LOADING AND BRACING (TL AND LTL) IN VAN TRAILERS ⊕ OF PALLETIZED PROPELLING CHARGES PACKED IN CYLINDRICAL METAL CONTAINERS

PA66 SERIES CONTAINERS

INDEX

⊕ CAUTION: THE LOADING PROCEDURES SHOWN HEREIN ARE ONLY APPLICABLE TO HIGHWAY MOVEMENTS, NOT TRAILER-ON FLATCAR (TOFC) MOVEMENTS.

U.S. ARMY MATERIEL COMMAND DRAWING

APPROVED, U.S. ARMY INDUSTRIAL OPERATIONS COMMAND

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SEPTEMBER 1984

REVISION NO. 1 — DECEMBER 1997

SEE THE REVISION LISTING ON PAGE 3

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

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TRANSPORTATION ENGINEERING DIVISION	W. R. Trench
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CLASS	DIVISION	DRAWING	FILE
19	48	4042C/9	11PM1000

PROJECT FSA 43C/9-63

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 IN THIS DRAWING ARE APPLICABLE FOR THE PA66 SERIES PROPELLING CHARGE CONTAINER ASSEMBLED ON THE 35" X 45-1/2" OR 40" X 48" 4-WAY ENTRY PALLET. SEE THE PICTORAL VIEWS ON PAGES 4 AND 5 FOR SIZES AND WEIGHTS. SEE U.S. ARMY MATERIEL COMMAND DRAWING 19-48-4042A/10-20PM1001 FOR UNITIZATION PROCEDURES FOR THE PA66 SERIES CONTAINERS.

C. THE OUTLOADING PROCEDURES DEPICTED WITHIN THIS DOCUMENT ARE APPLICABLE FOR SHIPMENTS IN CONVENTIONAL TYPE VAN TRAILERS AND APPLY TO TRAILERS HAVING WOOD, OR WOOD AND METAL, OR ALL METAL FLOORS. REGARDLESS OF THE DIMENSIONS OF THE VAN TRAILERS SHOWN, THE PROCEDURES ARE ALSO APPLICABLE FOR TRAILERS WHICH ARE 89" THRU 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 SPECIFIED BRACING IS ADEQUATE FOR LOADS WEIGHING UP TO AND INCLUDING THE MAXIMUM WEIGHTS PERMITTED BY LAW.

D. SELECTION OF A VEHICLE TO BE USED TO TRANSPORT THE DESIGNATED ITEM MUST COMPLY WITH AR 55-355, CHAPTER 29, FOR EXPLOSIVES AND OTHER DANGEROUS ARTICLES, IN FULL.

E. 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 SEMITRAILER 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.

F. 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.

G. THE "LOAD AS SHOWN" FOR MOST OF THE FULL LOADS DEPICTED HEREIN IS BASED ON AN APPROXIMATE LADING WEIGHT OF 43,000 POUNDS. THE SPECIFIED BLOCKING AND BRACING FOR THE FULL LOADS IS ADEQUATE FOR THE RETENTION OF LOADS, UP TO 45,000 POUNDS, IF IT IS DESIRED TO INCREASE THE LADING WEIGHT.

H. OTHER TYPES OF LADING ITEMS MAY BE LOADED INTO TRAILERS WHICH ARE PARTIALLY LOADED WITH PALLET UNITS OF PROPELLING CHARGES, 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.

(CONTINUED AT RIGHT)

MATERIAL SPECIFICATIONS

LUMBER - - - - - - - -:	SEE TM 743-200-1 (DUNNAGE LUMBER) AND VOLUNTARY PRODUCT STANDARD PS 20.
NAILS - - - - - - - - -:	ASTM F1667; COMMON STEEL NAIL (NLCMS OR NLCMMS).
STRAPPING, STEEL - -:	ASTM D3953; FLAT STRAPPING, TYPE 1, HEAVY DUTY, FINISH A, B (GRADE 2), OR C.
SEAL, STRAP - - - - -:	ASTM D3953; CLASS H, FINISH A, B (GRADE 2), OR C, DOUBLE NOTCH TYPE, STYLE I, II, OR IV.
WIRE, CARBON STEEL -:	ASTM A853; ANNEALED AT FINISH, BLACK OXIDE FINISH, .0800" DIA, GRADE 1006 OR BETTER.

(GENERAL NOTES CONTINUED)

J. ALL LOADS ARE SHOWN IN TRAILERS HAVING ROUNDED CORNERS AT THE FORWARD END. 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.

K. WHEN STEEL STRAPPING IS SEALED AT AN END-OVER-END LAP JOINT, A MINIMUM OF ONE SEAL WITH TWO PAIR OF NOTCHES WILL BE USED TO SEAL THE JOINT WHEN A NOTCH-TYPE SEALER IS BEING USED. A MINIMUM OF TWO SEALS, BUTTED TOGETHER WITH TWO PAIR OF CRIMPS PER SEAL WILL BE USED TO SEAL THE JOINT WHEN A CRIMP-TYPE SEALER IS BEING USED.

L. 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.

M. NOTICE: A STAGGERED NAILING PATTERN WILL BE USED WHEREVER POSSIBLE WHEN NAILS ARE DRIVEN INTO JOINTS OF DUNNAGE ASSEMBLIES. ALSO, A STAGGERED NAILING PATTERN WILL BE USED WHEN DUNNAGE IS NAILED TO THE FLOOR OF THE TRANSPORTING VEHICLE, OR WHEN LAMINATING DUNNAGE. THE NAILING PATTERN WILL BE ADJUSTED AS REQUIRED SO THAT A NAIL DOES NOT PENETRATE INTO OR NEAR A CRACK BETWEEN FLOOR BOARDS. ADDITIONALLY, THE NAILING PATTERN FOR AN UPPER PIECE OF LAMINATED DUNNAGE WILL BE ADJUSTED AS REQUIRED SO THAT A NAIL FOR THAT PIECE WILL NOT BE DRIVEN THROUGH THE PIECE ONTO OR RIGHT BESIDE A NAIL IN A LOWER PIECE.

N. 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 ASTM F1667 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.

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

P. THE UNBLOCKED SPACE ACROSS THE WIDTH OF A LOAD BAY IS NOT TO EXCEED 6". EXCESSIVE SLACK CAN BE ELIMINATED FROM A LOAD BY LAMINATING ADDITIONAL PIECES OF APPROPRIATE THICKNESS TO THE CRIB FILL. NAIL EACH ADDITIONAL PIECE TO THE BUFFER PIECE W/1 APPROPRIATELY SIZED NAIL EVERY 12". ADDITIONALLY, THE THICKNESS AND QUANTITY OF THE LUMBER USED IN CRIB FILL AND ANTI-SWAY BRACE ASSEMBLIES MAY BE ADJUSTED AS REQUIRED TO FACILITATE VARIANCE IN THE SIZE OF THE PALLