/2"	14-1/2"	14-1/2"	5-1/2"
STRUT LEDGER	89-1/2" 10"	66" 10"	54-1/2" 10"	42-1/2" 10"	31" 10"	19" *

*NO STRUT LEDGER IS REQUIRED AT THE BOTTOM OF THE GATE USED FOR A TWO (2) LAYER LOAD; PLACE THE STRUTS ON THE FLOOR OF THE TRAILER.



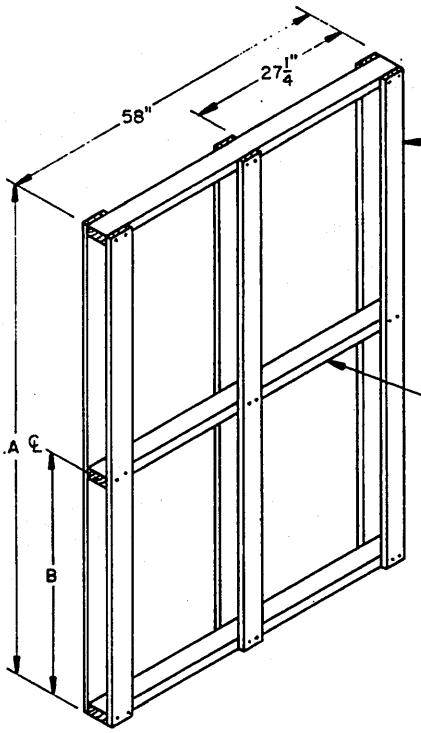
REAR GATE

THIS GATE IS DESIGNED FOR USE AT THE REAR END OF A SEVEN (7) LAYER UNPALLETIZED LOAD. SEE "CHART A" ABOVE FOR GUIDANCE IN FABRICATING GATES FOR USE WITHIN OTHER HEIGHT LOADS.

NOTE ▲ :

IF DESIRED 1/2" PLYWOOD MAY BE USED IN LIEU OF THE 2" X 6" HORIZONTAL PIECES. THE PLYWOOD MUST BE TRAILER WIDTH MINUS 1/2" BY 6'-10-1/2" HIGH. SECURE THE PLYWOOD TO THE VERTICALS W/1-16d NAIL EVERY 12". ALL PLYWOOD JOINTS MUST CENTER ON THE MIDDLE VERTICAL PIECE. SEE "CHART A" FOR HEIGHT DIMENSIONS FOR A DIFFERENT NUMBER OF LAYERS.

CHART B		
	DIM A	DIM B
2 CONTAINER HIGH STACK	23-1/2"	
3 CONTAINER HIGH STACK	35-1/2"	
4 CONTAINER HIGH STACK	47"	23-1/2"
5 CONTAINER HIGH STACK	59"	29-1/2"
6 CONTAINER HIGH STACK	70-1/2"	35-1/2"
7 CONTAINER HIGH STACK	6'-10-1/2"	41-1/2"
8 CONTAINER HIGH STACK	7'-10"	47-1/2"



VERTICAL PIECE, 1" X 4" MATERIAL (6 REQD). NAIL TO THE HORIZONTAL BRACES W/2-6d NAILS AT EACH JOINT. SEE "NOTE ▲ " BELOW.

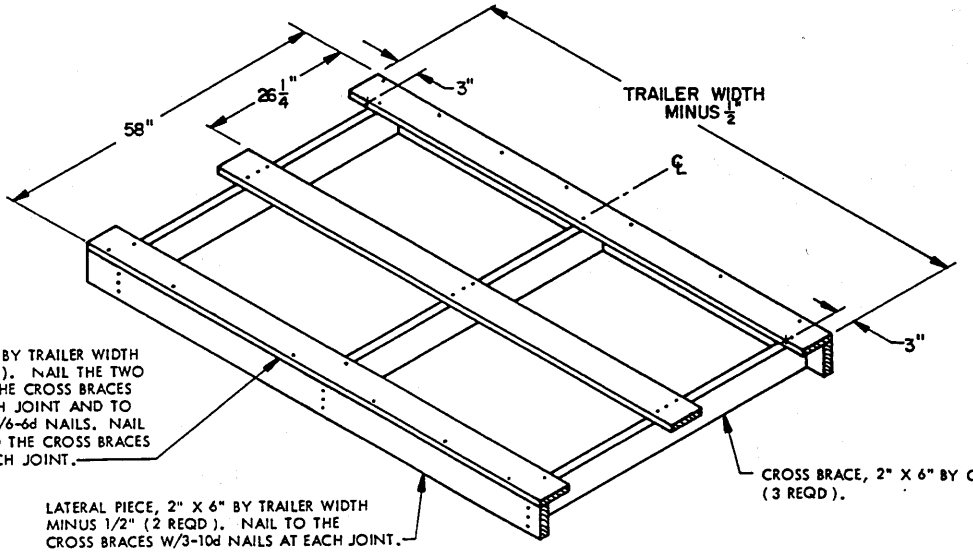
HORIZONTAL BRACE, 2" X 4" X 58" (3 REQD).

NOTE ▲ :

IF DESIRED 1/2" PLYWOOD MAY BE SUBSTITUTED FOR THE 1" X 4" VERTICAL PIECES OF THE CRIB FILL ASSEMBLY. THE PLYWOOD MUST BE 6" WIDE BY "DIMENSION A" IN "CHART B" IN HEIGHT. SECURE THE PLYWOOD TO THE HORIZONTAL BRACES W/3-6d NAILS AT EACH JOINT. THE WIDTH OF THE HORIZONTAL BRACE MAY HAVE TO BE ADJUSTED TO PROVIDE FOR A SNUG FIT.

CRIB FILL

THIS ASSEMBLY IS DESIGNED FOR USE IN AN UNPALLETIZED LOAD. SEE "CHART B" ABOVE FOR DIMENSIONAL GUIDANCE FOR USE IN THE FABRICATION OF THE CRIB FILL ASSEMBLIES. THE ASSEMBLY AS DEPICTED ABOVE IS ADEQUATE FOR USE IN TRAILERS FROM 89" THRU 98" IN WIDTH BY ADJUSTING WIDTH OF HORIZONTAL BRACES AND/OR THICKNESS OF VERTICAL PIECES. IF THE TRAILER IS 8'-0" WIDE OR MORE, OMIT THE CRIB FILL AND POSITION EIGHT (8) CONTAINERS ACROSS THE WIDTH OF THE TRAILER.



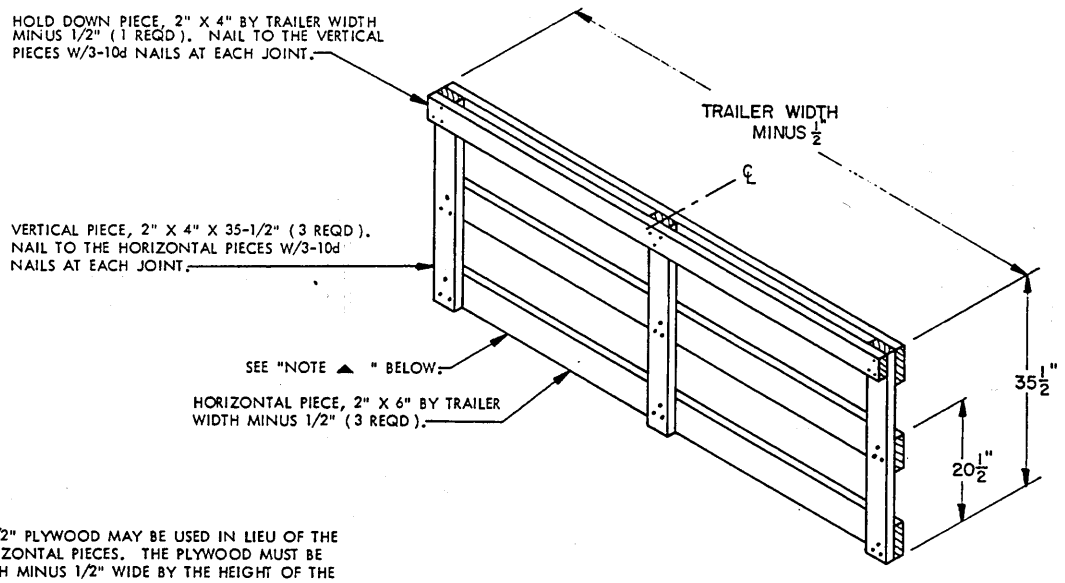
DECK PIECE, 1" X 6" BY TRAILER WIDTH MINUS 1/2" (3 REQD). NAIL THE TWO OUTSIDE PIECES TO THE CROSS BRACES W/1-6d NAIL AT EACH JOINT AND TO THE LATERAL PIECE W/6-6d NAILS. NAIL THE CENTER PIECE TO THE CROSS BRACES W/3-6d NAILS AT EACH JOINT.

LATERAL PIECE, 2" X 6" BY TRAILER WIDTH MINUS 1/2" (2 REQD). NAIL TO THE CROSS BRACES W/3-10d NAILS AT EACH JOINT.

CROSS BRACE, 2" X 6" BY CUT TO FIT (REF: 55") (3 REQD).

RISER

THIS ASSEMBLY IS DESIGNED FOR USE IN THE STEPPING UP OR STEPPING DOWN OF CONTAINERS AS SHOWN WITHIN THE LOAD ON PAGE 4.

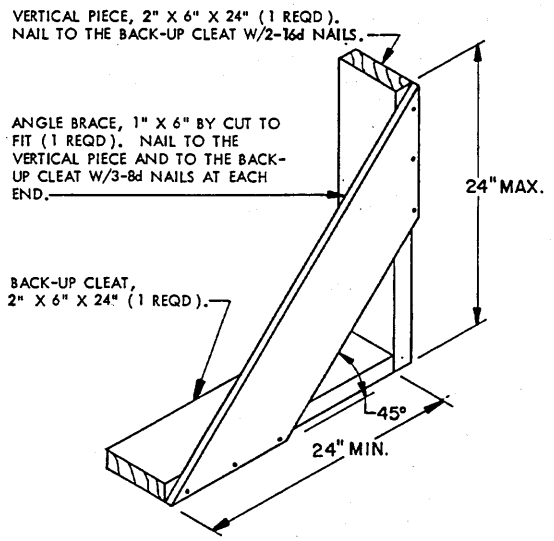


NOTE ▲ :

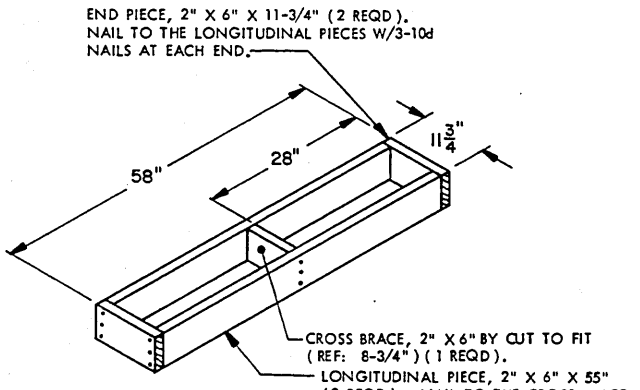
IF DESIRED 1/2" PLYWOOD MAY BE USED IN LIEU OF THE 2" X 6" HORIZONTAL PIECES. THE PLYWOOD MUST BE TRAILER WIDTH MINUS 1/2" WIDE BY THE HEIGHT OF THE TOP HORIZONTAL PIECE. SECURE TO THE VERTICAL PIECES W/1-6d NAIL EVERY 12". ALL PLYWOOD JOINTS MUST CENTER ON THE MIDDLE OR CENTRALLY LOCATED 2" OR 4" VERTICAL PIECE, AS APPLICABLE.

REAR-OF-LOAD GATE

THIS GATE IS DESIGNED FOR USE AT THE REAR END OF A THREE (3) LAYER UNPALLETIZED LOAD, SUCH AS DEPICTED ON PAGE 6. TO SATISFY THE REQUIREMENTS FOR A TWO (2) LAYER LOAD, ELIMINATE THE INTERMEDIATE HORIZONTAL PIECE AND LOWER THE HEIGHT OF THE GATE TO 23-1/2". NOTE: THIS TYPE OF GATE CAN ONLY BE USED AGAINST A TWO OR THREE LAYER UNPALLETIZED LOAD UNIT AT THE REAR OF AN LTL LOAD.

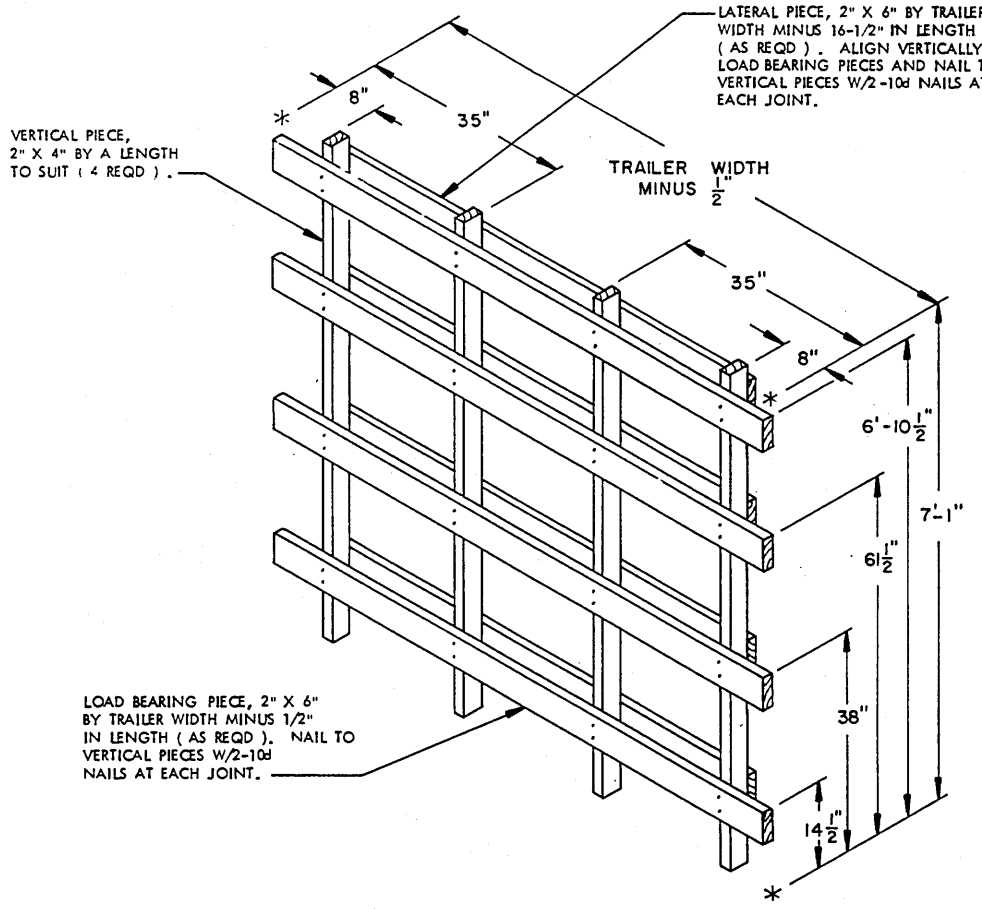


LTL BRACE



FILLER

THE FILLER ASSEMBLY AS SHOWN IS TO BE USED WITHIN LOADS TO TAKE THE PLACE OF AN OMITTED CONTAINER. IT MUST BE USED IN THE TOP LAYER ONLY.

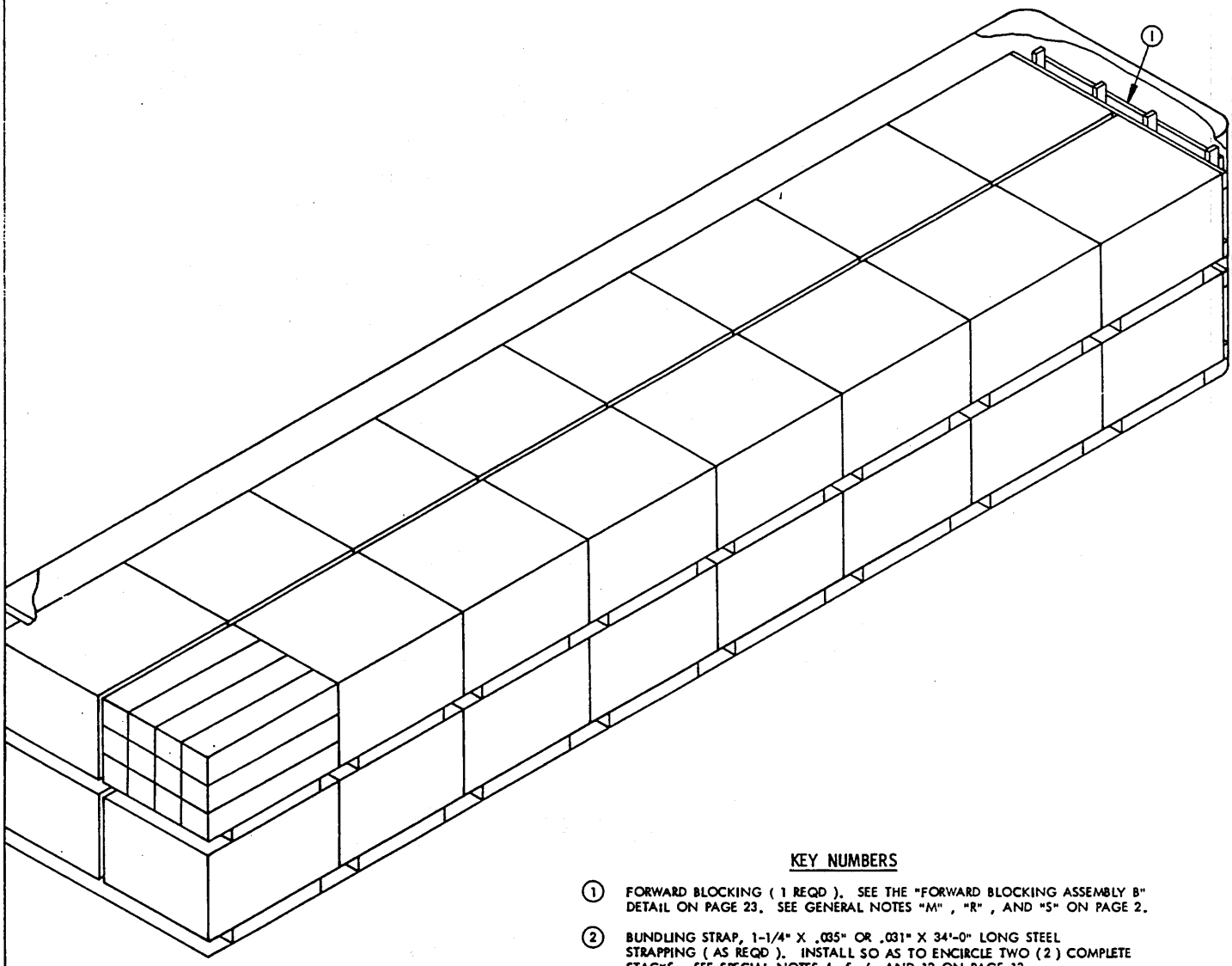


FORWARD BLOCKING ASSEMBLY A

THIS ASSEMBLY IS DESIGNED FOR USE 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", 2" X 6" VERTICAL PIECES WILL BE USED IN LIEU OF THE 2" X 4" PIECES. IF THE TRAILER TO BE LOADED HAS LARGE-ANGLED COrNERS AT THE FORWARD END, REFER TO PAGE 42 FOR GUIDANCE.

NOTICE: THIS "FORWARD BLOCKING" ASSEMBLY IS DESIGNED FOR A SEVEN (7) LAYER UNPALLETIZED LOAD; REFER TO "CHART B" BELOW TO FABRICATE GATES FOR OTHER HEIGHT LOADS.

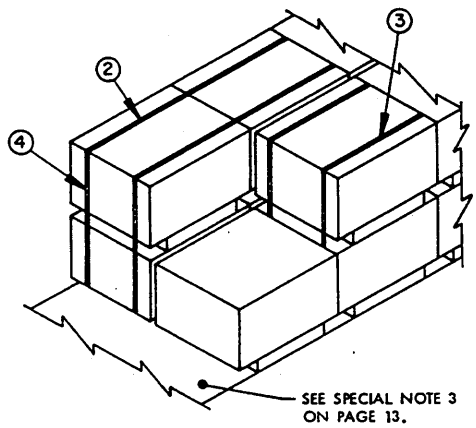
CHART B						
NO. OF LAYERS	8	6	5	4	3	2
TOP HORIZONTAL	7'-10"	70-1/2"	59"	47"	35-1/2"	23-1/2"
INTERMEDIATE HORIZONTAL (S)	6'-6" 50" 37-1/2"	50" 26-1/2" ----	38" 26-1/2" ----	26-1/2" ----- -----	---- --- ---	----- --- ---
BOTTOM HORIZONTAL	14-1 2"	14-1/2"	14-1:2"	14-1/2"	14-1/2"	5-1/2"



ISOMETRIC VIEW

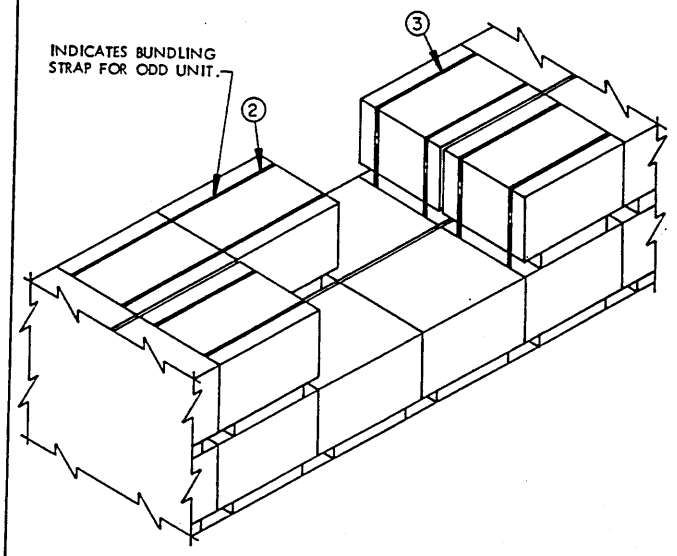
KEY NUMBERS

1. FORWARD BLOCKING (1 REQD). SEE THE "FORWARD BLOCKING ASSEMBLY B" DETAIL ON PAGE 23. SEE GENERAL NOTES "M" , "R" , AND "S" ON PAGE 2.
2. BUNDLING STRAP, 1-1/4" X .035" OR .031" X 34'-0" LONG STEEL STRAPPING (AS REQD). INSTALL SO AS TO ENCIRCLE TWO (2) COMPLETE STACKS. SEE SPECIAL NOTES 4, 5, 6, AND 12 ON PAGE 13.
3. STACK UNITIZING STRAP, 1-1/4" X .035" OR .031" X 28'-0" LONG STEEL STRAPPING (AS REQD). INSTALL TO ENCIRCLE ONE (1) PALLET STACK. SEE SPECIAL NOTES 4 THRU 6 ON PAGE 13.
4. SEAL FOR 1-1/4" STRAPPING (AS REQD, 2 PER STRAP). DOUBLE CRIMP EACH SEAL. SEE GENERAL NOTE "P" ON PAGE 2.



STRAPPING DETAIL A

32-UNIT LOAD IN A 40'-0" LONG BY 8'-2" WIDE CONVENTIONAL VAN TRAILER (PALLETIZED 4-W/ 3-H)



STRAPPING DETAIL B

SPECIAL NOTES:

1. A 32-UNIT LOAD IS SHOWN IN A 40'-0" LONG BY 8'-2" WIDE (INSIDE DIMENSION) CONVENTIONAL TYPE VAN TRAILER. WIDER TRAILERS OF OTHER LENGTHS CAN BE USED.

2. THE PALLET UNIT DEPICTED IN THE LOAD ON PAGE 12 IS THE (4-WIDE BY 3-HIGH UNIT) HAVING OVERALL DIMENSIONS OF 58-1/4" LONG BY 48" WIDE BY 39-3/4" HIGH AND WEIGHING APPROXIMATELY 1,127 POUNDS.

3. IF THE VOID AT THE REAR OF THE LOAD BETWEEN THE PALLET UNITS AND THE REAR DOOR MEASURES 1-1/2" OR LESS REAR BLOCKING IS NOT REQUIRED. IF THE VOID AT THE REAR OF THE LOAD IS GREATER THAN 1-1/2" BUT LESS THAN 9", USE "REAR BLOCKING ASSEMBLY D" AS DETAILED ON PAGE 33. IF THE VOID IS GREATER THAN 9", USE "REAR BLOCKING ASSEMBLY B" AS DETAILED ON PAGE 31. SEE SPECIAL NOTES 10 AND 11. NOTE: IF REAR BLOCKING IS REQUIRED, UNITIZING, AND/OR BUNDLING STRAPS MUST BE INSTALLED AS SPECIFIED IN SPECIAL NOTE 4.

4. IF A STACK IN THE UNIT AT THE REAR OF THE LOAD IS TWO UNITS HIGH, BUNDLING STRAPS SHOWN AS PIECE MARKED ② MUST BE INSTALLED SO AS TO ENCIRCLE THE REARMOST TWO (2) COMPLETE STACKS. IF A STACK IN THE LOAD UNIT AT THE REAR OF THE LOAD IS ONE UNIT HIGH, INSTALL UNITIZING STRAPS SHOWN AS PIECE MARKED ③ AROUND THE NEXT FORWARD 2-HIGH PALLET STACK. SEE "STRAPPING DETAIL A" ON PAGE 12 FOR GUIDANCE.

5. IF PALLET UNITS ARE OMITTED FROM THE MID-SECTION OF THE TOP LAYER, THE PALLET UNITS AT EACH END OF THE SECOND LAYER PORTION OF THE LOAD MUST BE UNITIZED OR BUNDLED TO UNITS IN THE FIRST LAYER UNLESS THE STACKED UNITS ARE AGAINST THE FRONT WALL OF A SQUARE-FRONT TRAILER, AGAINST THE FROWARD BLOCKING ASSEMBLY, OR AT THE VERY REAR OF THE LOAD AS SHOWN ON PAGE 12. THE UNITIZING AND/OR BUNDLING STRAPS MUST BE INSTALLED PRIOR TO FINAL POSITIONING OF THE PALLET STACK, OR STACKS. SEE "STRAPPING DETAIL B" AT LEFT FOR GUIDANCE.

6. IF ONLY ONE PALLET UNIT IS TO BE LOADED IN THE SECOND LAYER OF EITHER ROW IT MUST NOT BE POSITIONED ON THE REARMOST PALLET UNIT IN THE FIRST LAYER. PROVIDE LONGITUDINAL BRACING BY INSTALLING UNITIZING STRAPS, PIECES MARKED ③ .

7. THE DEPICTED LOAD CAN BE REDUCED TO SUIT THE QUANTITY TO BE SHIPPED. ONE OR MORE UNITS CAN BE OMITTED FROM THE TOP LAYER, OR THE ENTIRE TOP LAYER CAN BE OMITTED. TO OMIT ONE (1) UNIT FROM A 1-LAYER LOAD INSTALL A "SPACER ASSEMBLY B" SHOWN AS PIECE MARKED ④ ON PAGE 28, AND DETAILED ON PAGE 33. IF TWO (2) UNITS ARE OMITTED FROM A 1-LAYER LOAD INSTALL REAR BLOCKING AS SPECIFIED IN SPECIAL NOTE 3. IF A 1-LAYER LOAD IS REDUCED BY FOUR UNITS OR MORE THE "K-BRACE" SHOWN AS PIECES MARKED ⑦ THRU ⑱ ON PAGE 28 MUST BE USED TO RETAIN THE LOAD. FOR SHIPMENT OF ONE UNIT REFER TO THE TYPICAL LCL 1-UNIT LOAD ON PAGE 18.

8. REFER TO PAGE 38 FOR GUIDANCE IN THE SHIPMENT OF PARTIAL PALLET UNITS.

9. LEFTOVER CONTAINERS IN AN AMOUNT NOT TO EXCEED TWO (2) MAY BE SECURED TO THE TOP OF A FULL PALLET UNIT FOR SHIPMENT. REFER TO THE "PROCEDURES FOR SHIPMENT OF LEFTOVER CONTAINERS" ON PAGE 37 FOR GUIDANCE.

10. TRAILERS EQUIPPED WITH ROLL-UP TYPE DOORS MAY BE USED, HOWEVER, SPECIAL REAR BLOCKING MUST BE INSTALLED. SEE THE "PROCEDURES FOR TRAILERS EQUIPPED WITH ROLL-UP TYPE DOORS" ON PAGES 39 AND 41 FOR GUIDANCE. THE NAILED-HEADER METHOD IS SHOWN ON PAGE 39 AND THE TYGARD METHOD IS SHOWN ON PAGE 41. NOTE THAT THE SPECIAL REAR BLOCKING FOR TRAILERS EQUIPPED WITH ROLL-UP TYPE DOORS MAY ALSO BE USED IN TRAILERS EQUIPPED WITH HINGED DOORS.

11. IF 40'-0" LONG TRAILERS EQUIPPED WITH ROLL-UP TYPE DOORS ARE USED, THE REARMOST LOAD UNIT MUST BE OMITTED. A TRAILER WHICH IS AT LEAST 42'-0" LONG MUST BE USED FOR THE LOAD AS SHOWN ON PAGE 12.

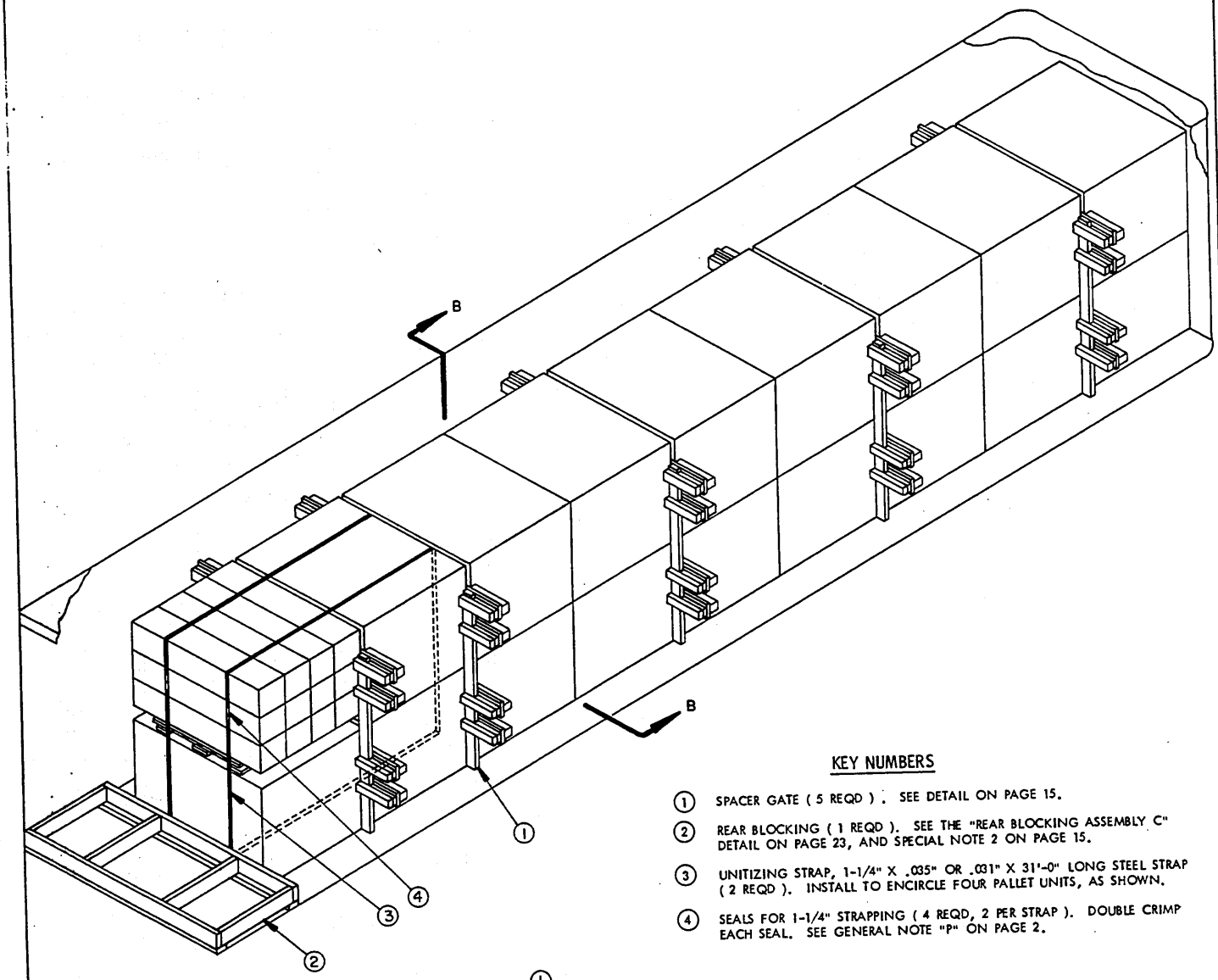
12. NOTE THAT PIECES MARKED ② THRU ④ MAY OR MAY NOT BE REQUIRED.

BILL OF MATERIAL		
LUMBER	LINEAR FEET	BOARD FEET
2" X 4"	28	19
2" X 6"	60	60
NAILS	NO. REQD	POUNDS
10d (3")	64	1

LOAD AS SHOWN

ITEM	QUANTITY	WEIGHT (APPROX)
PALLET UNIT	32	36,064 LBS
DUNNAGE		159 LBS
TOTAL WEIGHT		36,223 LBS

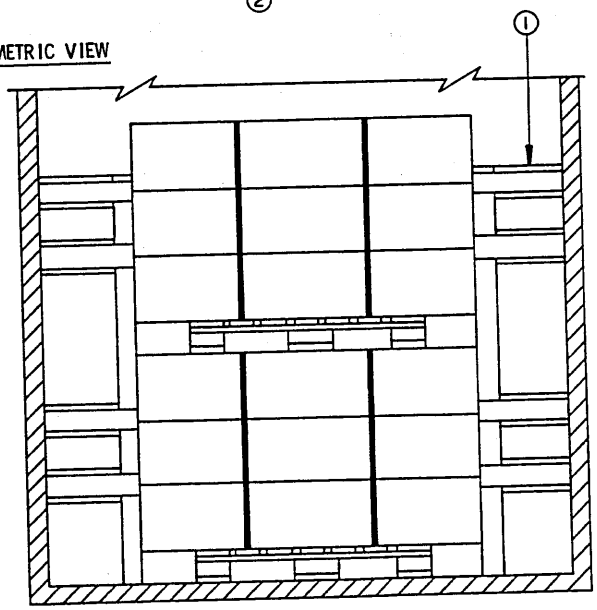
32-UNIT LOAD IN A 40'-0" LONG BY 8'-2" WIDE CONVENTIONAL VAN TRAILER (PALLETIZED 4W/3H)



ISOMETRIC VIEW

KEY NUMBERS

1. SPACER GATE (5 REQD). SEE DETAIL ON PAGE 15.
2. REAR BLOCKING (1 REQD). SEE THE "REAR BLOCKING ASSEMBLY C" DETAIL ON PAGE 23, AND SPECIAL NOTE 2 ON PAGE 15.
3. UNITIZING STRAP, 1-1/4" X .035" OR .031" X 31'-0" LONG STEEL STRAP (2 REQD). INSTALL TO ENCIRCLE FOUR PALLET UNITS, AS SHOWN.
4. SEALS FOR 1-1/4" STRAPPING (4 REQD, 2 PER STRAP). DOUBLE CRIMP EACH SEAL. SEE GENERAL NOTE "P" ON PAGE 2.



SECTION B-B

18-UNIT LOAD IN A 40'-0" LONG BY 7'-6" WIDE CONVENTIONAL VAN TRAILER (PALLETIZED 4-W/3-H)

SPECIAL NOTES:

1. AN 18-UNIT LOAD IS SHOWN IN A 40'-0" LONG BY 7'-6" WIDE (INSIDE DIMENSION) CONVENTIONAL TYPE VAN TRAILER. TRAILERS OF OTHER DIMENSIONS CAN BE USED. SEE SPECIAL NOTE 3.

2. IF THE VOID AT THE REAR OF THE LOAD BETWEEN THE PALLET UNITS AND THE REAR DOOR MEASRUES 1-1/2" OF LESS REAR BLOCKING IS NOT REQUIRED. IF THE VOID AT THE REAR OF THE LOAD IS GREATER THAN 1-1/2" BUT LESS THAN 9", USE "REAR BLOCKING ASSEMBLY D" AS DETAILED ON PAGE 33. IF THE VOID IS GREATER THAN 9", USE REAR BLOCKING ASSEMBLY "C", PIECE MARKED ② ON PAGE 14.

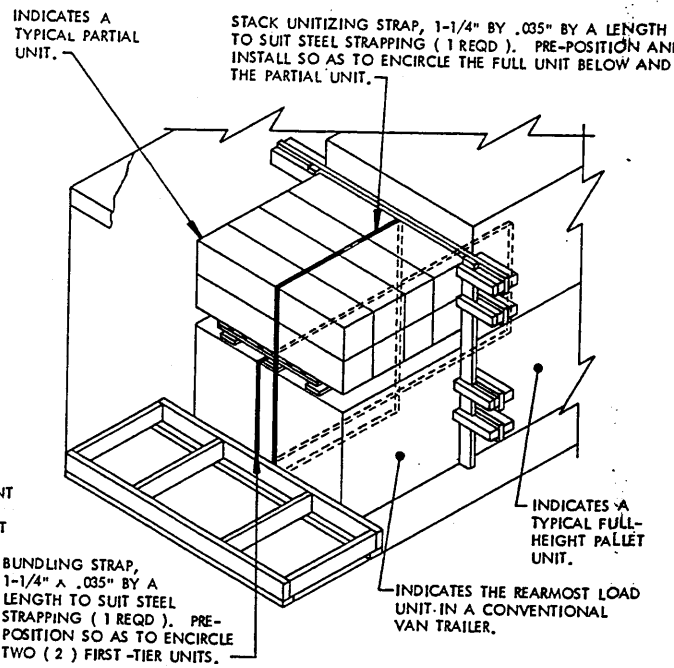
3. IF A 17-UNIT LOAD IS TO BE SHIPPED IN A 40'-0" LONG TRAILER, OMIT THE SECOND LAYER UNIT FROM EITHER THE MOST FORWARD OR THE MOST REARWARD LOAD UNIT. IF THE FORWARD SECOND LAYER UNIT IS OMITTED, UNITIZING STRAPS AND SEALS, PIECES MARKED ③ AND ④ , MUST BE USED TO UNITIZE THE MOST FORWARD TWO-UNIT HIGH LOAD UNITS. IF THE REARWARD SECOND LAYER UNIT IS OMITTED, MOVE THE UNITIZING STRAPS AND SEALS TO THE MOST REARWARD TWO-UNIT HIGH LOAD UNITS. IN EITHER CASE THE UNITIZING STRAP MUST ENCOMPASS THE FIRST AND SECOND LAYER UNITS AND THE SPACER GATE.

4. WHEN SHIPPING A PARTIAL PALLET UNIT WHICH CONSISTS OF ONE OR TWO LAYERS OF CONTAINERS, SEE THE "SECUREMENT OF PARTIAL UNIT" DETAIL AT THE RIGHT.

5. WHEN SHIPPING LEFTOVER CONTAINERS, SEE THE DETAIL ON PAGE 37 FOR SECUREMENT OF THE LEFTOVER CONTAINERS TO A PALLET UNIT. A PALLET UNIT WITH LEFTOVER CONTAINERS SECURED TO IT WILL BE POSITIONED ONLY IN THE UPPER LAYER OF PALLET UNITS AND NOT IN EITHER END STACK.

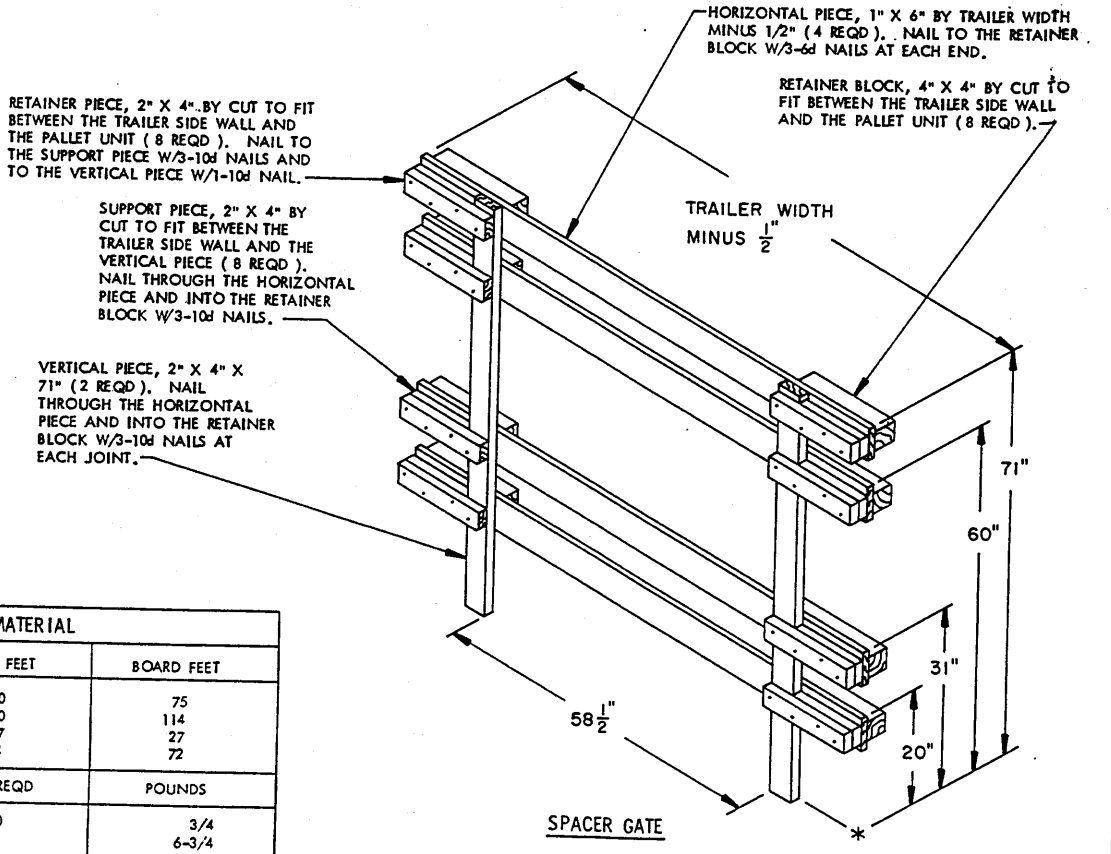
6. A PARTIAL ONE-LAYER PALLET UNIT CANNOT BE SECURED TO THE TOP OF A PALLET UNIT IN THE SECOND LAYER.

7. A PARTIAL PALLET UNIT CONSISTING OF TWO LAYERS OF CONTAINERS MAY BE SUBSTITUTED FOR A FULL PALLET UNIT IN THE SECOND LAYER NEAR THE MIDDLE OF THE LOAD.



SECUREMENT OF PARTIAL UNIT

THIS PROCEDURE IS APPLICABLE ONLY FOR THE SECUREMENT OF A PARTIAL UNIT IN THE REARMOST LOAD UNIT IN A TRAILER.

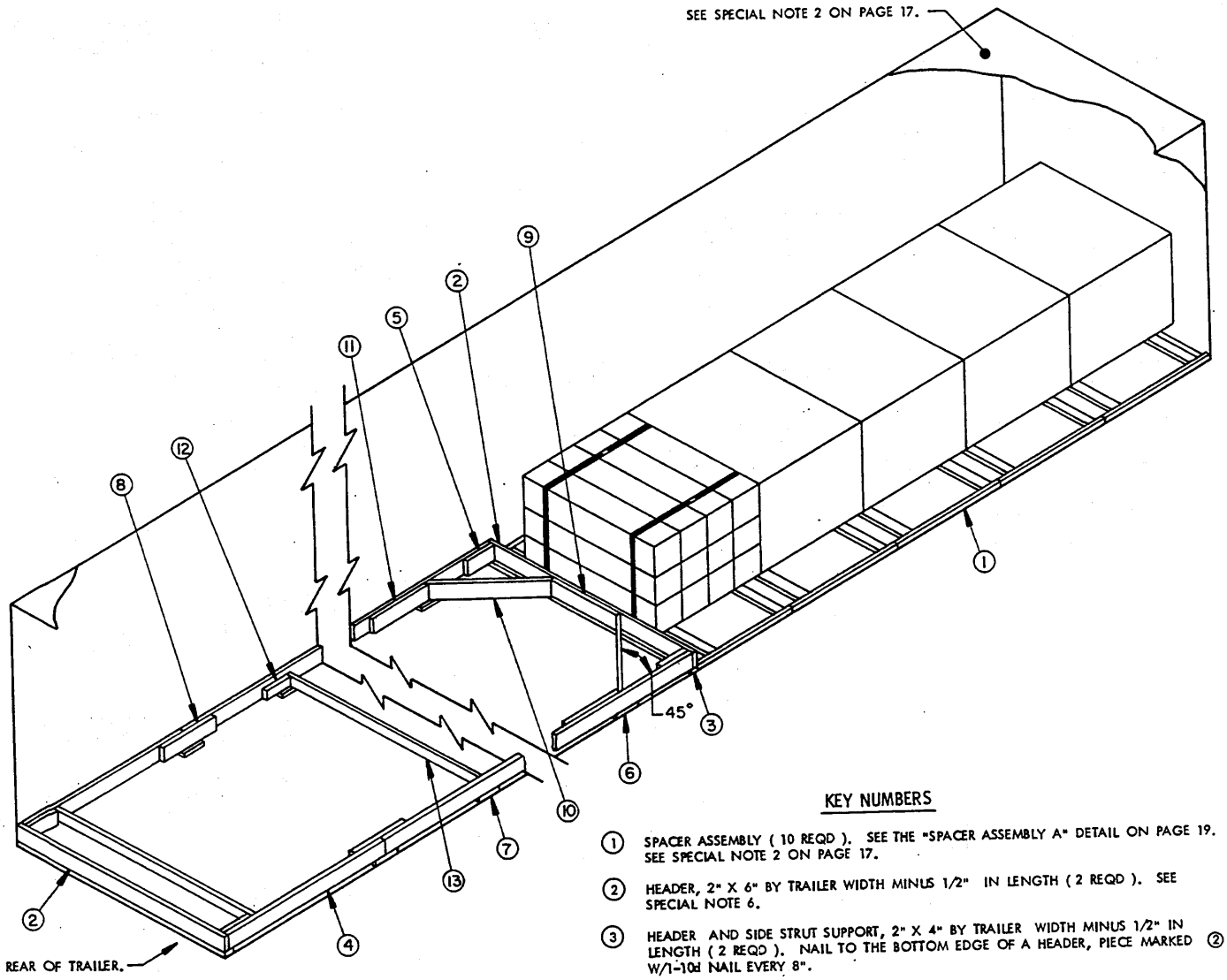


BILL OF MATERIAL		
LUMBER	LINEAR FEET	BOARD FEET
1" X 6"	150	75
2" X 4"	170	114
2" X 6"	27	27
4" X 4"	54	72
NAILS	NO. REQD	POUNDS
6d (2")	120	3/4
10d (3")	431	6-3/4
STEEL STRAPPING, 1-1/4" X .035" ---------- 62' REQD ------ 9 LBS		
SEALS FOR 1-1/4" STRAPPING ---------- 4 REQD ------- NIL		

LOAD AS SHOWN

ITEM	QUANTITY	WEIGHT (APPROX)
PALLET UNIT	18	20,268 LBS
DUNNAGE		593 LBS
TOTAL WEIGHT		20,861 LBS

18-UNIT LOAD IN A 40'-0" LONG BY 7'-6" WIDE CONVENTIONAL VAN TRAILER (PALLETIZED 4-W/3-H)



ISOMETRIC VIEW

KEY NUMBERS

① SPACER ASSEMBLY (10 REQD). SEE THE "SPACER ASSEMBLY A" DETAIL ON PAGE 19. SEE SPECIAL NOTE 2 ON PAGE 17.

② HEADER, 2" X 6" BY TRAILER WIDTH MINUS 1/2" IN LENGTH (2 REQD). SEE SPECIAL NOTE 6.

③ HEADER AND SIDE STRUT SUPPORT, 2" X 4" BY TRAILER WIDTH MINUS 1/2" IN LENGTH (2 REQD). NAIL TO THE BOTTOM EDGE OF A HEADER, PIECE MARKED ② W/1-10d NAIL EVERY 8".

④ SIDE STRUT, 2" X 6" BY CUT TO FIT BETWEEN THE FORWARD AND REAR HEADERS, PIECES MARKED ② (2 REQD). SEE SPECIAL NOTE 3 ON PAGE 17.

⑤ POCKET CLEAT, 2" X 6" X 12" (4 REQD). NAIL TO A SIDE STRUT, PIECE MARKED ④ , W/3-10d NAILS. TOENAIL TO THE ADJACENT HEADER, PIECE MARKED ② , W/3-12d NAILS.

⑥ RISER PIECE, 2" X 4" X 9" (2 REQD). POSITION SO AS TO BE CENTERED UNDER THE JOINT OF A DIAGONAL BRACE AND A BACK-UP CLEAT, PIECES MARKED ⑩ AND ⑪ . NAIL TO SIDE STRUT MARKED ④ W/3-10d NAILS.

⑦ RISER PIECE, 2" X 4" X 9" (AS REQD). CENTER UNDER JOINT OF SIDE STRUT AND SPLICE PIECE, PIECES MARKED ④ AND ⑧ , AND UNDER JOINT OF STRUT BRACE AND RETAINING CLEAT, PIECES MARKED ⑬ AND ⑫ . TOENAIL THRU SIDE STRUT W/3-10d NAILS. SEE SPECIAL NOTE 3 ON PAGE 17.

⑧ SPLICE PIECE, 2" X 6" X 24" (AS REQD). CENTER ON JOINT OF PIECES MARKED ④ AND NAIL TO SIDE STRUT MARKED ④ W/4-10d NAILS AT EACH END. SEE SPECIAL NOTE 3 ON PAGE 17.

⑨ CENTER CLEAT, 2" X 6" X 30" (1 REQD). NAIL TO A HEADER, PIECE MARKED ② , W/6-10d NAILS.

⑩ DIAGONAL BRACE, 2" X 6" BY CUT TO FIT (2 REQD). DOUBLE BEVEL EACH END WITH 45° CUTS. INSTALL AT A 45° ANGLE AS SHOWN AND TOENAIL TO THE ADJACENT HEADER AND SIDE STRUT, PIECES MARKED ② AND ④ , W/2-16d NAILS AT EACH END.

⑪ BACK-UP CLEAT, 2" X 6" X 24" (2 REQD). NAIL TO A SIDE STRUT, PIECE MARKED ④ , W/8-10d NAILS.

⑫ STRUT BRACE RETAINING CLEAT, 2" X 4" X 12" (AS REQD). NAIL TO A SIDE STRUT PIECE MARKED ④ , W/3-10d NAILS. SEE SPECIAL NOTE 3 ON PAGE 17.

⑬ STRUT BRACE, 2" X 4" BY TRAILER WIDTH MINUS 3" IN LENGTH (MINIMUM OF ONE REQUIRED). NAIL TO THE POCKET CLEATS, PIECES MARKED ⑤ , AND/OR TO THE STRUT BRACE RETAINING CLEATS, PIECES MARKED ⑫ , W/2-12d NAILS AT EACH END. SEE SPECIAL NOTE 4 ON PAGE 17.

TYPICAL LTL (5-UNIT LOAD) (PALLETIZED 4-W/3-H)

PROJECT GM 597-67

SPECIAL NOTES:

1. THIS LTL OUTLOADING PROCEDURE IS SHOWN DEPICTING THE USE OF "K-BRACE" BLOCKING IN A SQUARE FRONT TRAILER.

2. IF THE TRAILER BEING LOADED HAS ROUNDED CORNERS AT THE FORWARD END REFER TO THE "TYPICAL LTL (1-UNIT LOAD) PALLETIZED" PROCEDURES ON PAGE 18 FOR SIDE BLOCKING REQUIREMENTS FOR THE MOST FORWARD UNIT. THE OTHER UNITS WILL BE BRACED AS SHOWN.

3. DEPENDING ON THE NUMBER OF UNITS BEING LOADED, EACH OF THE SIDE STRUTS, PIECES MARKED ④ , MAY NEED TO BE FORMED FROM MORE THAN ONE PIECE OF MATERIAL. IF SUCH IS THE CASE, THE SIDE STRUTS MUST BE SPLICED. SPLICING CAN BE ACCOMPLISHED BY CENTERING A 2" X 6" X 24" PIECE ON THE JOINT OF THE SIDE STRUTS AND NAILING IT TO THE SIDE STRUTS W/4-10d NAILS AT EACH END. CAUTION: A RISER PIECE, PIECE MARKED ⑦ , MUST BE POSITIONED UNDER EACH SPLICE JOINT. NOTE: IF DESIRED, THE STRUT BRACING PIECE(S) , PIECE MARKED ⑬ , MAY BE NAILED TO THE SPLICE PIECES IN LIEU OF USING ADDITIONAL STRUT BRACE RETAINING CLEATS, PIECES MARKED ⑫ .

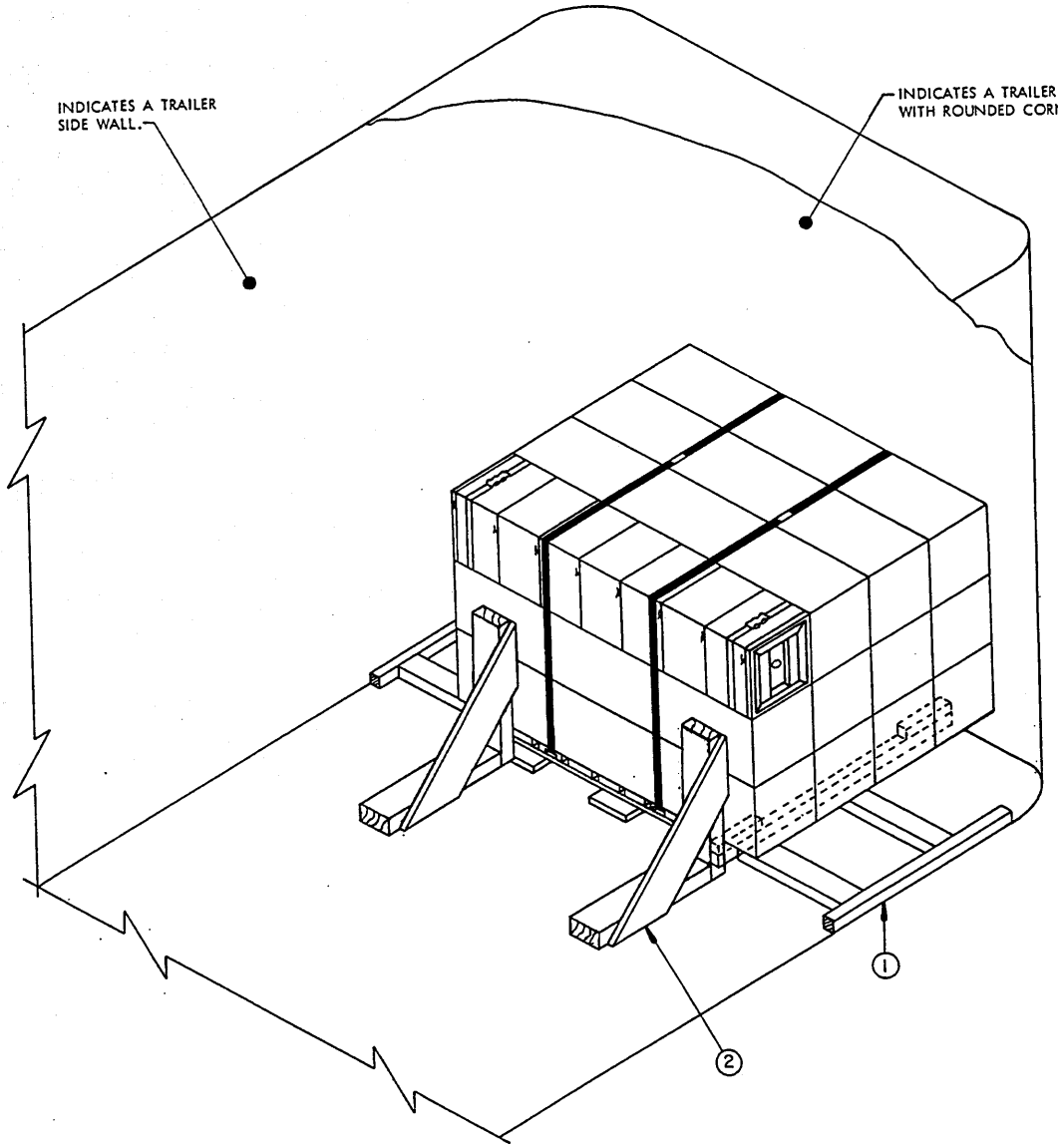
4. ALL LTL LOADS, REGARDLESS OF THEIR SIZE, REQUIRE ONE STRUT BRACE POSITIONED AT THE REAR OF THE TRAILER AND NAILED TO PIECE MARKED ⑤ . IF THE SIDE STRUTS, PIECES MARKED ④ , ARE LONGER THAN 7'-0", AN ADDITIONAL STRUT BRACE, PIECE MARKED ⑬ , AND TWO (2) STRUT BRACE RETAINING CLEATS, PIECES MARKED ⑫ , AND TWO (2) RISER PIECES MARKED ⑦ , MUST BE APPLIED FOR EVERY 7'-0" OF SIDE STRUT LENGTH .

5. THE "K-BRACE" BLOCKING, SHOWN AS PIECES MARKED ② THRU ⑬ , IS ADEQUATE FOR RETAINING A MAXIMUM LTL LOAD OF 20,000 POUNDS.

6. TRAILERS EQUIPPED WITH ROLL-UP TYPE DOORS MAY BE USED; HOWEVER, SPECIAL REAR BLOCKING MUST BE INSTALLED. "REAR BLOCKING ASSEMBLY C" DETAILED ON PAGE 23 WILL BE USED IN CONJUNCTION WITH A NAILED HEADER. SEE THE "PROCEDURES FOR CONVENTIONAL VAN TRAILERS EQUIPPED WITH ROLL-UP TYPE DOORS" AND THE NAILED-HEADER METHOD ON PAGE 39 FOR GUIDANCE. NOTE THAT THE SPECIAL REAR BLOCKING FOR TRAILERS EQUIPPED WITH ROLL-UP TYPE DOORS MAY ALSO BE USED IN TRAILERS EQUIPPED WITH HINGED DOORS, AND SHOULD BE USED IF POSSIBLE IN LIEU OF PIECES MARKED ② THRU ⑬ .

7. REFER TO PAGE 38 FOR GUIDANCE IN THE SHIPMENT OF PARTIAL PALLET UNITS.

8. LEFTOVER CONTAINERS, IN AN AMOUNT NOT TO EXCEED TWO (2) , MAY BE SECURED TO THE TOP OF A FULL PALLET UNIT FOR SHIPMENT. REFER TO THE "PROCEDURES FOR SHIPMENT OF LEFTOVER CONTAINERS" ON PAGE 37 FOR GUIDANCE.



ISOMETRIC VIEW

KEY NUMBERS

(1) SPACER ASSEMBLY (2 REQD). SEE THE "SPACER ASSEMBLY A" DETAIL AND "NOTE(◉)" ON PAGE 19.

(2) LTL BRACE (2 REQD). SEE DETAIL ON PAGE 19. NAIL TO THE TRAILER FLOOR W/10-10d NAILS. SEE SPECIAL NOTE 3 AT LEFT AND GENERAL NOTE "R" ON PAGE 2.

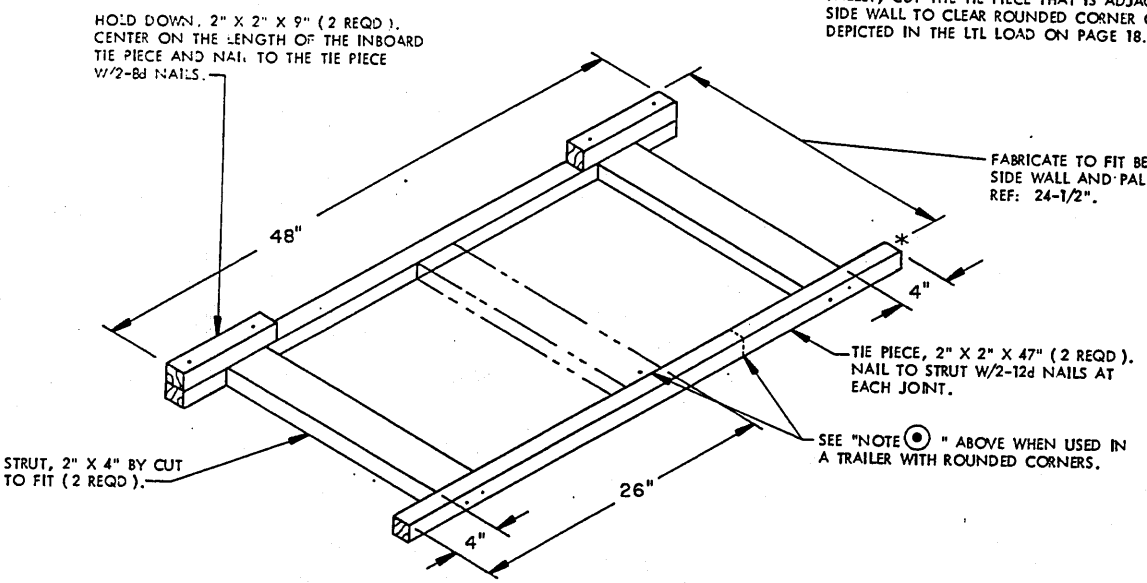
SPECIAL NOTES:

1. A ONE PALLET UNIT LOAD IS SHOWN DEPICTING THE USE OF LTL BRACES IN A TRAILER EQUIPPED WITH ROUNDED CORNERS AT THE FORWARD END AND WHICH HAS A NAILABLE FLOOR. TRAILERS WITH NON-NAILABLE FLOORS CANNOT BE USED.
2. THE PALLET UNIT SHOWN IS THE (4-WIDE BY 3-HIGH) UNIT HAVING OVERALL DIMENSIONS OF 58-1/4" LONG BY 48" WIDE BY 39-3/4" HIGH AND WEIGHING APPROXIMATELY 1,127 POUNDS.
3. IF DESIRED, TWO (2) ADDITIONAL LTL BRACES MAY BE INSTALLED AT THE FORWARD END OF THE LADING.
4. EACH LTL BRACE AS APPLIED FOR LONGITUDINAL BRACING WILL SUPPORT 2,000 POUNDS OF LADING, HOWEVER, NOT LESS THAN TWO (2) BRACES WILL BE USED. ADDITIONAL BRACES MAY BE INSTALLED FOR THE RETENTION OF A HEAVIER LOAD.

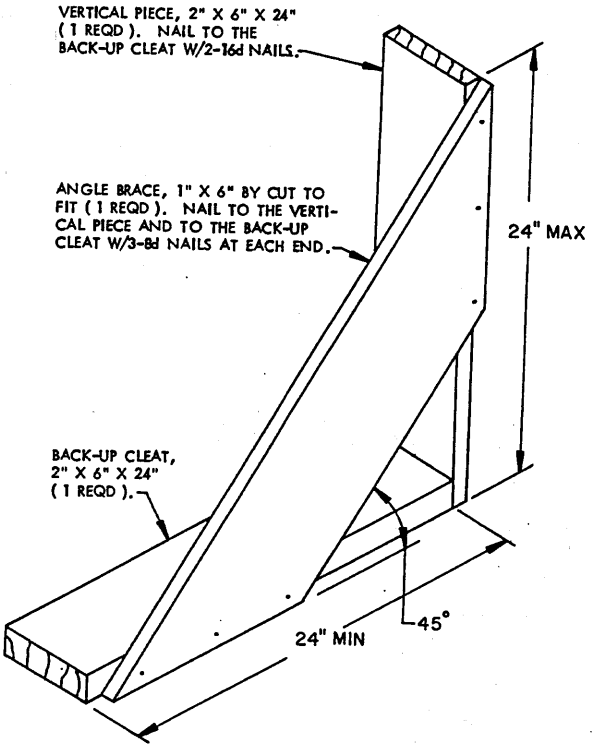
TYPICAL LTL (1-UNIT LOAD) (PALLETIZED 4W/3H)

NOTE ⊙:

WHEN USED TO BRACE THE MOST FORWARD UNIT IN A TRAILER EQUIPPED WITH ROUNDED CORNERS AT THE FORWARD END, MOVE THE FRONT STRUT TO CENTER ON CENTER POST OF PALLET, CUT THE TIE PIECE THAT IS ADJACENT TO THE TRAILER SIDE WALL TO CLEAR ROUNDED CORNER OF TRAILER AS DEPICTED IN THE LTL LOAD ON PAGE 18.



SPACER ASSEMBLY A

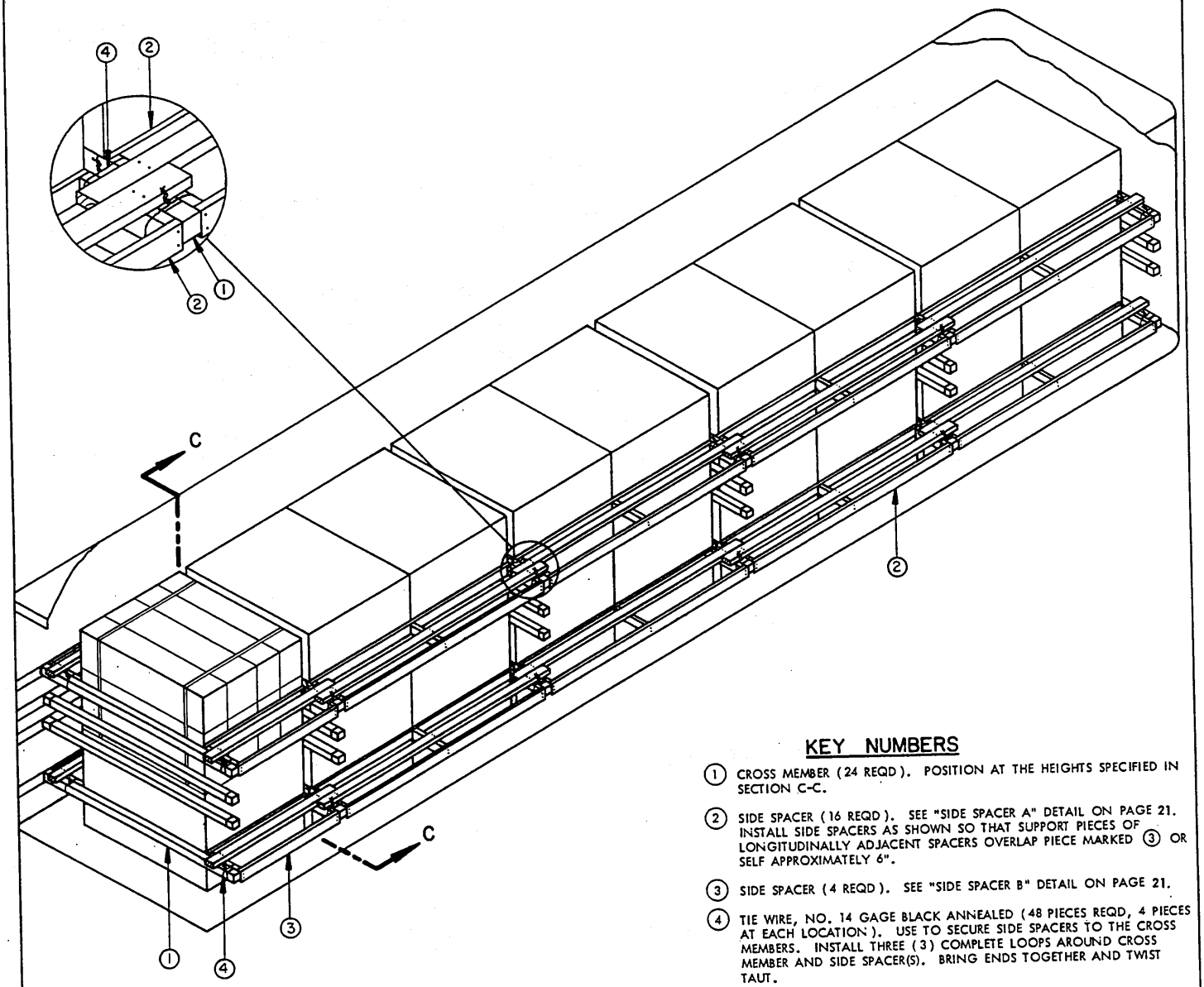


LTL BRACE

SEE "NOTE ■ " TO THE RIGHT.

NOTE ■:

EACH BRACE AS APPLIED FOR LONGITUDINAL BRACING WILL SUPPORT 2,000 POUNDS OF LADING.



ISOMETRIC VIEW

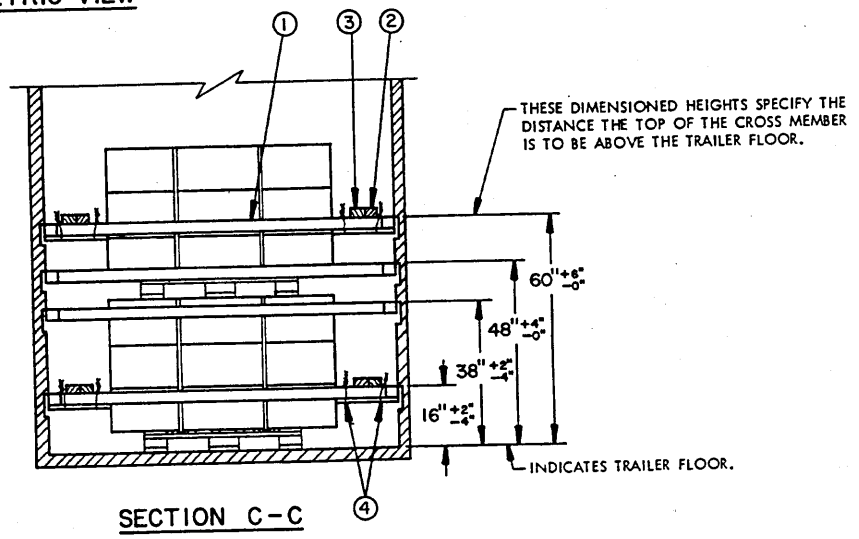
KEY NUMBERS

(1) CROSS MEMBER (24 REQD). POSITION AT THE HEIGHTS SPECIFIED IN SECTION C-C.

(2) SIDE SPACER (16 REQD). SEE "SIDE SPACER A" DETAIL ON PAGE 21. INSTALL SIDE SPACERS AS SHOWN SO THAT SUPPORT PIECES OF LONGITUDINALLY ADJACENT SPACERS OVERLAP PIECE MARKED (3) OR SELF APPROXIMATELY 6".

(3) SIDE SPACER (4 REQD). SEE "SIDE SPACER B" DETAIL ON PAGE 21.

(4) TIE WIRE, NO. 14 GAGE BLACK ANNEALED (48 PIECES REQD, 4 PIECES AT EACH LOCATION). USE TO SECURE SIDE SPACERS TO THE CROSS MEMBERS. INSTALL THREE (3) COMPLETE LOOPS AROUND CROSS MEMBER AND SIDE SPACER(S). BRING ENDS TOGETHER AND TWIST TAUT.



SECTION C-C

(PALLETIZED 4W/3H)

18-UNIT LOAD IN A 40'-0" LONG BY 7'-6" WIDE TRAILER (MECHANICAL)

PROJECT GM 597-67

SPECIAL NOTES:

1. AN 18-UNIT LOAD IS SHOWN IN A 40'-0" LONG BY 7'-6" WIDE (INSIDE DIMENSION) TRAILER WITH ROUNDED CORNERS AT THE FORWARD END AND WHICH IS EQUIPPED WITH A MECHANICAL LOAD BLOCKING SYSTEM THAT CONTAINS AT LEAST TWENTY-FOUR (24) CROSS MEMBERS, AND MEASURES AT LEAST 37'-4" IN LENGTH. A WIDER OR NARROWER TRAILER CAN BE USED.

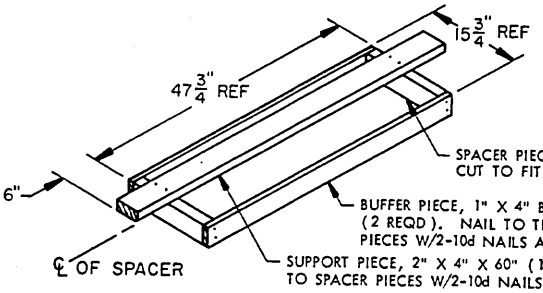
2. IF A LOAD CONTAINING ONE (1) LESS UNIT THAN SHOWN IN THE ISOMETRIC VIEW IS TO BE OUTLOADED DELETE THE SECOND LAYER UNIT IN THE ONE-UNIT LONG BAY AT THE REAR OF THE LOAD. IF A LOAD CONTAINING TWO (2) LESS UNITS THAN SHOWN IS TO BE OUTLOADED DELETE BOTH UNITS IN THE ONE-UNIT LONG BAY. ALSO, DELETE THE NUMBER OF SIDE SPACERS AND CROSS MEMBERS ACCORDINGLY.

3. WHEN SHIPPING A PARTIAL PALLET UNIT WHICH CONSISTS OF ONE LAYER OF CONTAINERS, SEE THE "SECUREMENT OF PARTIAL UNIT" DETAIL ON PAGE 15.

4. LEFTOVER CONTAINERS, IN AN AMOUNT NOT TO EXCEED TWO (2), MAY BE SECURED TO THE TOP OF A FULL OR PARTIAL PALLET UNIT FOR SHIPMENT. REFER TO THE "PROCEDURES FOR SHIPMENT OF LEFTOVER CONTAINERS" ON PAGE 37 FOR GUIDANCE.

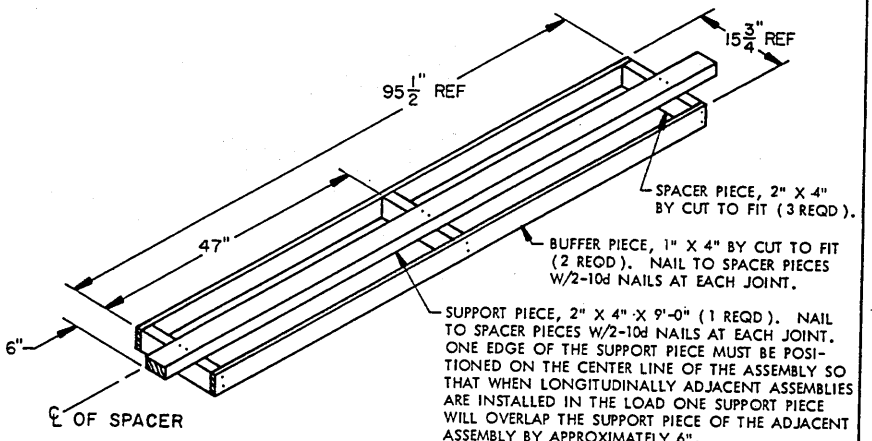
5. A PARTIAL ONE-LAYER PALLET UNIT CANNOT BE SECURED TO THE TOP OF A PALLET UNIT IN THE SECOND LAYER.

6. WHEN SHIPPING A PARTIAL PALLET UNIT WHICH CONSISTS OF TWO LAYERS OF CONTAINERS, THE PARTIAL PALLET UNIT MAY BE SUBSTITUTED FOR A FULL PALLET UNIT IN THE SECOND LAYER.



SIDE SPACER B

SEE "NOTE ● " BELOW.



SIDE SPACER A

SEE "NOTE ● " BELOW.

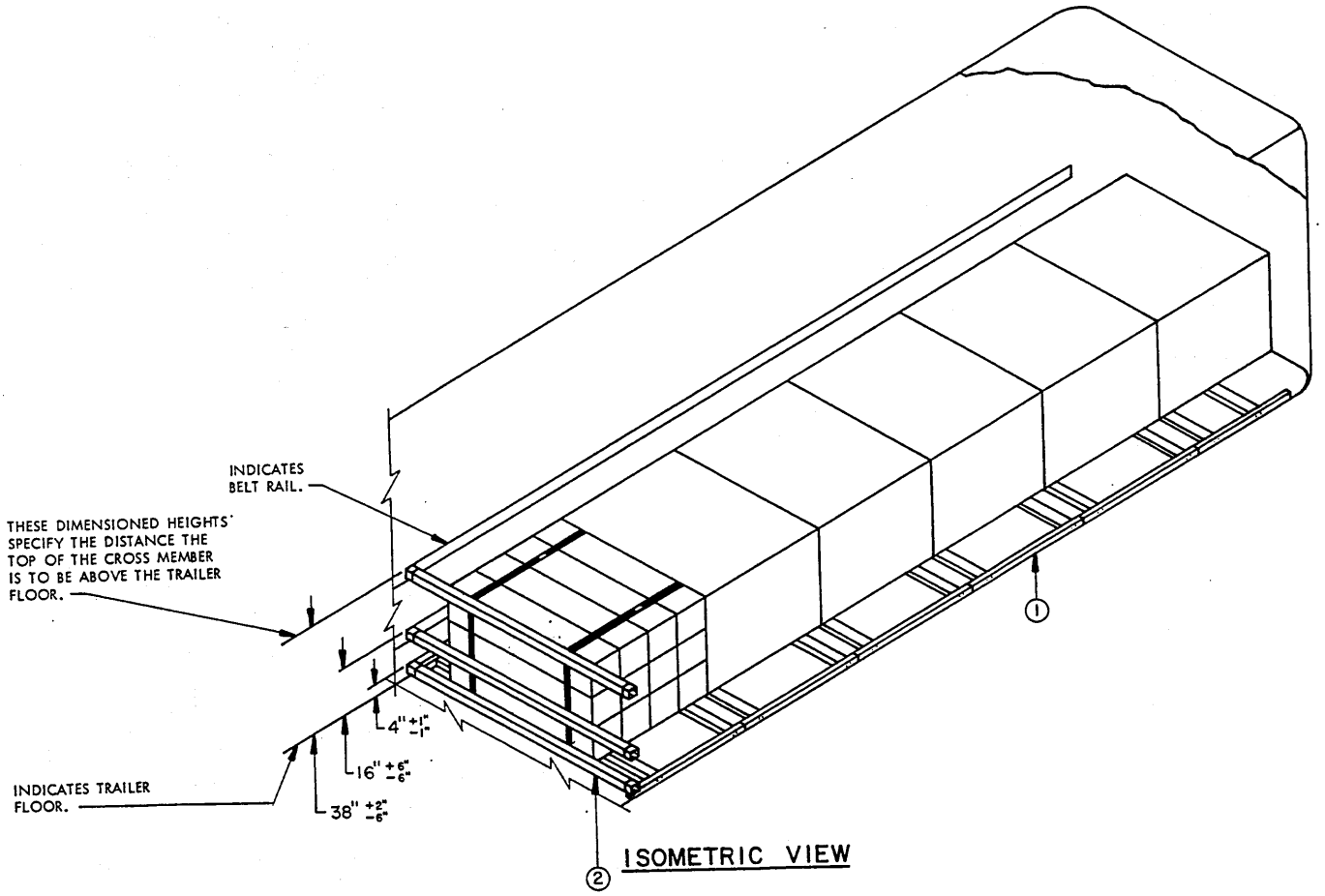
BILL OF MATERIAL		
LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	288	96
2" X 4"	211	140
NAILS	NO. REQD	POUNDS
10d (3")	336	5-1/4
NO. 14 GAGE WIRE ---------- 304' REQD ---------- 5 LBS		

NOTE ● :

THE SPACE BETWEEN THE PALLET UNIT AND THE TRAILER SIDE WALL MUST BE FIELD CHECKED TO INSURE THAT SPACER CAN BE INSTALLED AFTER CROSS MEMBERS ARE INSTALLED. LIKEWISE, THE SPACE BETWEEN LONGITUDINALLY ADJACENT CROSS MEMBERS MUST BE FIELD CHECKED.

LOAD AS SHOWN

ITEM	QUANTITY	WEIGHT (APPROX)
PALLET UNIT	18	20,268 LBS
DUNNAGE		483 LBS
TOTAL WEIGHT		20,751 LBS



ISOMETRIC VIEW

KEY NUMBERS

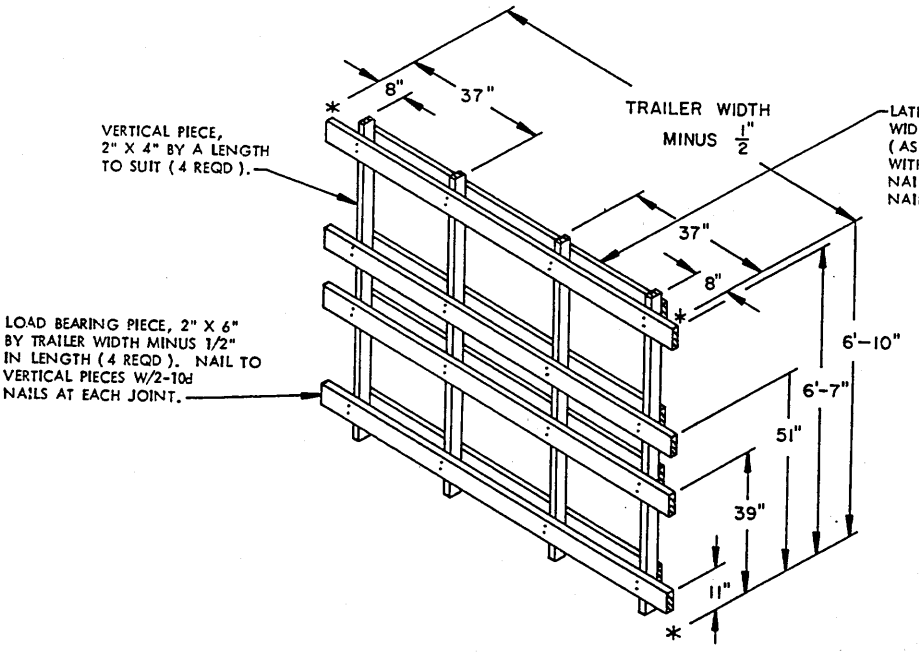
(1) SPACER ASSEMBLY (12 REQD). SEE THE "SPACER ASSEMBLY A" DETAIL AND "NOTE ⊙" ON PAGE 19.

(2) CROSS MEMBER (3 REQD). POSITION AT THE HEIGHTS SPECIFIED.

SPECIAL NOTES:

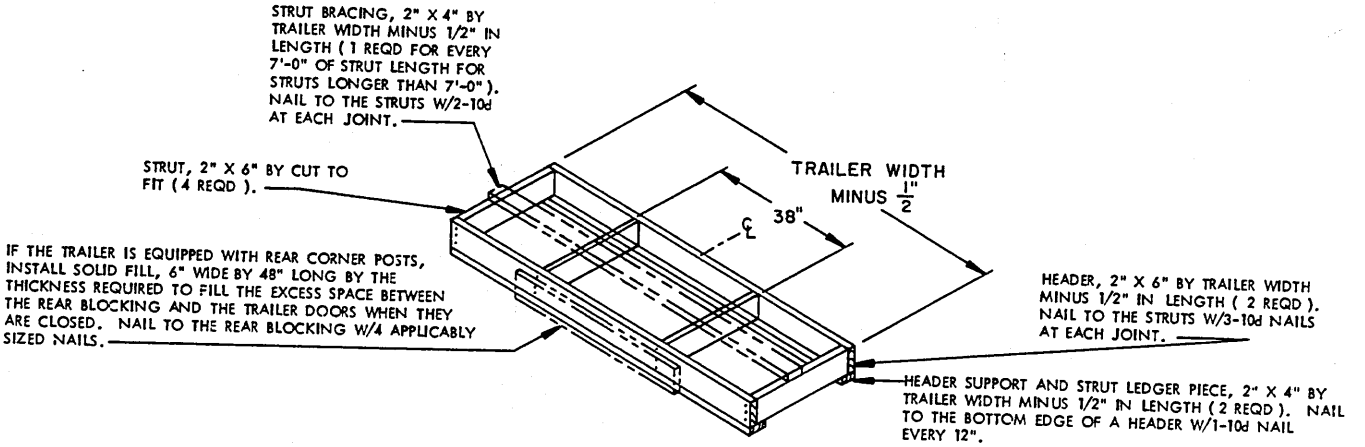
1. A SIX-UNIT LOAD IS SHOWN IN A TRAILER EQUIPPED WITH MECHANICAL BRACING DEVICES AND ROUNDED CORNERS AT THE FORWARD END.
2. IF DESIRED, THE METHOD FOR BLOCKING THE REAR OF THE LOAD, MAY ALSO BE UTILIZED FOR BLOCKING THE FRONT OF THE LOAD.
3. THE BLOCKING METHOD DEPICTED ABOVE IS ADEQUATE FOR RETAINING A FULL ONE LAYER LOAD, OF NINE (9) PALLET UNITS. IF MORE THAN NINE (9) UNITS ARE TO BE OUT-LOADED, USE THE METHOD DEPICTED ON PAGE 20 FOR THE TWO-UNIT HIGH PORTION OF THE LOAD.

TYPICAL LTL (6-UNIT LOAD) IN A TRAILER EQUIPPED WITH MECHANICAL BRACING DEVICES (PALLETIZED 4W/3H)



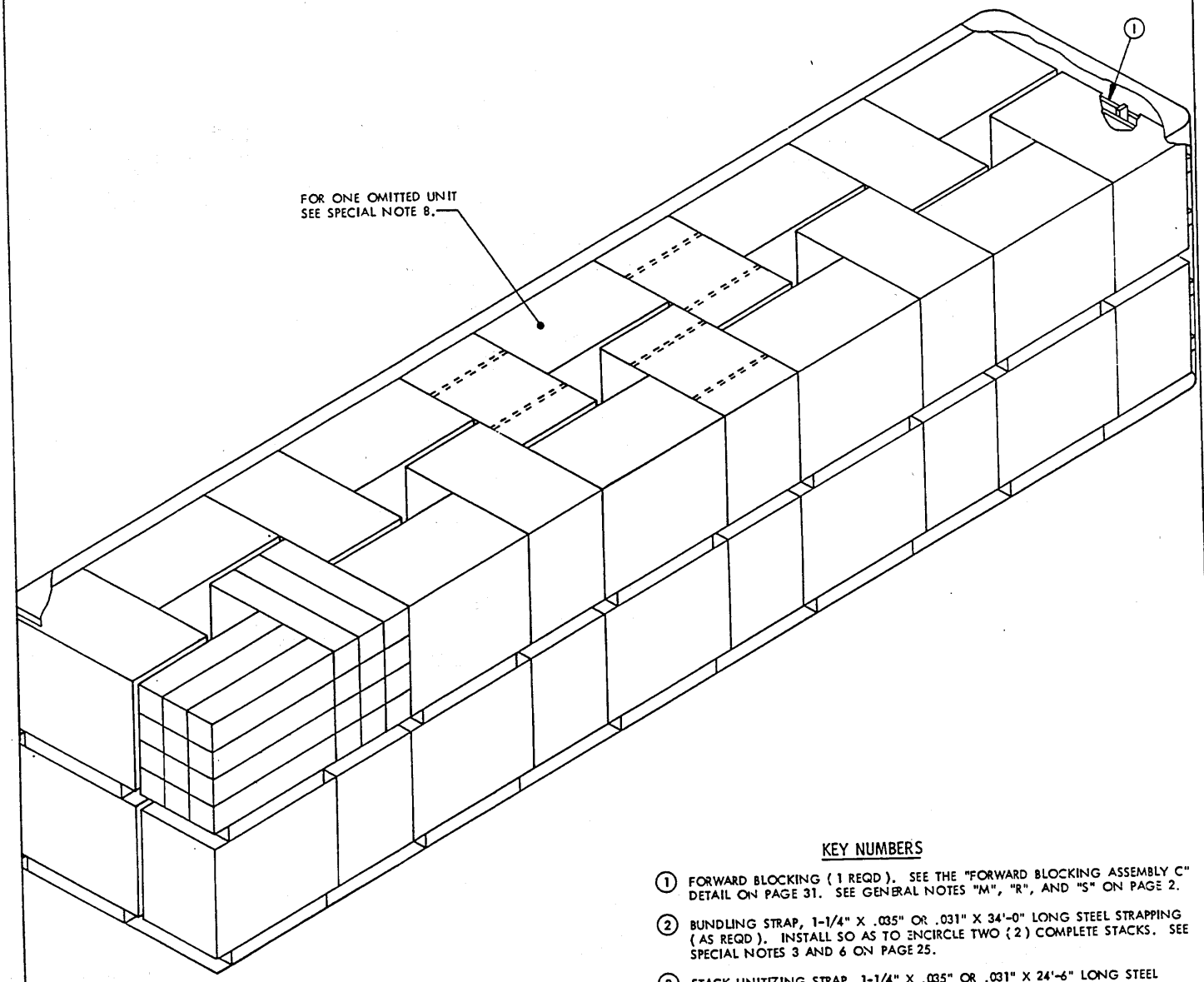
FORWARD BLOCKING ASSEMBLY B

THIS ASSEMBLY IS DESIGNED FOR USE 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", 2" X 6" VERTICAL PIECES WILL BE USED IN LIEU OF THE 2" X 4" PIECES. IF THE TRAILER TO BE LOADED HAS LARGE-ANGLED CORNERS AT THE FORWARD END, REFER TO PAGE 42 FOR GUIDANCE.



REAR BLOCKING ASSEMBLY C

THIS ASSEMBLY IS DESIGNED FOR USE AT THE REAR OF THE LOAD IN A CONVENTIONAL VAN TRAILER WHEN THE EXCESS SPACE BETWEEN THE LADING AND THE TRAILER DOORS IS MORE THAN 9".



ISOMETRIC VIEW

KEY NUMBERS

(1) FORWARD BLOCKING (1 REQD). SEE THE "FORWARD BLOCKING ASSEMBLY C" DETAIL ON PAGE 31. SEE GENERAL NOTES "M", "R", AND "S" ON PAGE 2.

(2) BUNDLING STRAP, 1-1/4" X .035" OR .031" X 34'-0" LONG STEEL STRAPPING (AS REQD). INSTALL SO AS TO ENCIRCLE TWO (2) COMPLETE STACKS. SEE SPECIAL NOTES 3 AND 6 ON PAGE 25.

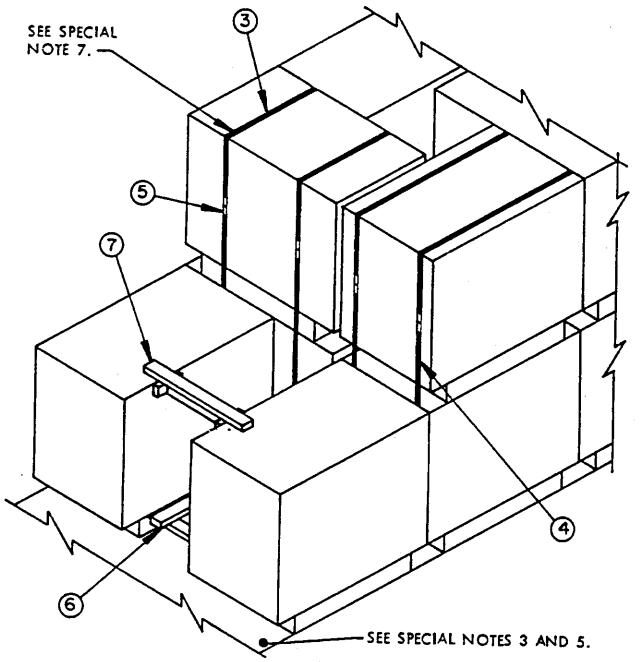
(3) STACK UNITIZING STRAP, 1-1/4" X .035" OR .031" X 24'-6" LONG STEEL STRAPPING (AS REQD). INSTALL SO AS TO ENCIRCLE ONE (1) CROSSWISE POSITIONED PALLET STACK. SEE SPECIAL NOTE 7 ON PAGE 25.

(4) STACK UNITIZING STRAP, 1-1/4" X .035" OR .031" X 28'-0" LONG STEEL STRAPPING (AS REQD). INSTALL SO AS TO ENCIRCLE ONE (1) LENGTHWISE POSITIONED PALLET STACK.

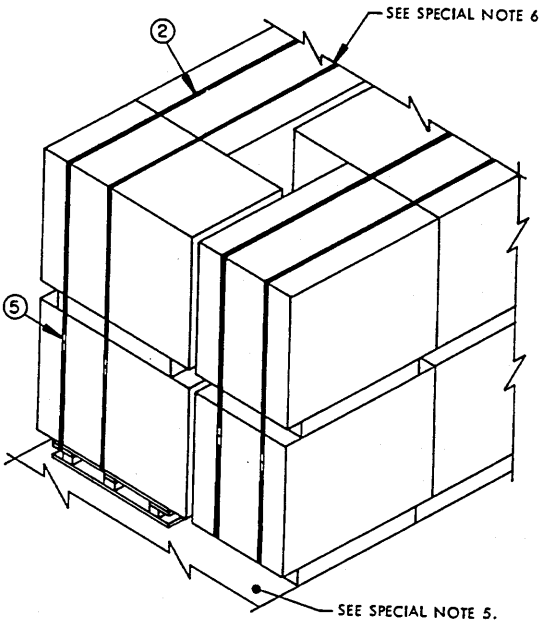
(5) SEAL FOR 1-1/4" STRAPPING (AS REQD, 2 PER STRAP). DOUBLE CRIMP EACH SEAL. SEE GENERAL NOTE "P" ON PAGE 2.

(6) ANTI-SWAY BRACE (AS REQD). SEE THE "ANTI-SWAY BRACE" DETAIL ON PAGE 32.

(7) TOP-OF-LOAD ANTI-SWAY BRACE (AS REQD). SEE THE "TOP-OF-LOAD ANTI-SWAY BRACE A" DETAIL, AND THE "TIE WIRE APPLICATION A" DETAIL ON PAGE 32. SEE SPECIAL NOTE 3 ON PAGE 25.



DETAIL A



DETAIL B

SPECIAL NOTES:

1. A 40-UNIT CHIMNEY-PATTERN LOAD IS SHOWN IN A 40'-0" LONG BY 8'-0" WIDE (INSIDE DIMENSION) HI-VOLUME VAN TRAILER. TRAILERS OF OTHER DIMENSIONS CAN BE USED; HOWEVER, THE DOOR OPENING MUST BE AT LEAST 8'-9" HIGH. SEE SPECIAL NOTES 3 AND 4.

2. THE PALLET UNIT DEPICTED IN THE LOAD VIEW ON PAGE 24 IS THE (3-WIDE BY 4-HIGH) UNIT HAVING OVERALL DIMENSIONS OF 35-1/4" LONG BY 58-1/4" WIDE BY 51-1/4" HIGH AND WEIGHING APPROXIMATELY 1,112 POUNDS.

3. NOTE THAT PIECES MARKED ② THRU ⑦ MAY OR MAY NOT BE REQUIRED. IF IT IS NECESSARY TO OMIT THE REAR CHIMNEY DUE TO LOAD CREEP, DOOR HEIGHT, OR FOR TRAILERS EQUIPPED WITH ROLL-UP TYPE DOORS, 2 OR 4 PALLET UNITS CAN BE POSITIONED LENGTHWISE AT THE REAR OF THE LOAD AS SHOWN IN "DETAIL A" AT LEFT. ONE TOP-OF-LOAD ANTI-SWAY MARKED ⑦ , AND ONE OR TWO ANTI-SWAY BRACES MARKED ⑥ , AS APPLICABLE, WILL BE REQUIRED.

4. IF A WIDER TRAILER IS USED FOR THE DEPICTED LOAD, AND THE LATERAL VOID EXCEEDS FOUR INCHES (4"), ALL OF THE LENGTHWISE POSITIONED PALLET STACKS MUST BE UNITIZED WITH PIECE MARKED ④ TO PREVENT DISPLACEMENT.

5. IF THE VOID AT THE REAR OF THE LOAD BETWEEN THE PALLET UNITS AND THE REAR DOOR MEASURES 1-1/2" OR LESS REAR BLOCKING IS NOT REQUIRED. IF THE VOID AT THE REAR OF THE LOAD IS GREATER THAN 1-1/2" BUT LESS THAN 9", USE "REAR BLOCKING ASSEMBLY D" AS DETAILED ON PAGE 33. IF THE VOID IS GREATER THAN 9", USE REAR BLOCKING ASSEMBLY "B", AS DETAILED ON PAGE 31. SEE SPECIAL NOTE 12.

6. IF A STACK IN THE LOAD UNIT AT THE REAR OF THE LOAD IS MORE THAN ONE UNIT HIGH, AND REAR BLOCKING IS REQUIRED AS SHOWN IN "DETAIL B" AT LEFT BUNDLING STRAPS, SHOWN AS PIECE MARKED ② MUST BE INSTALLED SO AS TO ENCIRCLE THE REARMOST TWO (2) STACKS IN EACH APPLICABLE ROW.

7. A PALLET UNIT AT EACH END OF THE SECOND LAYER PORTION OF THE LOAD MUST BE UNITIZED TO A PALLET UNIT IN THE FIRST LAYER, AS SHOWN IN "DETAIL A" AT LEFT, UNLESS THE STACKED UNITS ARE AGAINST THE FRONT WALL OF A SQUARE-FRONT TRAILER, AGAINST THE FORWARD BLOCKING ASSEMBLY, OR AT THE VERY REAR OF THE LOAD AS SHOWN IN THE LOAD VIEW ON PAGE 24. NOTE THAT THE BUNDLING STRAPS SHOWN AS PIECE MARKED ② MUST BE PRE-POSITIONED, AND THE UNITIZING STRAPS SHOWN AS PIECES MARKED ③ AND ④ MUST BE INSTALLED PRIOR TO FINAL POSITIONING OF THE STACK.

8. THE DEPICTED LOAD CAN BE REDUCED TO SUIT THE QUANTITY TO BE SHIPPED. ONE OR MORE "LENGTHWISE POSITIONED" PALLET UNITS CAN BE OMITTED FROM THE CENTER PORTION OF THE TOP LAYER; THEN, UNITIZING STRAPS WILL BE INSTALLED ON THE NEXT FORWARD, REARWARD, AND LATERAL PALLET STACKS AS SHOWN BY THE DOTTED LINES IN THE LOAD VIEW. NOTE THAT THE LOCATION OF THE OMITTED UNIT IS SHOWN AS TYPICAL ONLY. ALSO, ONE OR MORE COMPLETE CHIMNEYS CAN BE OMITTED FROM THE REAR PORTION, OR THE CENTER PORTION OF THE TOP LAYER, AND UNITIZED AS DESCRIBED IN SPECIAL NOTE 7.

9. REFER TO PAGE 38 FOR GUIDANCE IN THE SHIPMENT OF PARTIAL PALLET UNITS.

10. LEFTOVER CONTAINERS IN AN AMOUNT NOT TO EXCEED TWO (2) MAY BE SECURED TO THE TOP OF A FULL PALLET UNIT FOR SHIPMENT. REFER TO THE "PROCEDURES FOR SHIPMENT OF LEFTOVER CONTAINERS" ON PAGE 37 FOR GUIDANCE.

11. FOR OTHER LESS THAN FULL LOAD PROCEDURES, REFER TO THE GUIDANCE ON PAGES 28, 29, OR 30.

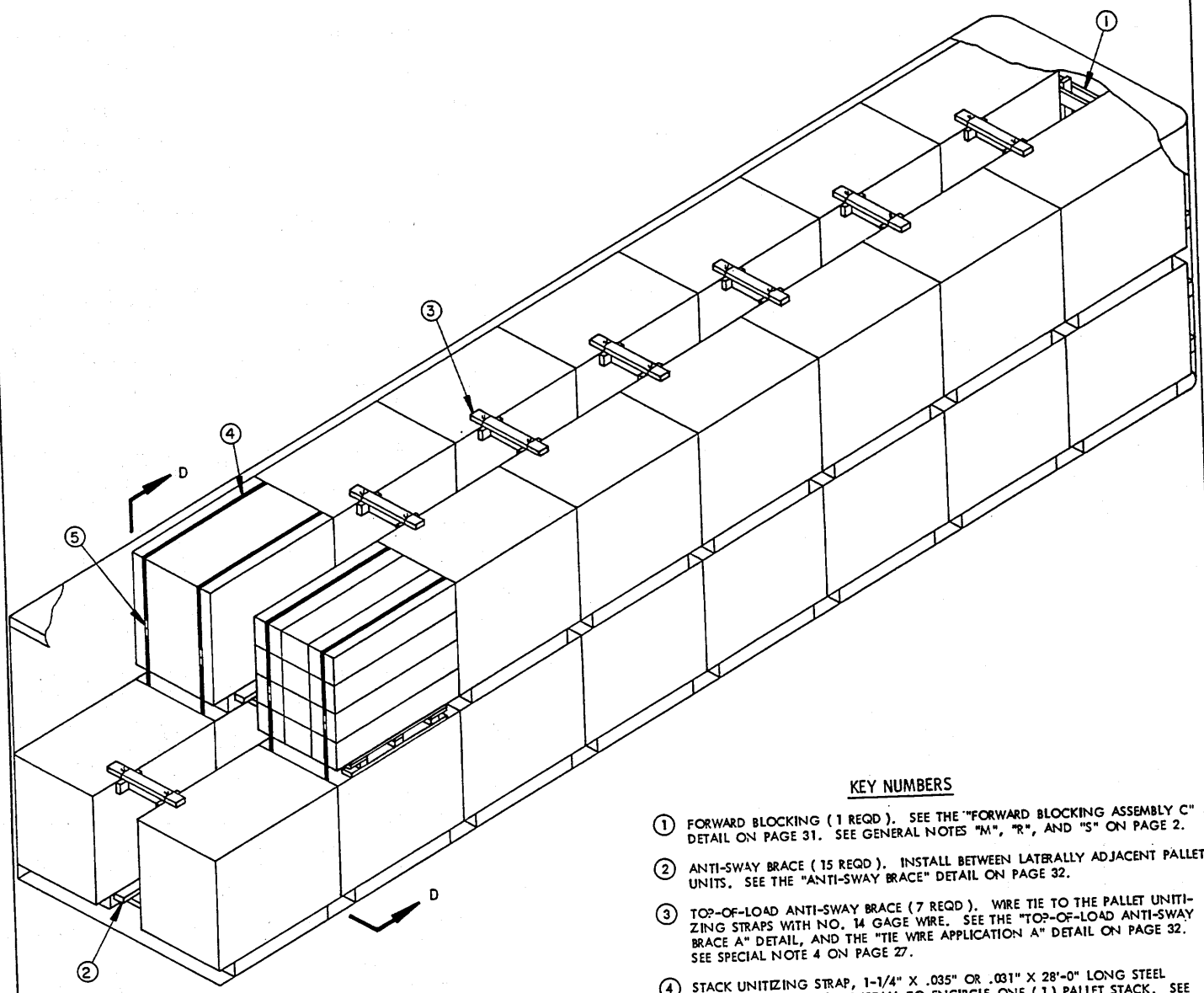
12. TRAILERS EQUIPPED WITH ROLL-UP TYPE DOORS MAY BE USED; HOWEVER, SPECIAL REAR BLOCKING MUST BE INSTALLED. SEE THE "PROCEDURES FOR CONVENTIONAL VAN TRAILERS EQUIPPED WITH ROLL-UP TYPE DOORS" ON PAGES 39 AND 41 FOR GUIDANCE. THE NAILED-HEADER METHOD IS SHOWN ON PAGES 39 AND THE TYGARD METHOD IS SHOWN ON PAGE 41. NOTE THAT THE SPECIAL REAR BLOCKING FOR TRAILERS EQUIPPED WITH ROLL-UP TYPE DOORS MAY ALSO BE USED IN TRAILERS EQUIPPED WITH HINGED DOORS. SEE SPECIAL NOTE 3 ABOVE.

BILL OF MATERIAL		
LUMBER	LINEAR FEET	BOARD FEET
2" X 4" 2" X 6"	32 60	22 60
NAILS	NO. REQD	POUNDS
10d (3")	64	1

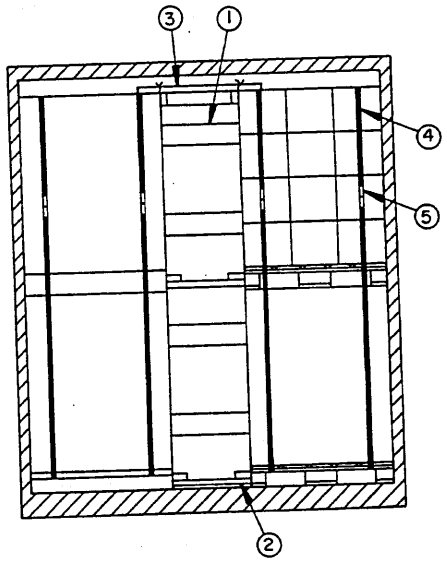
LOAD AS SHOWN

ITEM	QUANTITY	WEIGHT (APPROX)
PALLET UNIT	40	44,480 LBS
DUNNAGE		165 LBS
TOTAL WEIGHT		44,645 LBS (APPROX)

40-UNIT LOAD IN A 40'-0" LONG BY 8'-0" WIDE HI-VOLUME VAN TRAILER (PALLETIZED 3W/4H)



ISOMETRIC VIEW



SECTION D-D

KEY NUMBERS

(1) FORWARD BLOCKING (1 REQD). SEE THE "FORWARD BLOCKING ASSEMBLY C" DETAIL ON PAGE 31. SEE GENERAL NOTES "M", "R", AND "S" ON PAGE 2.

(2) ANTI-SWAY BRACE (15 REQD). INSTALL BETWEEN LATERALLY ADJACENT PALLET UNITS. SEE THE "ANTI-SWAY BRACE" DETAIL ON PAGE 32.

(3) TOP-OF-LOAD ANTI-SWAY BRACE (7 REQD). WIRE TIE TO THE PALLET UNITIZING STRAPS WITH NO. 14 GAGE WIRE. SEE THE "TOP-OF-LOAD ANTI-SWAY BRACE A" DETAIL, AND THE "TIE WIRE APPLICATION A" DETAIL ON PAGE 32. SEE SPECIAL NOTE 4 ON PAGE 27.

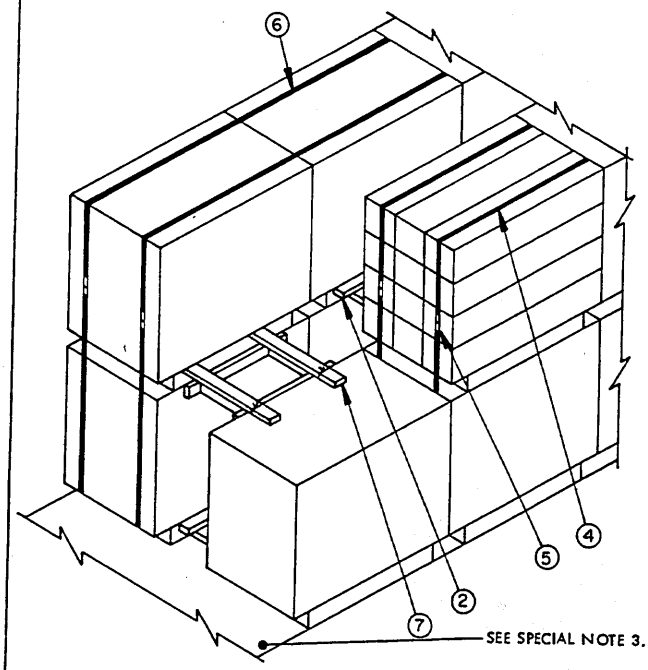
(4) STACK UNITIZING STRAP, 1-1/4" X .035" OR .031" X 28'-0" LONG STEEL STRAPPING (4 REQD). INSTALL TO ENCIRCLE ONE (1) PALLET STACK. SEE SPECIAL NOTE 5 ON PAGE 27.

(5) SEAL FOR 1-1/4" STRAPPING (8 REQD, 2 PER STRAP). DOUBLE CRIMP EACH SEAL. SEE GENERAL NOTE "P" ON PAGE 2.

(6) BUNDLING STRAP, 1-1/4" X .035" OR .031" X 38'-0" LONG STEEL STRAPPING (AS REQD). INSTALL SO AS TO ENCIRCLE TWO (2) COMPLETE STACKS. SEE SPECIAL NOTES 5 AND 13 ON PAGE 27.

(7) TOP-OF-LOAD ANTI-SWAY BRACE. WIRE TIE TO THE PALLET UNITIZING STRAPS WITH NO. 14 GAGE WIRE. SEE THE "TOP-OF-LOAD ANTI-SWAY BRACE B" DETAIL, AND THE "TIE WIRE APPLICATION B" DETAIL ON PAGE 32. SEE SPECIAL NOTE 6 ON PAGE 27.

30-UNIT LOAD IN A 40'-0" LONG BY 7'-8" WIDE HI-VOLUME VAN TRAILER (PALLETIZED 3W/4H)



STRAPPING DETAIL

SPECIAL NOTES:

1. A 30-UNIT LOAD IS SHOWN IN A 40'-0" LONG BY 7'-8" WIDE (INSIDE DIMENSION) HI-VOLUME VAN TRAILER. TRAILERS OF OTHER DIMENSIONS CAN BE USED. NOTE: IF THE DOOR HEIGHT IS AT LEAST 8'-9" TWO (2) MORE UNITS CAN BE LOADED AT THE REAR OF THE TRAILER. SEE SPECIAL NOTES 11 AND 12.
2. THE PALLET UNIT DEPICTED IN THE LOAD VIEW ON PAGE 26 IS THE (3-WIDE BY 4-HIGH UNIT) HAVING OVERALL DIMENSIONS OF 35-1/4" LONG BY 58-1/4" WIDE BY 51-1/4" HIGH AND WEIGHING APPROXIMATELY 1,112 POUNDS.
3. IF THE VOID AT THE REAR OF THE LOAD BETWEEN THE PALLET UNITS AND THE REAR DOOR MEASURES 1-1/2" OR LESS REAR BLOCKING IS NOT REQUIRED. IF THE VOID AT THE REAR OF THE LOAD IS GREATER THAN 1-1/2" BUT LESS THAN 9", USE "REAR BLOCKING ASSEMBLY D" AS DETAILED ON PAGE 33. IF THE VOID IS GREATER THAN 9", USE "REAR BLOCKING ASSEMBLY B" AS DETAILED ON PAGE 31.
4. TOP-OF-LOAD ANTI-SWAY BRACES SHOWN AS PIECES MARKED ③ IN THE LOAD ON PAGE 26 ARE TO BE POSITIONED BETWEEN ALL LATERALLY ADJACENT TOP-LAYER PALLET UNITS; HOWEVER, IF THE PALLET UNIT IN THE SECOND LAYER IS UNITIZED TO THE CORRESPONDING PALLET UNIT IN THE FIRST LAYER, A TOP-OF-LOAD ANTI-SWAY BRACE WILL NOT BE REQUIRED.
5. IF A STACK IN THE LOAD UNIT AT THE REAR OF THE LOAD IS ONE-HIGH INSTALL UNITIZING STRAPS AROUND THE NEXT FORWARD 2-HIGH PALLET STACK AS SHOWN IN THE LOAD VIEW ON PAGE 26. IF A STACK IN THE LOAD UNIT AT THE REAR OF THE LOAD IS TWO UNITS HIGH, BUNDLING STRAPS SHOWN AS PIECE MARKED ⑥ MUST BE INSTALLED SO AS TO ENCIRCLE THE REARMOST TWO (2) STACKS IN EACH APPLICABLE ROW AS SHOWN IN THE STRAPPING DETAIL AT LEFT.
6. IF AN ODD UNIT IS POSITIONED IN THE TOP LAYER A TOP-OF-LOAD ANTI-SWAY BRACE SHOWN AS PIECE MARKED ⑦ IS REQUIRED TO PROVIDE LATERAL BRACING FOR THE ODD UNIT. BUNDLING STRAPS SHOWN AS PIECE MARKED ⑥ MUST BE INSTALLED TO ENCIRCLE THE PALLET STACK CONTAINING THE ODD UNIT AND THE LONGITUDINALLY ADJACENT PALLET STACK AS SHOWN IN THE STRAPPING DETAIL AT LEFT.
7. IF ONLY ONE PALLET UNIT IS TO BE LOADED IN THE SECOND LAYER OF EITHER ROW IT MUST NOT BE POSITIONED ON THE REARMOST PALLET UNIT IN THE FIRST LAYER. PROVIDE LONGITUDINAL BRACING BY INSTALLING UNITIZING STRAPS, PIECES MARKED ④ . PROVIDE LATERAL BRACING BY INSTALLING A TOP-OF-LOAD ANTI-SWAY BRACE "B" AS SHOWN IN THE DETAIL AT LEFT.
8. THE DEPICTED LOAD CAN BE REDUCED TO SUIT THE QUANTITY TO BE SHIPPED. A 2-LAYER LOAD CAN BE REDUCED BY ONE UNIT OR MULTIPLES OF TWO UNITS, OR THE ENTIRE TOP LAYER MAY BE OMITTED. FOR OTHER METHODS OF REDUCING A LOAD REFER TO THE TYPICAL LCL PROCEUDRES ON PAGES 28 THRU 30.
9. REFER TO PAGE 38 FOR GUIDANCE IN THE SHIPMENT OF PARTIAL PALLET UNITS.
10. LEFTOVER CONTAINERS IN AN AMOUNT NOT TO EXCEED TWO (2) MAY BE SECURED TO THE TOP OF A FULL PALLET UNIT FOR SHIPMENT. REFER TO THE "PROCEDURES FOR SHIPMENT OF LEFTOVER CONTAINERS" ON PAGE 37 FOR GUIDANCE.
11. TRAILERS EQUIPPED WITH ROLL-UP TYPE DOORS MAY BE USED, HOWEVER, SPECIAL REAR BLOCKING MUST BE INSTALLED. SEE THE "PROCEDURES FOR TRAILERS EQUIPPED WITH ROLL-UP TYPE DOORS" ON PAGE 39 AND 41 FOR GUIDANCE. THE NAILED-HEADER METHOD IS SHOWN ON PAGE 39 AND THE TYGARD METHOD IS SHOWN ON PAGE 41. NOTE THAT THE SPECIAL REAR BLOCKING FOR TRAILERS EQUIPPED WITH ROLL-UP TYPE DOORS MAY ALSO BE USED IN TRAILERS EQUIPPED WITH HINGED DOORS.
12. IF 40'-0" LONG TRAILERS EQUIPPED WITH ROLL-UP TYPE DOORS ARE USED, THE REARMOST LOAD UNIT MUST BE OMITTED. A TRAILER WHICH IS AT LEAST 42'-0" LONG MUST BE USED FOR THE LOAD AS SHOWN ON PAGE 26.
13. NOTE THAT PIECES MARKED ⑥ AND ⑦ MAY OR MAY NOT BE REQUIRED.

BILL OF MATERIAL

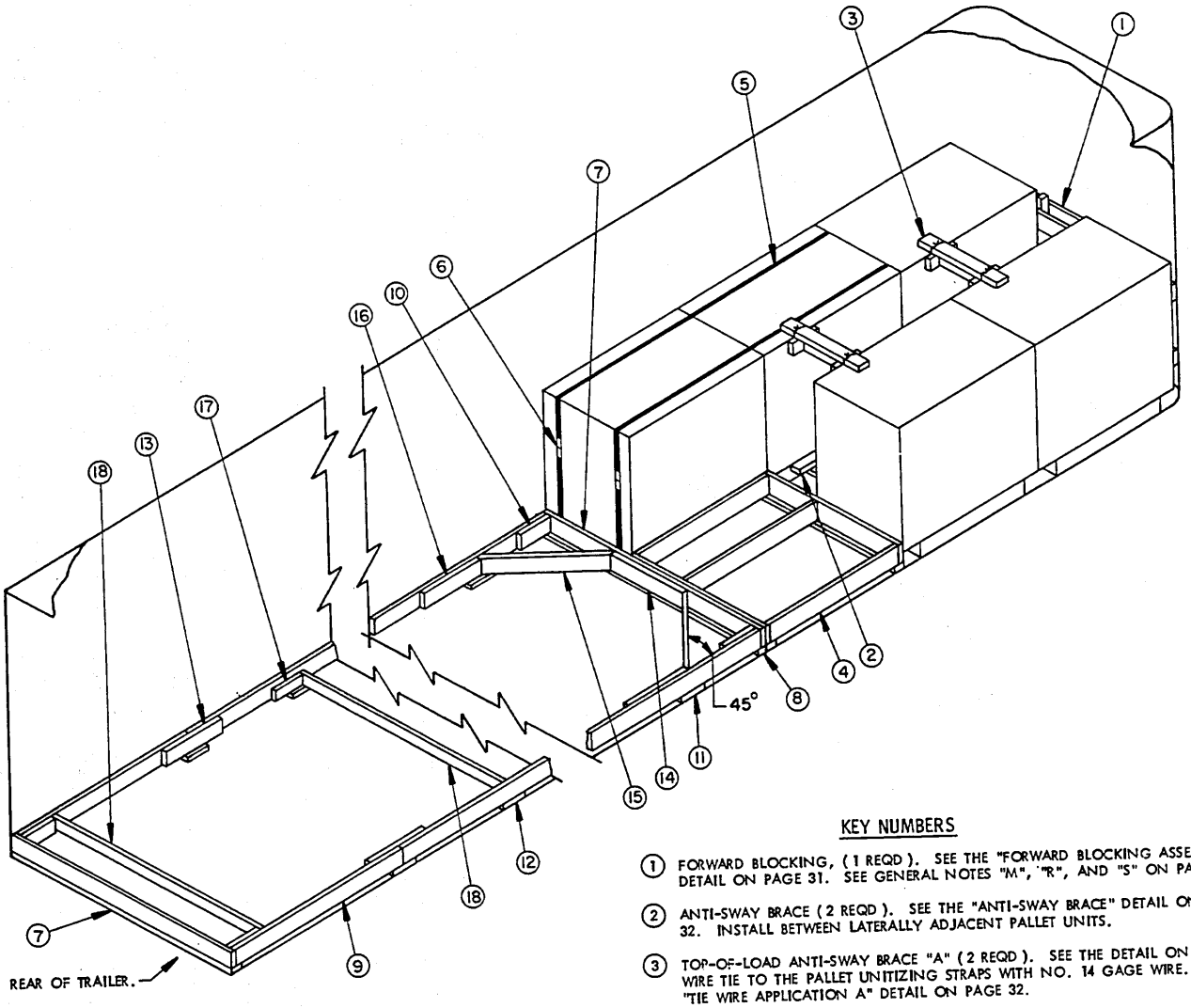
LUMBER	LINEAR FEET	BOARD FEET
2" X 4" 2" X 6"	247 56	165 56
NAILS	NO. REQD	POUNDS
10d (3")	321	5

STEEL STRAPPING, 1-1/4" X .035" ---- 112' REQD ---------- 16 LBS
SEALS FOR 1-1/4" STRAPPING -------- 12 REQD ---------- 1 LB
WIRE, NO. 14 GAGE ---------- 30' REQD ---------- NIL

LOAD AS SHOWN

ITEM	QUANTITY	WEIGHT (APPROX)
PALLET UNIT --------	30----------	33,360 LBS
DUNNAGE ----------		464 LBS
TOTAL WEIGHT --------		33,824 LBS

30-UNIT LOAD IN A 40'-0" LONG BY 7'-8" WIDE HI-VOLUME VAN TRAILER (PALLETIZED 3W/4H)



ISOMETRIC VIEW

(KEY NUMBERS CONTINUED)

(15) DIAGONAL BRACE, 2" X 6" BY CUT TO FIT (2 REQD). DOUBLE BEVEL EACH END WITH 45° CUTS. INSTALL AT A 45° ANGLE AS SHOWN AND TOENAIL TO THE ADJACENT HEADER AND SIDE STRUT, PIECES MARKED (7) AND (9), W/2-16d NAILS AT EACH END.

(16) BACK-UP CLEAT, 2" X 6" X 24" (2 REQD). NAIL TO A SIDE STRUT, PIECE MARKED (9), W/8-10d NAILS.

(17) STRUT BRACE RETAINING CLEAT, 2" X 4" X 12" (AS REQD). NAIL TO A SIDE STRUT, PIECE MARKED (9), W/3-10d NAILS. SEE SPECIAL NOTE 4 ON PAGE 29.

(18) STRUT BRACE, 2" X 4" BY TRAILER WIDTH MINUS 3" IN LENGTH (MINIMUM OF ONE REQUIRED). NAIL TO THE POCKET CLEATS, PIECES MARKED (10), AND/OR TO THE STRUT BRACE RETAINING CLEATS, PIECES MARKED (17), W/2-12d NAILS AT EACH END. SEE SPECIAL NOTES 5 AND 7 ON PAGE 29.

KEY NUMBERS

(1) FORWARD BLOCKING, (1 REQD). SEE THE "FORWARD BLOCKING ASSEMBLY C" DETAIL ON PAGE 31. SEE GENERAL NOTES "M", "R", AND "S" ON PAGE 2.

(2) ANTI-SWAY BRACE (2 REQD). SEE THE "ANTI-SWAY BRACE" DETAIL ON PAGE 32. INSTALL BETWEEN LATERALLY ADJACENT PALLET UNITS.

(3) TOP-OF-LOAD ANTI-SWAY BRACE "A" (2 REQD). SEE THE DETAIL ON PAGE 32. WIRE TIE TO THE PALLET UNITIZING STRAPS WITH NO. 14 GAGE WIRE. SEE THE "TIE WIRE APPLICATION A" DETAIL ON PAGE 32.

(4) SPACER ASSEMBLY (1 REQD). SEE THE "SPACER ASSEMBLY B" DETAIL ON PAGE 33. SEE SPECIAL NOTE 3 ON PAGE 29.

(5) BUNDLING STRAP, 1-1/4" X 29'-0" LONG STEEL STRAPPING (2 REQD). INSTALL TO ENCIRCLE TWO (2) PALLET UNITS AS SHOWN.

(6) SEAL FOR 1-1/4" STRAPPING (4 REQD, 2 PER STRAP). DOUBLE CRIMP EACH SEAL. SEE GENERAL NOTE "P" ON PAGE 2.

(7) HEADER, 2" X 6" BY TRAILER WIDTH MINUS 1/2" IN LENGTH (2 REQD).

(8) HEADER AND SIDE STRUT SUPPORT, 2" X 4" BY TRAILER WIDTH MINUS 1/2" IN LENGTH (2 REQD). NAIL TO THE BOTTOM EDGE OF A HEADER, PIECE MARKED (7), W/1-10d NAIL EVERY 8".

(9) SIDE STRUT, 2" X 6" BY CUT TO FIT BETWEEN THE FORWARD AND REAR HEADERS, PIECES MARKED (7) (2 REQD). SEE SPECIAL NOTE 4 ON PAGE 29.

(10) POCKET CLEAT, 2" X 6" X 12" (4 REQD). NAIL TO A SIDE STRUT, PIECE MARKED (9), W/3-10d NAILS. TOENAIL TO THE ADJACENT HEADER, PIECE MARKED (7), W/3-12d NAILS.

(11) RISER PIECE, 2" X 4" X 9" (2 REQD). POSITION SO AS TO BE CENTERED UNDER THE JOINT OF A DIAGONAL BRACE AND A BACK-UP CLEAT, PIECES MARKED (15) AND (16). NAIL TO SIDE STRUT MARKED (9) W/3-10d NAILS.

(12) RISER PIECE, 2" X 4" X 9" (AS REQD). CENTER UNDER JOINT OF SIDE STRUT AND SPLICE PIECE, PIECES MARKED (9) AND (13), AND UNDER JOINT OF STRUT BRACE AND RETAINING CLEAT, PIECES MARKED (18) AND (17). TOENAIL THRU SIDE STRUT W/3-10d NAILS. SEE SPECIAL NOTE 4 ON PAGE 29.

(13) SPLICE PIECE, 2" X 6" X 24" (AS REQD). CENTER ON JOINT OF PIECES MARKED (9) AND NAIL TO SIDE STRUT MARKED (9) W/4-10d NAILS AT EACH END. SEE SPECIAL NOTE 4 ON PAGE 29.

(14) CENTER CLEAT, 2" X 6" X 30" (1 REQD). NAIL TO A HEADER, PIECE MARKED (7), W/6-10d NAILS.

(CONTINUED AT LEFT)

TYPICAL LTL (5-UNIT LOAD) IN A CONVENTIONAL VAN TRAILER

SPECIAL NOTES:

1. A 7'-6" (INSIDE DIMENSION) CONVENTIONAL VAN TRAILER IS SHOWN. TRAILERS OF OTHER WIDTHS CAN BE USED.

2. THE PALLET UNIT SHOWN IN THE TYPICAL LTL LOAD ON PAGE 28 IS THE (PALLETIZED) (3-WIDE/4-HIGH UNIT) HAVING OVERALL DIMENSIONS OF 35-1/4" LONG, 58-1/4" WIDE AND 51-1/4" HIGH AND WEIGHING APPROXIMATELY 1,112 POUNDS.

3. THE SPACER ASSEMBLY, PIECE MARKED ④ , IS SHOWN ONLY TO DEPICT A TYPICAL INSTALLATION. SPACER ASSEMBLIES WILL BE USED WHEN A PALLET UNIT IS OMITTED. THEY MAY OR MAY NOT BE REQUIRED, DEPENDING ON THE QUANTITY OF PALLET UNITS TO BE SHIPPED.

4. DEPENDING ON THE NUMBER OF UNITS BEING LOADED, EACH OF THE SIDE STRUTS, PIECES MARKED ⑨ , MAY NEED TO BE FORMED FROM MORE THAN ONE PIECE OF MATERIAL. IF SUCH IS THE CASE, THE SIDE STRUTS MUST BE SPLICED. SPLICING CAN BE ACCOMPLISHED BY CENTERING A 2" X 6" X 24" PIECE ON THE JOINT OF THE SIDE STRUTS AND NAILING IT TO THE SIDE STRUTS W/4-10d NAILS AT EACH END. CAUTION: A RISER PIECE, PIECE MARKED ⑫ , MUST BE POSITIONED UNDER EACH SPLICE JOINT. NOTE: IF DESIRED, THE STRUT BRACING PIECE (S), PIECE MARKED ⑱ , MAY BE NAILED TO THE SPLICE PIECES IN LIEU OF USING ADDITIONAL STRUT BRACE RETAINING CLEATS, PIECES MARKED ⑰ .

5. ALL LTL LOADS, REGARDLESS OF THEIR SIZE, REQUIRE ONE STRUT BRACE POSITIONED AT THE REAR OF THE TRAILER AND NAILED TO PIECE MARKED ⑩ . IF THE SIDE STRUTS, PIECES MARKED ⑨ , ARE LONGER THAN 7'-0", AN ADDITIONAL STRUT BRACE, PIECE MARKED ⑱ , AND TWO (2) STRUT BRACE RETAINING CLEATS, PIECES MARKED ⑰ , AND TWO (2) RISER PIECES MARKED ⑫ , MUST BE APPLIED FOR EVERY 7'-0" OF SIDE STRUT LENGTH.

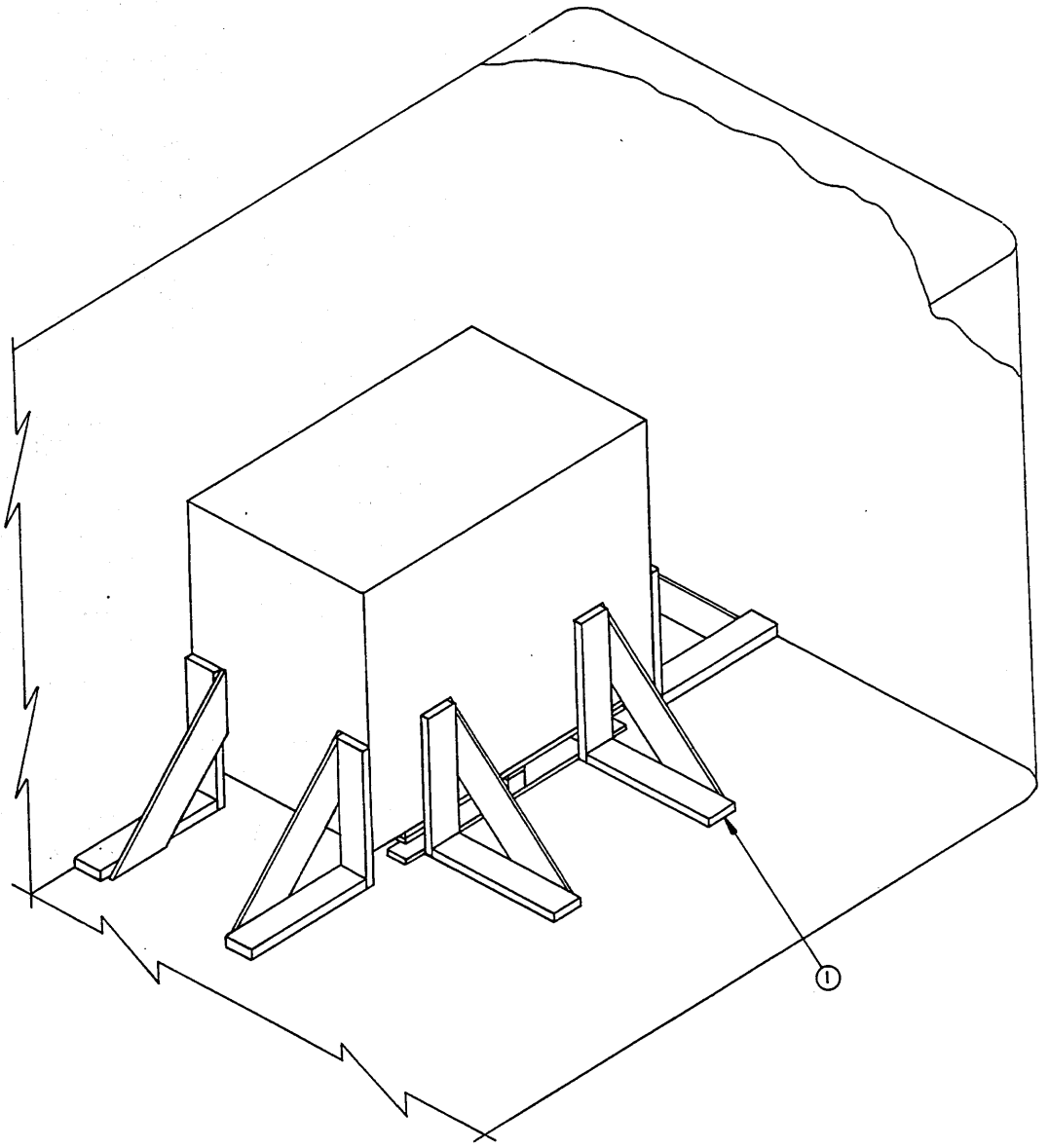
6. THE "K-BRACE" BLOCKING, SHOWN AS PIECES MARKED ⑧ THRU ⑱ , IS ADEQUATE FOR RETAINING A MAXIMUM LTL LOAD OF 20,000 POUNDS.

7. TRAILERS EQUIPPED WITH ROLL-UP TYPE DOORS MAY BE USED; HOWEVER, SPECIAL REAR BLOCKING MUST BE INSTALLED. "REAR BLOCKING ASSEMBLY B" DETAIL ON PAGE 31 WILL BE USED IN CONJUNCTION WITH A NAILED-HEADER. SEE THE "PROCEDURES FOR CONVENTIONAL VAN TRAILERS EQUIPPED WITH ROLL-UP TYPE DOORS" ON PAGES 39 AND 41 FOR GUIDANCE. THE NAILED-HEADER METHOD IS SHOWN ON PAGE 39 AND THE TYGARD METHOD IS SHOWN ON PAGE 41. NOTE THAT THE SPECIAL REAR BLOCKING FOR TRAILERS EQUIPPED WITH ROLL-UP TYPE DOORS MAY ALSO BE USED IN TRAILERS EQUIPPED WITH HINGED DOORS. NOTE: IF THE TYGARD METHOD IS USED, PIECES MARKED ④ THRU ⑱ WILL NOT BE REQUIRED.

8. REFER TO PAGE 38 FOR GUIDANCE IN THE SHIPMENT OF PARTIAL PALLET UNITS.

9. LEFTOVER CONTAINERS, IN AN AMOUNT NOT TO EXCEED TWO (2), MAY BE SECURED TO THE TOP OF A FULL PALLET UNIT FOR SHIPMENT. REFER TO THE "PROCEDURES FOR SHIPMENT OF LEFTOVER CONTAINERS" ON PAGE 37 FOR GUIDANCE.

TYPICAL LTL (5-UNIT LOAD) IN A CONVENTIONAL VAN TRAILER



ISOMETRIC VIEW

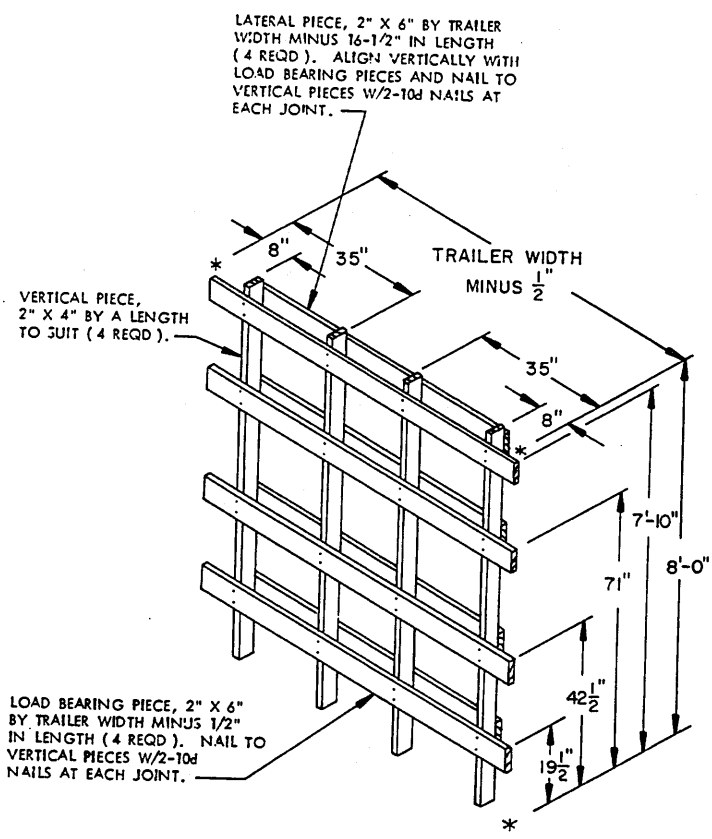
SPECIAL NOTES:

1. A 7'-6" WIDE (INSIDE DIMENSION) TRAILER WHICH HAS A NAILABLE FLOOR IS SHOWN. TRAILERS OF OTHER WIDTHS CAN BE USED.
2. THE PALLET UNIT SHOWN IS THE (3-WIDE BY 4-HIGH UNIT) HAVING OVERALL DIMENSIONS OF 35" LONG BY 58-1/4" WIDE BY 51-1/4" HIGH AND WEIGHING APPROXIMATELY 1,112 POUNDS.
3. THE POSITIONING OF A SINGLE PALLET UNIT IS OPTIONAL. IF THE TRAILER HAS A SQUARE FRONT, THE TWO (2) FORWARD LTL BRACES MAY BE OMITTED AND THE UNIT POSITIONED AGAINST THE END WALL.
4. MORE THAN ONE PALLET UNIT CAN BE SHIPPED PROVIDING THE CAPACITY OF THE LTL BRACES IS NOT EXCEEDED. THE LOAD SHOULD BE FORMED IN ROWS, WITH THE UNITS POSITIONED AGAINST OPPOSITE SIDEWALLS. PALLET ANTI-SWAY BRACES, AND "TOP-OF-LOAD ANTI-SWAY BRACE A" WILL BE REQUIRED. SEE THE DETAILS ON PAGE 32.
5. EACH LTL BRACE AS APPLIED FOR LONGITUDINAL BRACING WILL SUPPORT 2,000 POUNDS OF LADING; HOWEVER, NOT LESS THAN TWO (2) BRACES WILL BE USED AGAINST EACH PALLET UNIT ACROSS THE WIDTH OF THE TRAILER. ADDITIONAL BRACES MAY BE INSTALLED FOR THE RETENTION OF A HEAVIER LOAD.

KEY NUMBERS

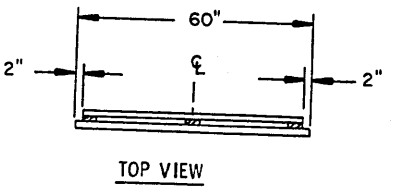
(1) LTL BRACE (6 REQD). SEE THE "LTL BRACE" DETAIL ON PAGE 19. NAIL TO THE TRAILER FLOOR W/10-10d NAILS.

TYPICAL LTL (1-UNIT LOAD) IN A CONVENTIONAL VAN TRAILER

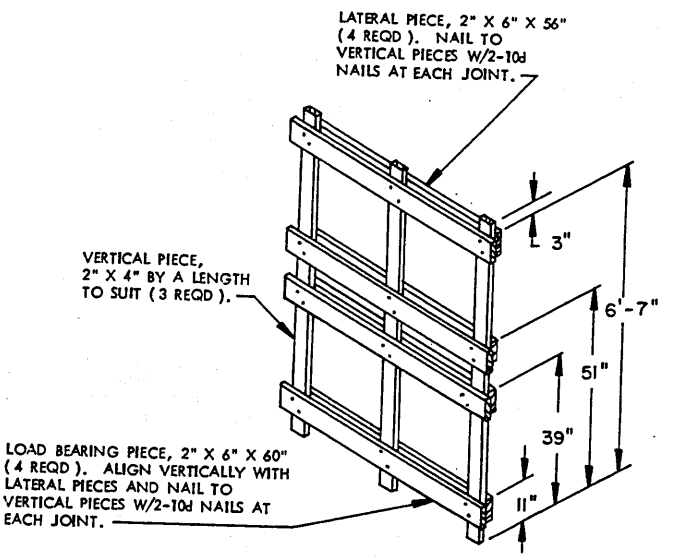


FORWARD BLOCKING ASSEMBLY C

THIS ASSEMBLY IS DESIGNED FOR USE 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", 2" X 6" VERTICAL PIECES WILL BE USED IN LIEU OF THE 2" X 4" PIECES. IF THE TRAILER TO BE LOADED HAS LARGE-ANGLED CORNERS AT THE FORWARD END, REFER TO PAGE 42 FOR GUIDANCE.

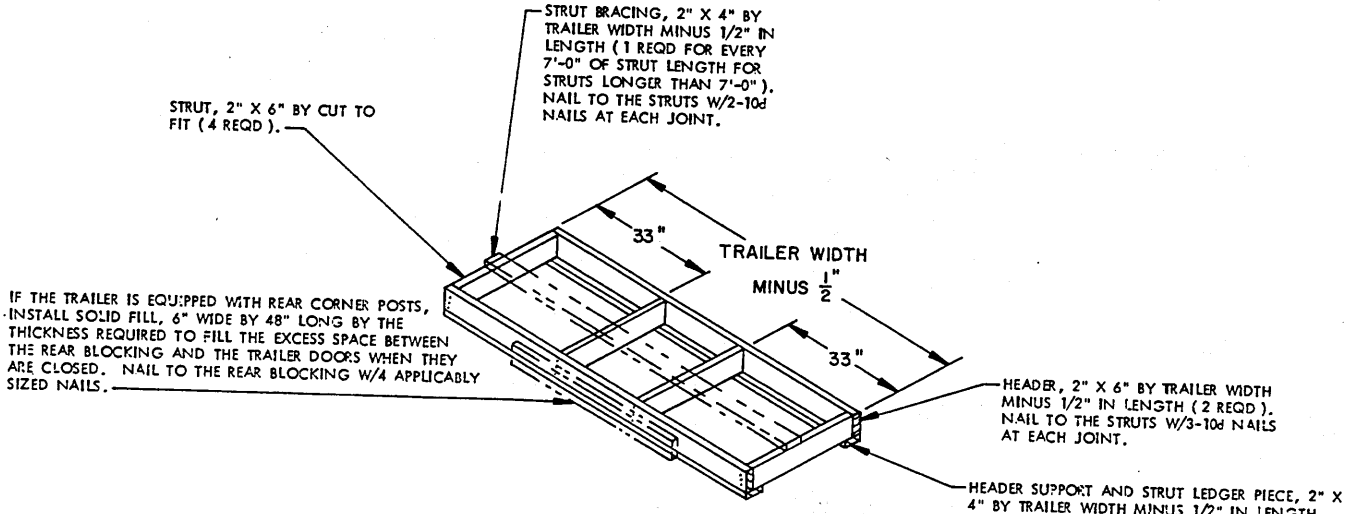


TOP VIEW



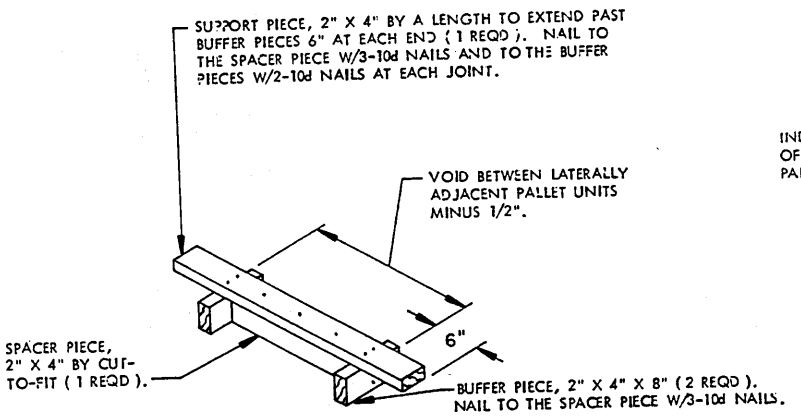
FORWARD BLOCKING ASSEMBLY D

THIS ASSEMBLY IS DESIGNED FOR USE AT THE FORWARD END OF A 7'-8" WIDE CONVENTIONAL VAN TRAILER HAVING LARGE ANGLED FRONT CORNERS (REF: 18"). NOTE THAT THE LENGTH OF THE LATERAL, AND LOAD BEARING PIECES ON THE FORWARD BLOCKING WILL VARY DEPENDENT UPON THE WIDTH OF THE SQUARE PORTION OF THE TRAILER FRONT. THE FORWARD BLOCKING ABOVE IS DESIGNED FOR THE 4-WIDE/3-HIGH PALLET UNIT. FOR THE 3-WIDE/4-HIGH UNIT, THE HEIGHT LOCATION FOR THE LATERAL AND LOAD BEARING PIECES WILL BE THE SAME AS THOSE ON FORWARD BLOCKING ASSEMBLY "C" DETAIL AT LEFT.

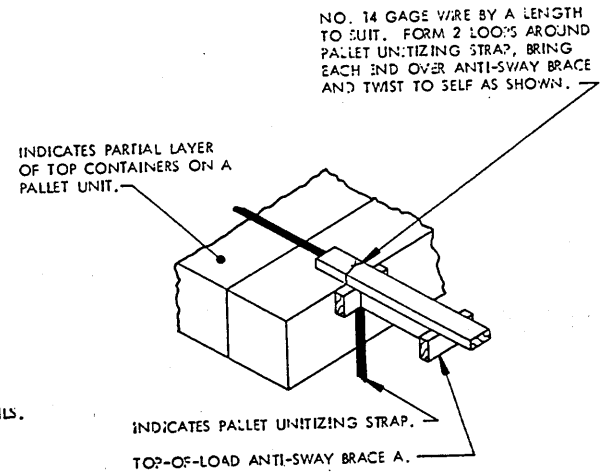


REAR BLOCKING ASSEMBLY B

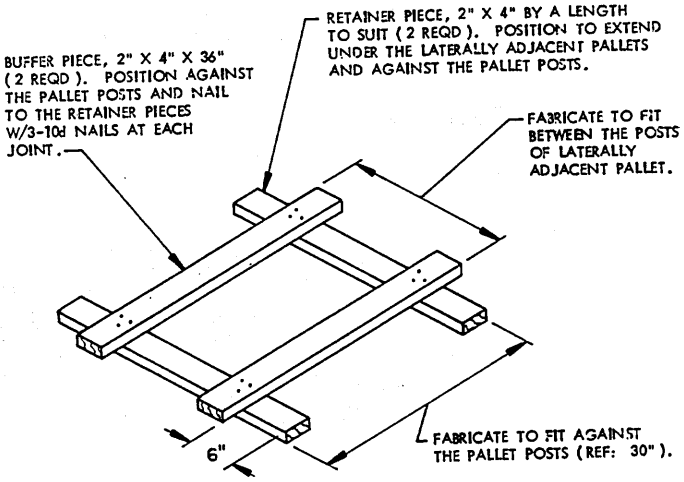
THIS ASSEMBLY IS DESIGNED FOR USE AT THE REAR OF THE LOAD IN A CONVENTIONAL VAN TRAILER WHEN THE EXCESS SPACE BETWEEN THE LADING AND THE TRAILER DOORS IS MORE THAN 9".



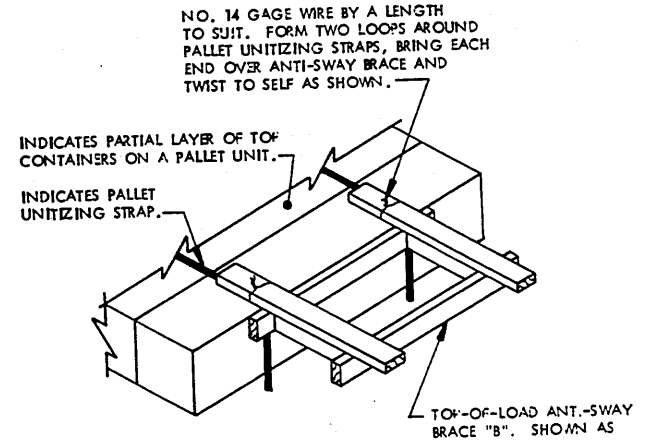
TOP-OF-LOAD ANTI-SWAY BRACE A



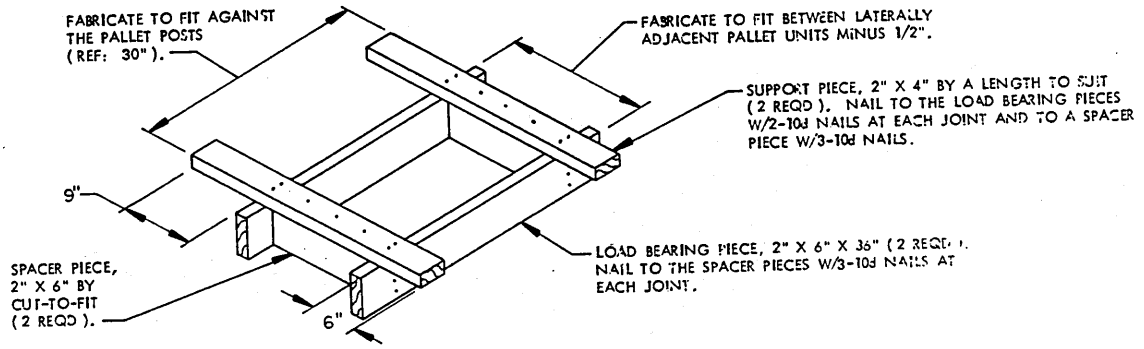
TIE WIRE APPLICATION A



ANTI-SWAY BRACE



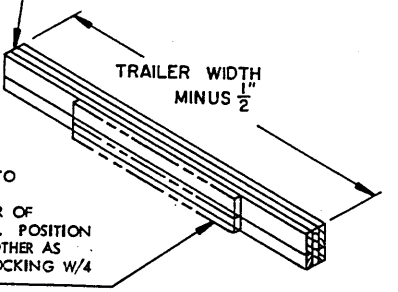
TIE WIRE APPLICATION B



TOP-OF-LOAD ANTI-SWAY BRACE B

THIS ASSEMBLY IS DESIGNED FOR THE BRACING OF A PALLET UNIT IN THE SECOND LAYER WHEN THERE IS NOT A PALLET UNIT DIRECTLY OPPOSITE IT AND TOP-OF-LOAD ANTI-SWAY BRACING IS REQUIRED.

SOLID FILL, 4" AND 6" WIDE MATERIAL BY TRAILER WIDTH MINUS 1/2" IN LENGTH BY THE THICKNESS REQUIRED TO CONTACT REAR CORNER POSTS OR TO CONTACT REAR DOORS OF THE TRAILER WHEN THEY ARE CLOSED. POSITION PIECES ON EDGE, ONE ON TOP OF THE OTHER AS SHOWN, AND LAMINATE W/1-10d NAIL EVERY 12".



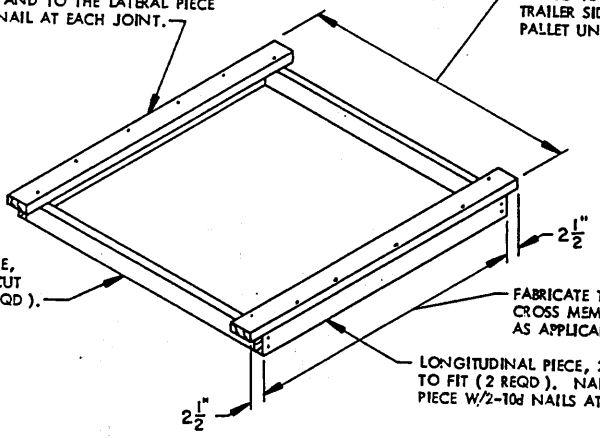
IF THE TRAILER IS EQUIPPED WITH REAR CORNER POSTS, INSTALL SOLID FILL, 4" AND 6" WIDE BY 48" LONG BY THE THICKNESS REQUIRED TO FILL THE EXCESS SPACE BETWEEN THE REAR BLOCKING AND THE REAR DOOR OF THE TRAILER WHEN THEY ARE CLOSED. POSITION PIECES ON EDGE, ON TOP OF THE OTHER AS SHOWN, AND NAIL TO THE REAR BLOCKING W/4 APPLICABLY SIZED NAILS.

REAR BLOCKING ASSEMBLY D

THIS REAR BLOCKING IS DESIGNED FOR USE AT THE REAR OF A LOAD IN A CONVENTIONAL VAN TRAILER WHEN THE SPACE BETWEEN THE LADING AND THE TRAILER DOORS IS LESS THAN 9".

SUPPORT PIECE, 2" X 4" BY A LENGTH TO SUIT (2 REQD). NAIL TO THE LONGITUDINAL PIECE W/1-10d NAIL EVERY 8" AND TO THE LATERAL PIECE W/1-10d NAIL AT EACH JOINT.

FABRICATE TO FIT BETWEEN TRAILER SIDEWALL AND PALLET UNIT.



LATERAL PIECE, 2" X 4" BY CUT TO FIT (2 REQD).

FABRICATE TO FIT BETWEEN INSTALLED CROSS MEMBERS (REF: 58-1/4" OR 35-1/4"). AS APPLICABLE.

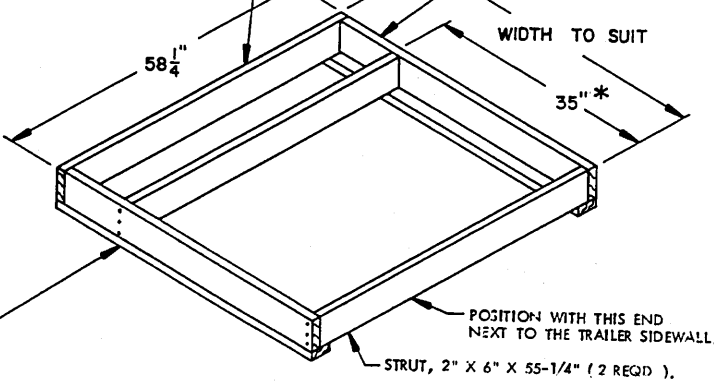
LONGITUDINAL PIECE, 2" X 4" BY CUT TO FIT (2 REQD). NAIL TO THE LATERAL PIECE W/2-10d NAILS AT EACH END.

SPACER ASSEMBLY C

THIS ASSEMBLY IS DESIGNED FOR USE AS LATERAL BRACING IN A TRAILER EQUIPPED WITH MECHANICAL BRACING DEVICES, AND CAN BE USED IN THE LOADS ON PAGES 34 AND 36.

STRUT, 2" X 6" X 58-1/4" (1 REQD). NAIL TO THE HEADERS W/3-10d NAILS AT EACH END.

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



HEADER SUPPORT PIECE, 2" X 4" BY LENGTH TO SUIT (2 REQD). NAIL TO THE BOTTOM EDGE OF A HEADER W/1-10d NAIL EVERY 12".

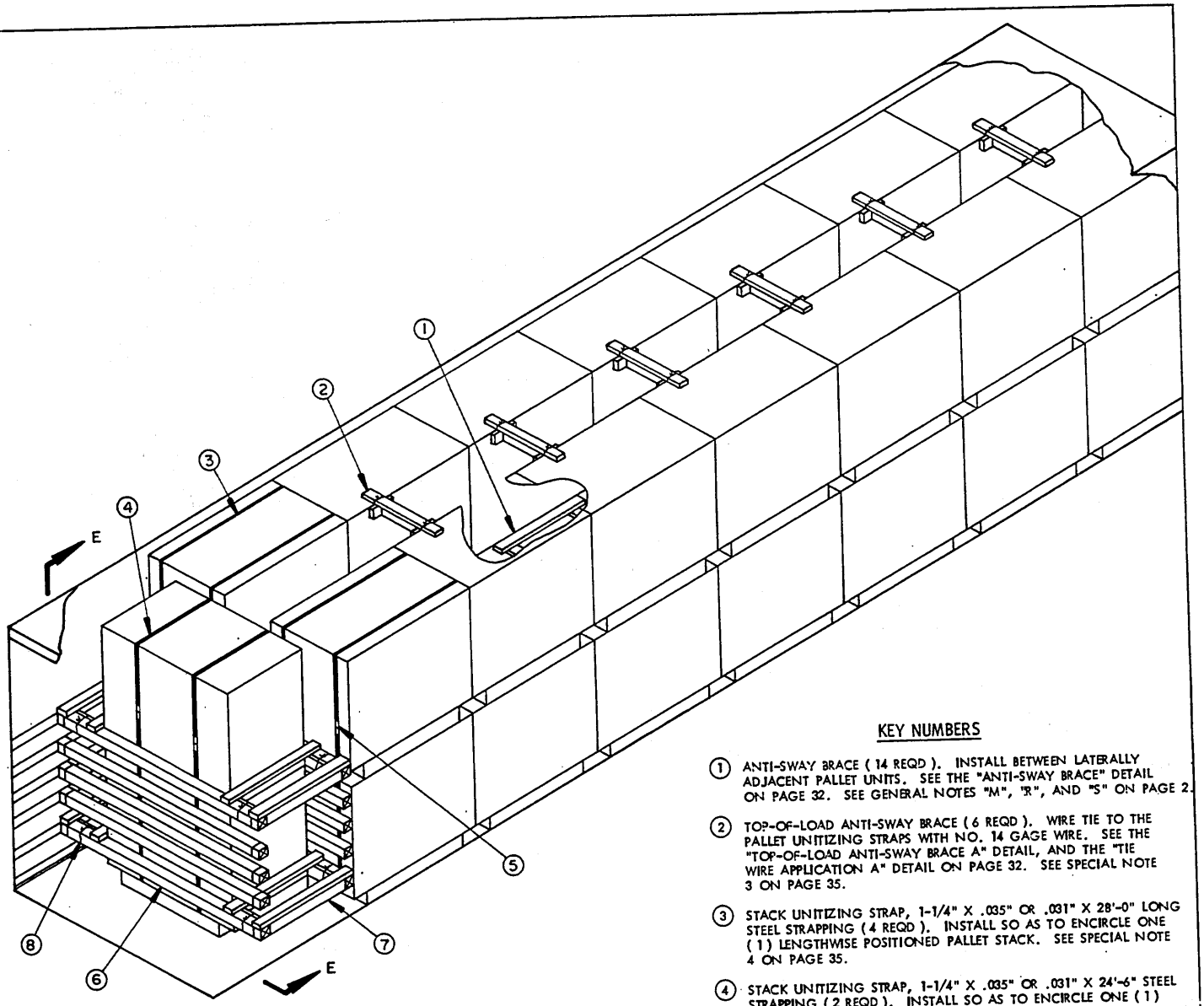
POSITION WITH THIS END NEXT TO THE TRAILER SIDEWALL.

STRUT, 2" X 6" X 55-1/4" (2 REQD).

SPACER ASSEMBLY B

THIS ASSEMBLY IS DESIGNED FOR USE IN THE PLACE OF A PALLET UNIT WHICH IS OMITTED FROM THE BOTTOM LAYER OF A LOAD IN A CONVENTIONAL VAN TRAILER, AS TYPICALLY SHOWN IN THE LOAD ON PAGE 28, AND CAN BE USED FOR AN OMITTED UNIT IN THE LOAD ON PAGE 12.

* FOR THE LOAD ON PAGE 12 THIS DIMENSION WILL BE 24".



ISOMETRIC VIEW

KEY NUMBERS

(1) ANTI-SWAY BRACE (14 REQD). INSTALL BETWEEN LATERALLY ADJACENT PALLET UNITS. SEE THE "ANTI-SWAY BRACE" DETAIL ON PAGE 32. SEE GENERAL NOTES "M", "R", AND "S" ON PAGE 2.

(2) TOP-OF-LOAD ANTI-SWAY BRACE (6 REQD). WIRE TIE TO THE PALLET UNITIZING STRAPS WITH NO. 14 GAGE WIRE. SEE THE "TOP-OF-LOAD ANTI-SWAY BRACE A" DETAIL, AND THE "TIE WIRE APPLICATION A" DETAIL ON PAGE 32. SEE SPECIAL NOTE 3 ON PAGE 35.

(3) STACK UNITIZING STRAP, 1-1/4" X .035" OR .031" X 28'-0" LONG STEEL STRAPPING (4 REQD). INSTALL SO AS TO ENCIRCLE ONE (1) LENGTHWISE POSITIONED PALLET STACK. SEE SPECIAL NOTE 4 ON PAGE 35.

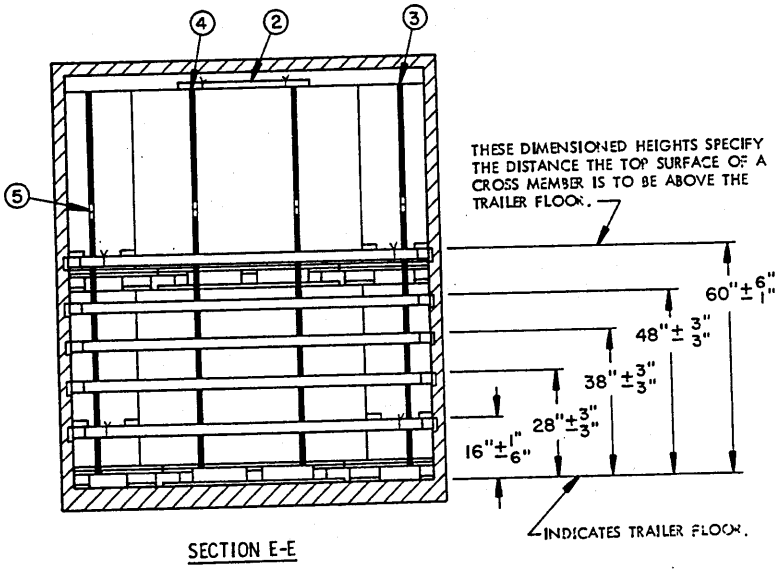
(4) STACK UNITIZING STRAP, 1-1/4" X .035" OR .031" X 24'-6" STEEL STRAPPING (2 REQD). INSTALL SO AS TO ENCIRCLE ONE (1) CROSSWISE POSITIONED PALLET STACK.

(5) SEAL FOR 1-1/4" STRAPPING (12 REQD, 2 PER STRAP). DOUBLE CRIMP EACH SEAL. SEE GENERAL NOTE "P" ON PAGE 2.

(6) CROSS MEMBER (10 REQD). POSITION AT THE HEIGHTS SPECIFIED BY THE "SECTION E-E" VIEW. SEE GENERAL NOTES "G" AND "M" ON PAGE 2.

(7) SPACER ASSEMBLY (4 REQD). SEE THE "SPACER ASSEMBLY C" DETAIL ON PAGE 33.

(8) TIE WIRE, NO. 14 GAGE WIRE 18" LONG (8 REQD). INSTALL TO FORM A COMPLETE LOOP AROUND THE SPACER ASSEMBLY AND THE CROSS MEMBER, BRING THE ENDS TOGETHER AND TWIST TAUT. SECURE TO THE SPACER ASSEMBLY WITH A PARTIALLY DRIVEN 10d NAIL BENT OVER THE WIRE, OR WITH A STRAP STAPLE.



SECTION E-E

(PALLETIZED 3W/4H)

30-UNIT LOAD IN A 40'-0" LONG BY 7'-8" WIDE HI-VOLUME TRAILER EQUIPPED WITH MECHANICAL BRACING DEVICES

PROJECT GM 597-67

SPECIAL NOTES:

1. A 30-UNIT LOAD IS SHOWN IN A 40'-0" LONG BY 7'-8" WIDE (INSIDE DIMENSION) HI-VOLUME TRAILER EQUIPPED WITH MECHANICAL BRACING DEVICES. TRAILERS OF OTHER DIMENSIONS CAN BE USED.
2. THE PALLET UNIT DEPICTED IN THE LOAD VIEW ON PAGE 34 IS THE 3-WIDE BY 4-HIGH UNIT HAVING OVERALL DIMENSIONS OF 35-1/4" LONG BY 58-1/4" WIDE BY 51-1/4" HIGH AND WEIGHING APPROXIMATELY 1,112 POUNDS.
3. TOP-OF-LOAD ANTI-SWAY BRACES SHOWN AS PIECES MARKED ② IN THE LOAD ON PAGE 34 ARE TO BE POSITIONED BETWEEN ALL LATERALLY ADJACENT TOP LAYER PALLET UNITS; HOWEVER, IF THE PALLET UNIT IN THE SECOND LAYER IS UNITIZED TO THE CORRESPONDING PALLET UNIT IN THE FIRST LAYER, A TOP-OF-LOAD ANTI-SWAY BRACE WILL NOT BE REQUIRED.
4. DUE TO THE EXCESSIVE PALLET HEIGHT, ALL PALLET STACKS WHICH ARE ADJACENT TO THE CROSS MEMBERS MUST BE UNITIZED.
5. REFER TO PAGE 38 FOR GUIDANCE IN THE SHIPMENT OF PARTIAL PALLET UNITS.
6. LEFTOVER CONTAINERS IN AN AMOUNT NOT TO EXCEED TWO (2) MAY BE SECURED TO THE TOP OF A FULL PALLET UNIT FOR SHIPMENT. REFER TO THE "PROCEDURES FOR SHIPMENT OF LEFTOVER CONTAINERS" ON PAGE 37 FOR GUIDANCE.
7. FOR SHIPMENT OF LESS THAN FULL LOADS, REFER TO THE APPLICABLE GUIDANCE ON PAGE 36.

BILL OF MATERIAL		
LUMBER	LINEAR FEET	BOARD FEET
2" X 4"	257	171
NAILS	NO. REQD	POUNDS
10d (3")	314	5

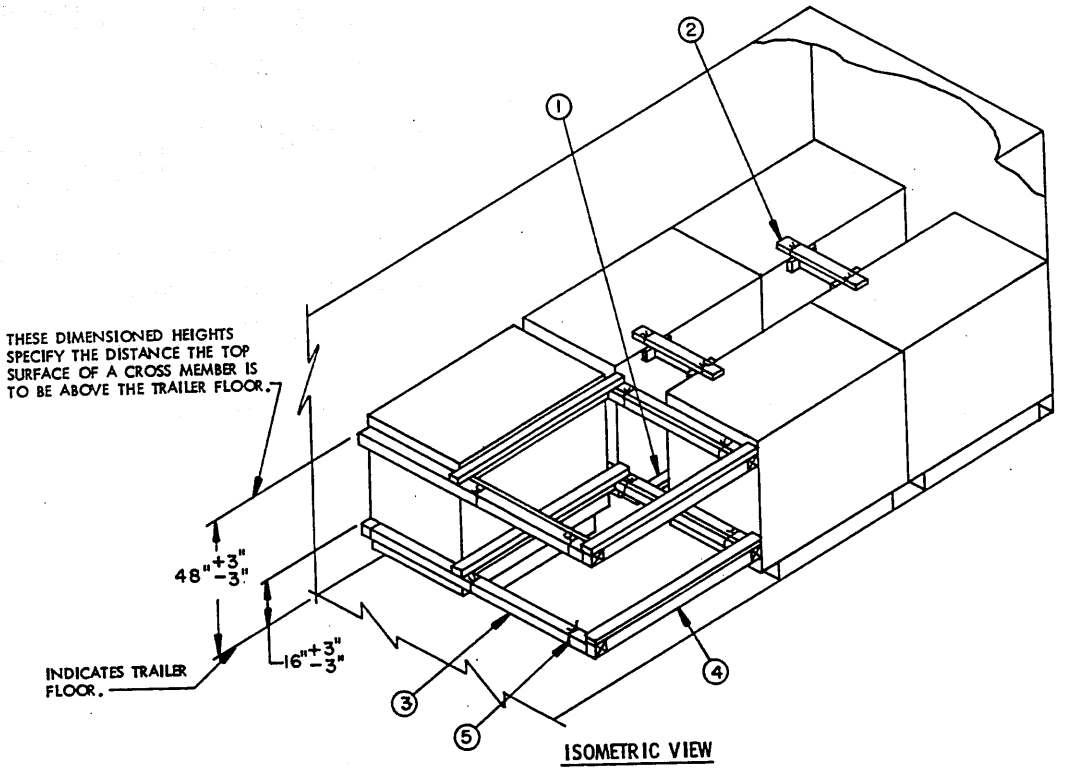
STEEL STRAPPING, 1-1/4" X .035"	161' REQD	23 LBS
SEALS FOR 1-1/4" STRAPPING	12 REQD	1 LB
WIRE, NO. 14 GAGE	36' REQD	NIL
CROSS MEMBER	10 REQD	NIL

LOAD AS SHOWN

ITEM	QUANTITY	WEIGHT (APPROX)
PALLET UNIT	30	33,360 LBS
DUNNAGE		382 LBS
TOTAL WEIGHT		33,742 LBS

(PALLETIZED 3W/4H)

30-UNIT LOAD IN A 40'-0" LONG BY 7'-8" WIDE HI-VOLUME TRAILER EQUIPPED WITH MECHANICAL BRACING DEVICES



ISOMETRIC VIEW

SPECIAL NOTES:

1. A 7'-6" (INSIDE DIMENSION) VAN TRAILER EQUIPPED WITH MECHANICAL BRACING DEVICES IS SHOWN. TRAILERS OF OTHER WIDTHS CAN BE USED.
2. ANTI-SWAY BRACES SHOWN AS PIECES MARKED ① AND ② IN THE LCL ABOVE ARE REQUIRED BETWEEN ALL LATERALLY ADJACENT PALLET UNITS.
3. REFER TO PAGE 38 FOR GUIDANCE IN THE SHIPMENT OF PARTIAL PALLET UNITS.
4. LEFTOVER CONTAINERS IN AN AMOUNT NOT TO EXCEED TWO (2) MAY BE SECURED TO THE TOP OF A FULL PALLET UNIT FOR SHIPMENT. REFER TO THE "PROCEDURES FOR SHIPMENT OF LEFTOVER CONTAINERS" ON PAGE 37 FOR GUIDANCE.

KEY NUMBERS

① ANTI-SWAY BRACE (2 REQD). INSTALL BETWEEN LATERALLY ADJACENT PALLET UNITS. SEE THE "ANTI-SWAY BRACE" DETAIL ON PAGE 32. SEE GENERAL NOTES "M", "R", AND "S" ON PAGE 2.

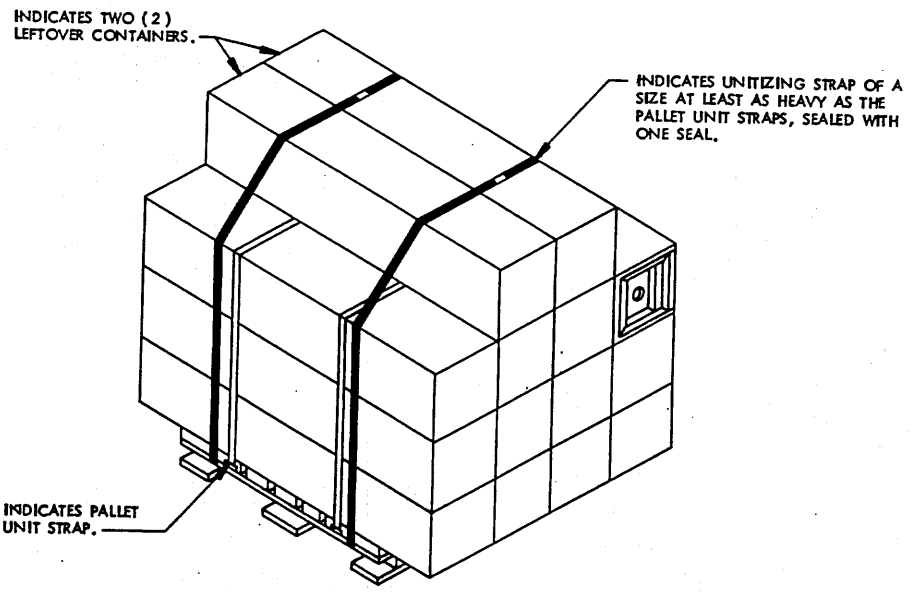
② TOP-OF-LOAD ANTI-SWAY BRACE (2 REQD). WIRE TIE TO THE PALLET UNITIZING STRAPS WITH NO. 14 GAGE WIRE. SEE THE "TOP-OF-LOAD ANTI-SWAY BRACE A" AND THE "TIE WIRE APPLICATION A" DETAIL ON PAGE 32.

③ CROSS MEMBER (4 REQD). POSITION AT THE HEIGHTS SPECIFIED BY THE ISOMETRIC VIEW ABOVE. SEE GENERAL NOTES "G" AND "M" ON PAGE 2.

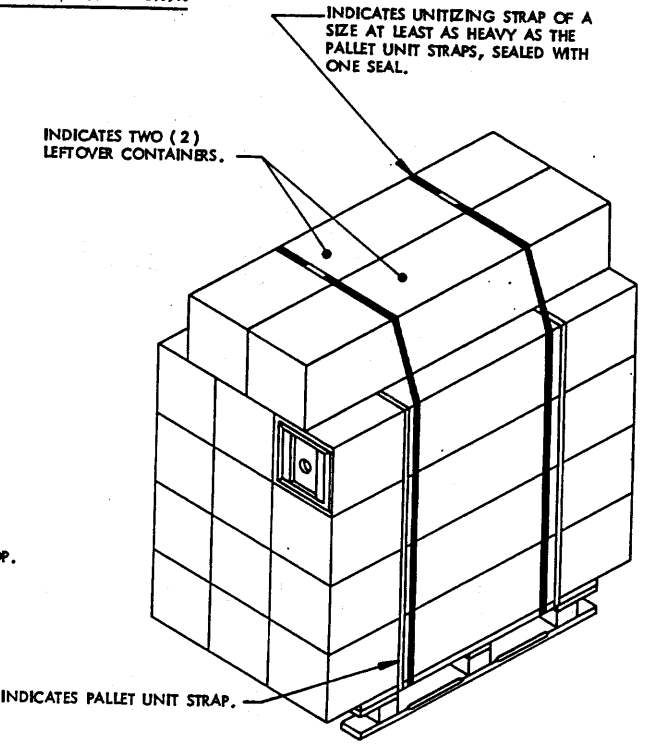
④ SPACER ASSEMBLY (2 REQD). SEE THE "SPACER ASSEMBLY C" DETAIL ON PAGE 33.

⑤ TIE WIRE, NO. 14 GAGE WIRE 18" LONG (8 REQD). INSTALL TO FORM A COMPLETE LOOP AROUND THE SPACER ASSEMBLY AND THE CROSS MEMBER, BRING THE ENDS TOGETHER AND TWIST TAUT, SECURE TO THE SPACER ASSEMBLY WITH A PARTIALLY DRIVEN 10d NAIL BENT OVER THE WIRE, OR WITH A STRAP STAPLE.

TYPICAL LTL (5-UNIT LOAD) IN A TRAILER EQUIPPED WITH MECHANICAL BRACING DEVICES (PALLETIZED 3W/4H)



SECUREMENT OF LEFTOVER CONTAINERS
ON TOP OF A FULL (3W BY 3H) PALLET UNIT.



SECUREMENT OF LEFTOVER CONTAINERS
ON TOP OF A FULL (3W BY 4H) PALLET UNIT

SPECIAL NOTES:

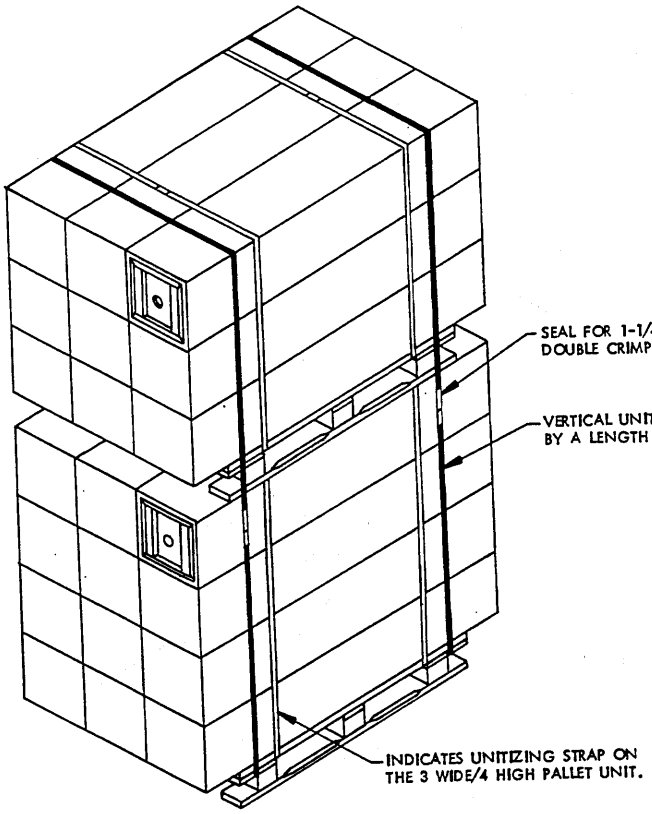
1. SHIPMENTS OF GUIDED MISSILES SHOULD CONSIST OF FULL-HEIGHT AND FULL-LAYER UNITS TO THE MAXIMUM EXTENT POSSIBLE. HOWEVER, THE END OF A LOT, OR THE QUANTITY OF ITEMS NEEDED TO FILL A REQUISITION, MAY NECESSITATE THE SHIPMENT OF ONE OR MORE LEFTOVER CONTAINERS. LEFTOVER CONTAINERS ARE DESCRIBED AS A QUANTITY OF CONTAINERS WHICH IS INSUFFICIENT TO FORM A FULL-LAYERED PARTIAL UNIT FOR SECUREMENT ON TOP OF A FULL PALLET UNIT AS SHOWN ON PAGE 38.
2. SHIPMENT OF LEFTOVER CONTAINERS IS APPLICABLE FOR CONUS AND OCONUS MOTOR CARRIER SHIPMENTS FROM DEPOT TO DEPOT OR FROM DEPOT TO POSTS, CAMPS, AND STATIONS, OR, UPON APPROVAL FROM HIGHER HEADQUARTERS, FOR SHIPMENTS FROM MANUFACTURING PLANTS TO DEPOTS. CAUTION: A LOAD CONTAINING LEFTOVER CONTAINERS IN AN AMOUNT WHICH IS LESS THAN A FULL LAYER, AND SECURED TO THE TOP OF A FULL OR PARTIAL UNIT, MUST NOT BE DESTINED FOR SHIPMENT OVERSEAS BY WATER CARRIER.
3. THE PREFERRED LOCATION FOR THE POSITIONING OF A PALLET UNIT HAVING ONE OR MORE CONTAINERS STRAPPED TO THE TOP WOULD BE WITHIN THE ONE-HIGH PORTION OF THE LOAD; IT MUST NOT HAVE A PALLET UNIT STACKED ON TOP.
4. THE PROCEDURES ON THIS PAGE ARE APPLICABLE FOR THE SHIPMENT OF LEFTOVER CONTAINERS IN ANY OF THE PALLETIZED LOADS DEPICTED HEREIN.

SPECIAL NOTES:

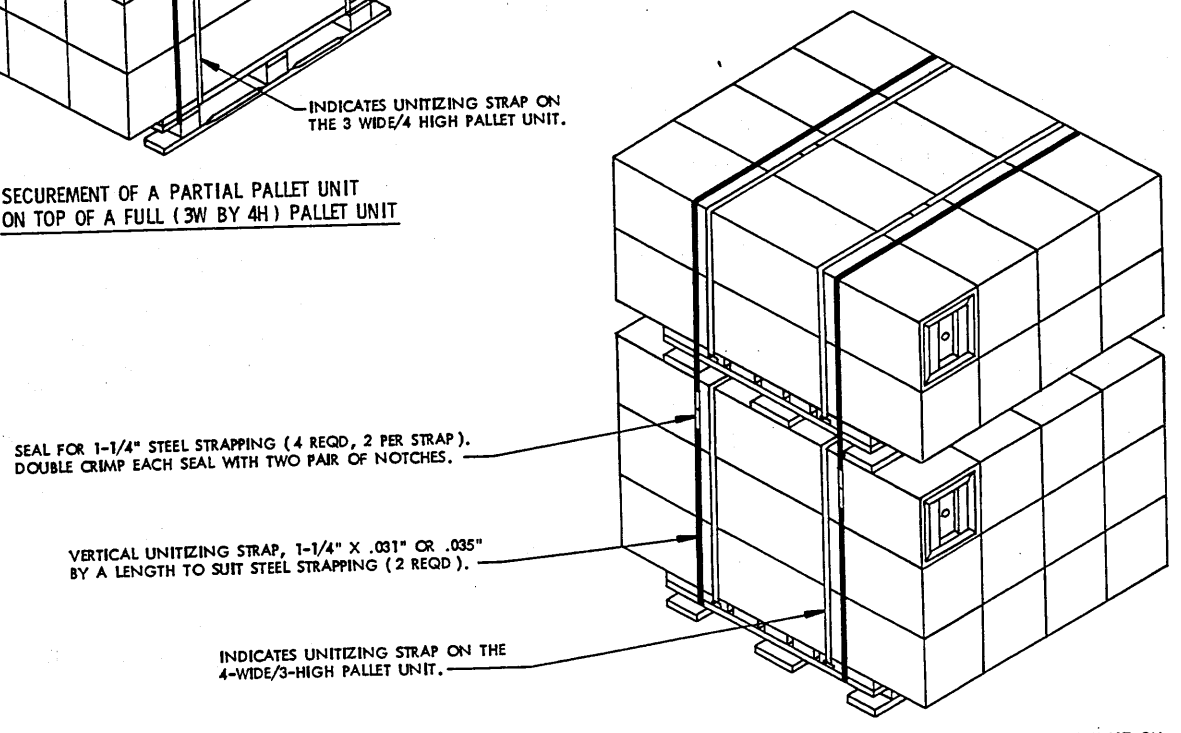
1. THE VIEWS SHOWN BELOW DEPICT "PARTIAL" PALLET UNITS POSITIONED ON TOP OF A FULL-HEIGHT PALLET UNIT AND UNITIZED WITH TWO VERTICAL UNITIZING STRAPS. PLACEMENT WITHIN THE LOAD IS OPTIONAL, EXCEPT THAT IT WILL NOT BE POSITIONED WITHIN A GROUP WHICH IS BUNDLED TOGETHER OR WITHIN A STACK WHICH IS UNITIZED. THE PREFERRED LOCATION WOULD BE WITHIN A ONE-HIGH PORTION OF A LOAD (NOT IN THE REAR LOAD UNIT) IF AVAILABLE, OR WITHIN THE TOP LAYER OF A LOAD IF THE TRAILER HEIGHT PERMITS.

2. SHIPMENTS OF PALLET UNITS SHOULD CONSIST OF FULL-HEIGHT AND FULL-LAYER UNITS TO THE MAXIMUM EXTENT POSSIBLE. HOWEVER, THE END OF A LOT, OR THE QUANTITY OF ITEMS NEEDED TO FILL A REQUISITION MAY NECESSITATE THE SHIPMENT OF ONE OR MORE LESS THAN FULL PALLET UNITS WITHIN A LOAD. THE PROCEDURES ON THIS PAGE ARE PRESENTED AS GUIDANCE IN THE SHIPMENT OF THESE PARTIAL UNITS.

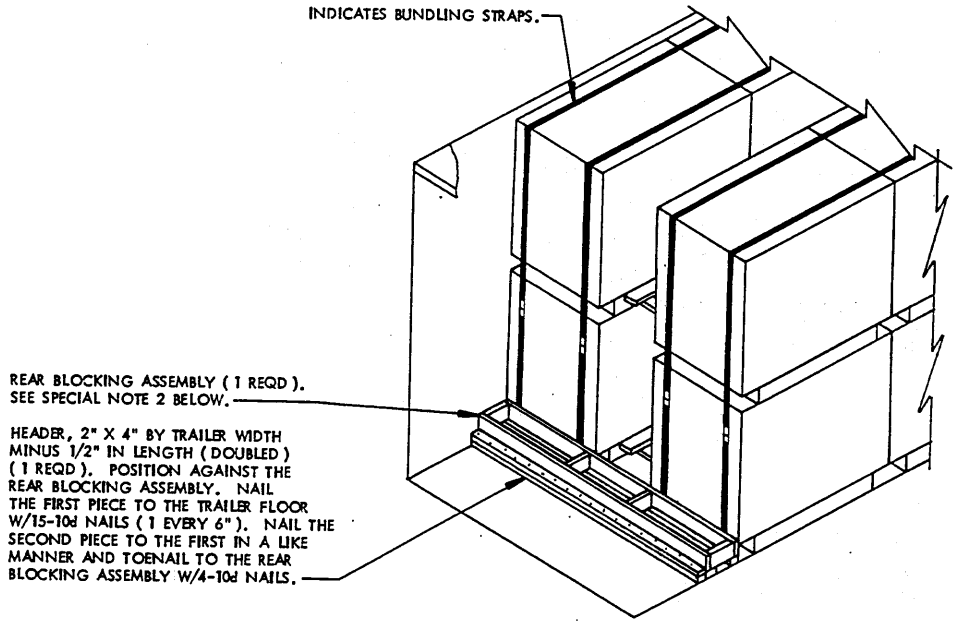
3. THE "SHIPMENT OF A PARTIAL PALLET UNIT" PROCEDURES ON THIS PAGE ARE APPLICABLE FOR LOADS IN CONVENTIONAL TYPE VAN TRAILERS AND IN TRAILERS EQUIPPED WITH MECHANICAL BRACING DEVICES.



SECUREMENT OF A PARTIAL PALLET UNIT ON TOP OF A FULL (3W BY 4H) PALLET UNIT



SECUREMENT OF A PARTIAL PALLET UNIT ON TOP OF A FULL (4W BY 3H) PALLET UNIT



NAILED-HEADER METHOD

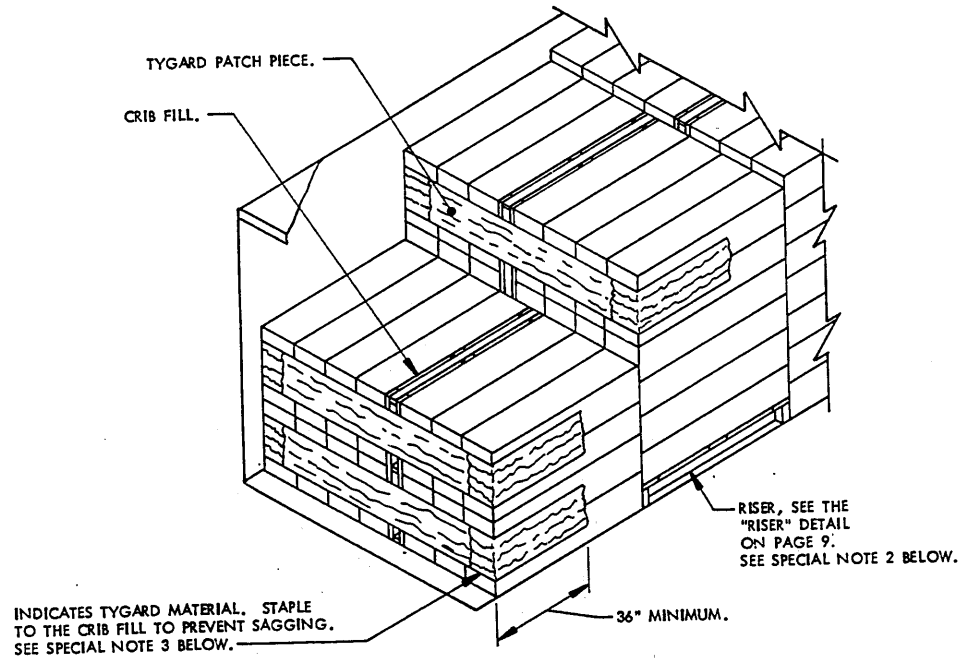
SPECIAL NOTES:

1. THE NAILED-HEADER METHOD OF REAR BLOCKING DEPICTED ABOVE CAN ONLY BE USED IN TRAILERS HAVING A NAILABLE FLOOR AREA BETWEEN THE LADING AND THE METAL THRESHOLD, OR A THRESHOLD PLATE IF THE TRAILER IS SO EQUIPPED, OF AT LEAST THIRTEEN INCHES (13").

2. REAR BLOCKING ASSEMBLY "B" IS SHOWN FOR A TYPICAL INSTALLATION. THE REAR BLOCKING ASSEMBLY WHICH IS SPECIFIED WITHIN THE KEY NUMBERS OR SPECIAL NOTES FOR THE ITEM BEING LOADED WILL BE USED AT THE REAR OF THE LOAD. CONSTRUCT THE ASSEMBLY USING 6" (MINIMUM) LONG STRUTS.

3. THE NAILED-HEADER METHOD OF REAR BLOCKING IS ADEQUATE FOR THE RETENTION OF THE MAXIMUM WEIGHT LOAD.

4. THE NAILED-HEADER METHOD, ALTHOUGH DESIGNED ESPECIALLY FOR TRAILERS HAVING ROLL-UP TYPE DOORS, MAY ALSO BE USED IN TRAILERS EQUIPPED WITH HINGED DOORS.



TYGARD METHOD

SEE PAGE 41 FOR RECOMMENDED EQUIPMENT/ INSTALLATION PROCEDURES AND BASIC INSTALLATION GUIDANCE.

SPECIAL NOTES:

1. THE TYGARD METHOD OF REAR BLOCKING DEPICTED ABOVE CAN ONLY BE USED IN TRAILERS WHICH HAVE REASONABLY SMOOTH AND ADEQUATELY SECURED SIDEWALL PANELS IN THE AREA WHERE THE TYGARD MATERIAL IS TO BE APPLIED.

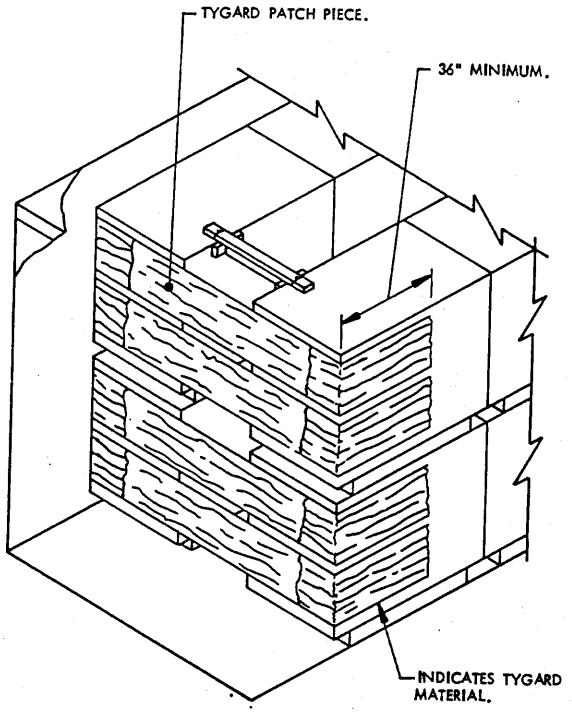
2. WHEN TRAILERS EQUIPPED WITH ROLL-UP TYPE DOORS ARE TO BE LOADED, THE REARMOST LOAD UNIT MAY NEED TO BE LIMITED TO 4-HIGH, AND THE ADJACENT LOAD UNIT TO 6-HIGH FOR THE DEPICTED LOAD. THIS HEIGHT LIMITATION MAY VARY DEPENDENT UPON THE LENGTH AND HEIGHT OF THE TRAILER AND THE LOAD. NOTE THAT ONE (1) ADDITIONAL RISER IS REQUIRED TO STEP-UP THE 6-HIGH LOAD UNIT.

3. ONE LEVEL OF TYGARD MATERIAL MUST BE INSTALLED FOR EACH TWO-LAYERS OF UNPALLETIZED CONTAINERS AS SHOWN ABOVE.

4. THE TYGARD MATERIAL AND THE ADHESIVE FOR ATTACHING IT ARE COMMERCIAL PRODUCTS. FOR A SOURCE OF SUPPLY, CONTACT WALNUT INDUSTRIES, INC., 1344 ADAMS ROAD, P.O. BOX "E", BENSALEM, PA 19020-0860, PHONE 1-800-523-6536. APPLICATION INSTRUCTIONS AND GUIDANCE CAN ALSO BE OBTAINED FROM THAT OFFICE.

5. THE TYGARD METHOD, ALTHOUGH ESPECIALLY FOR TRAILERS HAVING ROLL-UP TYPE DOORS, MAY ALSO BE USED IN TRAILERS EQUIPPED WITH HINGED DOORS.

6. NOTICE: IF THE AREA OF SIDEWALL WHERE THE TYGARD SHOULD BE ATTACHED IS ROUGH AND/OR BROKEN, THE APPLICABLE PIECE (S) OF TYGARD CAN BE LENGTHENED A SUITABLE AMOUNT AND ATTACHED TO THE SIDEWALL AHEAD OF THE INDICATED PREFERRED LOCATION.



TYGARD METHOD A

SPECIAL NOTES:

1. THE TYGARD METHOD OF REAR BLOCKING CAN ONLY BE USED IN TRAILERS WHICH HAVE REASONABLE SMOOTH AND ADEQUATELY SECURED SIDEWALL PANELS IN THE AREA WHERE THE TYGARD MATERIAL IS TO BE APPLIED.
2. TYGARD MATERIAL MUST BE INSTALLED AT TWO LEVELS FOR EACH LAYER OF THE REAR LOAD UNIT WHEN SHIPPING THE 4-HIGH PALLET UNITS. ONLY ONE LEVEL OF TYGARD MATERIAL IS REQUIRED WHEN SHIPPING THE 3-HIGH PALLET UNITS. THE SINGLE LEVEL OF TYGARD MATERIAL SHOULD BE ALIGNED WITH THE UPPER PORTION OF A LAYER.
3. THE TYGARD MATERIAL AND THE ADHESIVE FOR ATTACHING IT ARE COMMERCIAL PRODUCTS, FOR A SOURCE OF SUPPLY, CONTACT WALNUT INDUSTRIES, INC., 1344 ADAMS ROAD, P.O. BOX "E", BENSALEM, PA 19020-0860, PHONE 1-800-523-6536. APPLICATION INSTRUCTIONS AND GUIDANCE CAN ALSO BE OBTAINED FROM THAT OFFICE.
4. THE TYGARD METHOD, ALTHOUGH ESPECIALLY FOR TRAILERS HAVING ROLL-UP TYPE DOORS, MAY ALSO BE USED IN TRAILERS EQUIPPED WITH HINGED DOORS.
5. NOTICE: IF THE AREA OF A SIDEWALL WHERE THE TYGARD SHOULD BE ATTACHED IS ROUGH AND/OR BROKEN, THE APPLICABLE PIECE (S) OF TYGARD CAN BE LENGTHENED A SUITABLE AMOUNT AND ATTACHED TO THE SIDEWALL AHEAD OF THE INDICATED PREFERRED LOCATION.
6. TYGARD MATERIAL MUST BE APPLIED TO THE WALL IN SUCH A LONGITUDINAL LOCATION THAT IT WILL HAVE A PALLET UNIT BEARING AGAINST IT. IF A LAYER IN THE REAR LOAD UNIT CONTAINS ONLY ONE PALLET UNIT, SUCH AS IS SHOWN IN THE LOAD ON PAGE 28, THAT UNIT MUST BE TURNED 90° AND CENTERED ACROSS THE WIDTH OF THE TRAILER AS SHOWN BY THE "TYGARD METHOD B" DETAIL BELOW. THE TYGARD MATERIAL WILL BE APPLIED TO DIRECTLY OPPOSITE PORTIONS OF THE TRAILER SIDEWALL; IT MUST BE APPLIED TO EXTEND AT LEAST 36" FORWARD OF THE LAST PALLET UNIT IN EACH LAYER ON EACH SIDE OF THE LOAD.

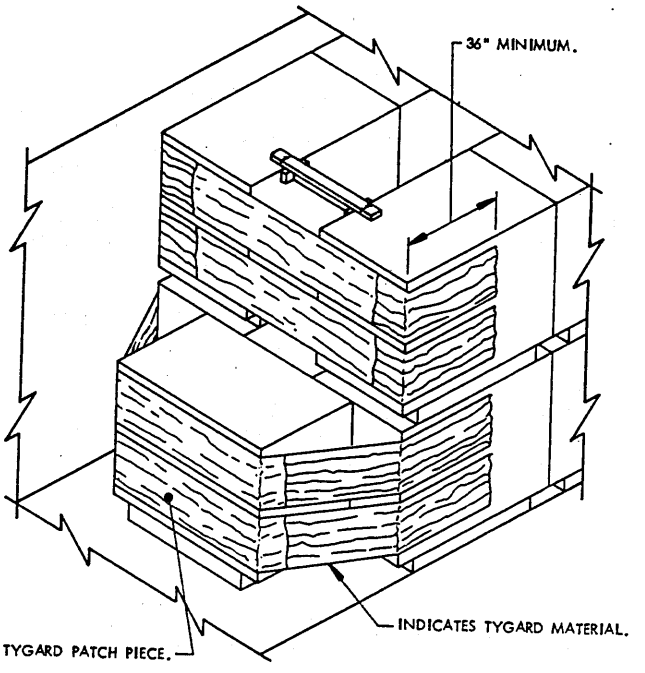
RECOMMENDED EQUIPMENT/INSTALLATION PROCEDURES

EQUIPMENT REQUIRED

PAINT ROLLER, LATEX
PAINT ROLLER PAN
TENSIONING ROD/TOOL
PRESSURE ROLLER
RATCHET WRENCH (12" TO 15" HANDLE)
OPEN END OR BOX WRENCH (12" TO 15" HANDLE)
SCISSORS OR KNIFE
TYGARD (15" WIDE ROLL)
TYGARD ADHESIVE

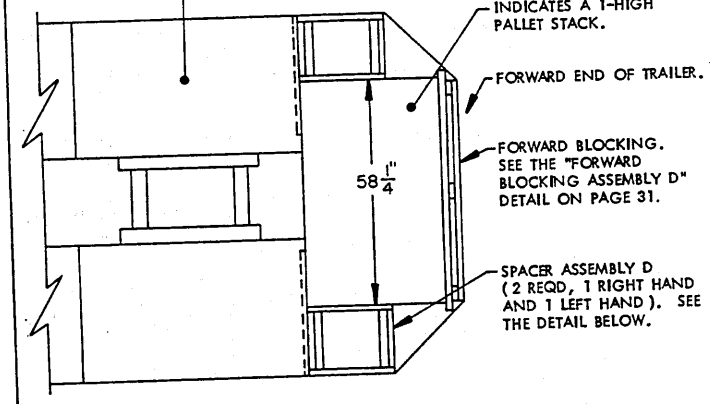
BASIC INSTALLATION GUIDANCE

1. CUT TO LENGTH THE REQUIRED NUMBER OF TYGARD PIECES (FROM 2 TO 8 DEPENDING UPON THE LOAD CONFIGURATION) FOR ATTACHMENT TO THE TRAILER SIDEWALL. PIECES WILL BE OF A LENGTH AS REQUIRED TO PROVIDE PROPER BONDING TO THE TRAILER SIDEWALL AND TO EXTEND 60" ACROSS THE REAR OF THE LOAD. ALSO, CUT 72" LONG "PATCH" PIECES OF TYGARD MATERIAL, ONE FOR EACH SET OF TWO PIECES PREVIOUSLY CUT.
2. PRIOR TO POSITIONING OF THE PALLETS IN THE REARMOST LOAD UNIT, APPLY TYGARD ADHESIVE TO THE PROPER PORTIONS OF THE TRAILER SIDEWALLS AND TO THE CORD SIDE OF A CORRESPONDING LENGTH OF EACH OF THE TYGARD PIECES THAT ARE TO BE ATTACHED TO THE SIDEWALLS OF THE TRAILER. ALLOW TIME FOR THE ADHESIVE TO "CURE" BEFORE PLACING A STRIP OF TYGARD ONTO A SIDEWALL (ADHESIVE WILL FEEL ALMOST DRY WHEN TOUCHED). NOTE: APPLICATION OF TYGARD IS SIMILAR TO THE APPLICATION OF "FORMICA".
3. APPLY THE TYGARD PIECES TO EACH SIDEWALL OF THE TRAILER SO THAT THE PIECES ARE PARALLEL OR NEARLY PARALLEL TO THE FLOOR. ROLL THE TYGARD WITH PRESSURE ROLLER TO ENSURE PROPER BONDING IS ACHIEVED. TEMPORARILY SECURE THE LOOSE ENDS TO THE TRAILER SIDEWALL OR TO AN OPEN HINGED TYPE DOOR OR TO THE OUTSIDE WALL, AS APPLICABLE.
4. POSITION THE PALLETS OR CONTAINERS, AS APPLICABLE, OF THE REARMOST LOAD UNIT INTO THE TRAILER AND INSTALL THE SPECIFIED ANTI-SWAY BRACES, OR CRIB-FILL-AS APPLICABLE.
5. UNDO THE PREVIOUSLY SECURED LOOSE ENDS AND BRING A SET OF TWO PIECES TOGETHER ACROSS THE REAR OF THE LOAD. POSITION THE TENSIONING ROD SO THAT THE LOOSE ENDS OF THE THGARD MATERIAL EXTEND THRU THE SLOT IN ROD. USING THE TWO WRENCHES, ROLL UP THE TYGARD TO TENSION IT ACROSS REAR OF THE LOAD. POSITION A WRENCH SO AS TO MAINTAIN THE TENSION IN THE TYGARD PIECES. CUT OFF AND DISCARD EXCESS MATERIAL FROM ONE PIECE OF THE TYGARD.
6. APPLY TYGARD ADHESIVE TO THE TENSIONED TYGARD PIECES AND ALSO TO THE CORD SIDE OF THE PREVIOUSLY CUT "PATCH" PIECE. APPLY THE "PATCH" AND ROLL WITH THE PRESSURE ROLLER TO ENSURE PROPER BONDING.



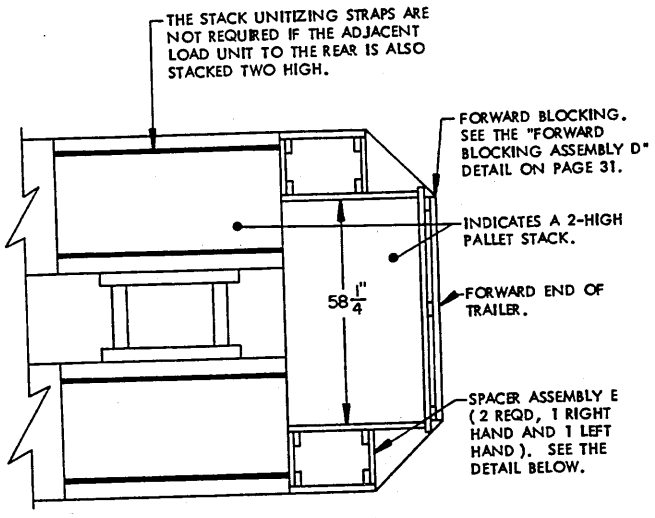
TYGARD METHOD B

TYGARD METHOD "B" CAN BE USED IN A 1-LAYER LOAD CONTAINING AN ODD NUMBER OF UNITS, OR IN A 2-LAYER LOAD WHEN THE REAR LOAD UNIT IN EITHER LAYER IS CENTERED ACROSS THE WIDTH OF THE TRAILER AS SHOWN ON THE FIRST LAYER ABOVE. ALSO, A COMBINATION OF "METHOD A" AND "METHOD B" CAN BE USED AS SHOWN.



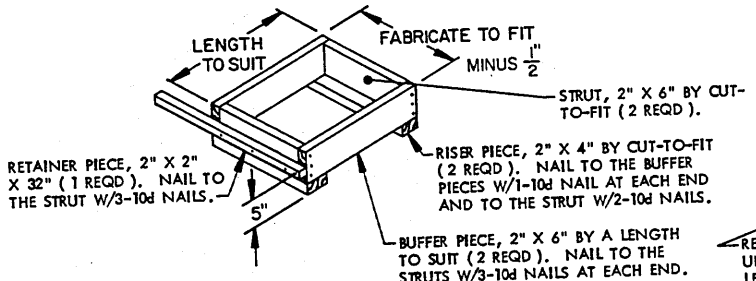
ALTERNATIVE FORWARD LOADING PATTERN A

THIS PROCEDURE IS APPLICABLE TO THE LOADING OF ONE (1) PALLET UNIT IN THE FORWARD END OF A CONVENTIONAL VAN TRAILER HAVING LARGE ANGLED FRONT CORNERS (REF: 18"). THE PROCEDURES MAY ALSO BE USED IN TRAILERS HAVING SQUARE CORNERS, OR ROUNDED FRONT CORNERS, OR ANGLED CORNERS OF ANOTHER SIZE. THE 3-WIDE/4-HIGH (PALLETIZED) UNIT IS SHOWN. THE PROCEDURES ARE ALSO APPLICABLE FOR THE OTHER (PALLETIZED) UNIT DEPICTED ON PAGE 3.



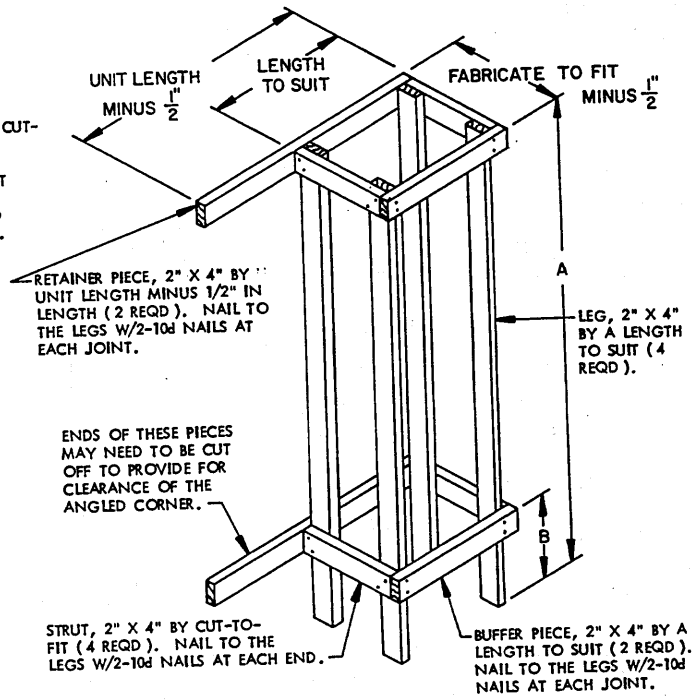
ALTERNATIVE FORWARD LOADING PATTERN B

THIS PROCEDURE IS APPLICABLE TO THE LOADING OF A STACK OF TWO (2) PALLET UNITS IN THE FORWARD END OF A CONVENTIONAL VAN TRAILER HAVING LARGE ANGLED FRONT CORNERS (REF: 18"). THE PROCEDURES MAY ALSO BE USED IN TRAILERS HAVING SQUARE CORNERS, OR ROUNDED FRONT CORNERS, OR ANGLED CORNERS OF ANOTHER SIZE. NOTE THAT IF THE LOAD UNIT BEHIND THE STACKED PALLET UNITS IN THE FRONT OF THE TRAILER IS ONLY ONE HIGH, TWO (2) STACK UNITIZING STRAPS MUST BE INSTALLED AROUND THOSE PALLET UNITS IN THE FRONT STACK. THE 3-WIDE/4-HIGH (PALLETIZED) UNIT IS SHOWN. THE PROCEDURES ARE ALSO APPLICABLE FOR THE OTHER (PALLETIZED) UNIT DEPICTED ON PAGE 3.



SPACER ASSEMBLY D

THIS ASSEMBLY IS DESIGNED FOR LATERAL BRACING OF A SINGLE PALLET UNIT WHICH IS TURNED 90° FROM THE NORMAL LOADING ORIENTATION AND POSITIONED IN THE FRONT OF AN ANGLED-CORNER CONVENTIONAL VAN TRAILER AS SHOWN IN THE "ALTERNATIVE FORWARD LOADING PATTERN A" VIEW ABOVE. RIGHT HAND AND LEFT HAND SPACER ASSEMBLIES ARE REQUIRED.



SPACER ASSEMBLY CHART		
PALLET UNIT TYPE	DIM A	DIM B
3 WIDE BY 4 HIGH UNIT	7'-0"	12"
4 WIDE BY 3 HIGH UNIT	5'-6"	12"

SPACER ASSEMBLY E

THIS ASSEMBLY IS DESIGNED FOR LATERAL BRACING OF A 2-HIGH PALLET STACK WHICH IS TURNED 90° FROM THE NORMAL LOADING ORIENTATION AND POSITIONED IN THE FRONT OF AN ANGLED-CORNER CONVENTIONAL VAN TRAILER AS SHOWN IN THE "ALTERNATIVE FORWARD LOADING PATTERN B" VIEW ABOVE. NOTE THAT THIS VIEW DEPICTS THE ASSEMBLY POSITIONED 180° FROM THE POSITION IN WHICH IT WILL BE INSTALLED IN A LOAD. RIGHT HAND AND LEFT HAND SPACER ASSEMBLIES ARE REQUIRED.

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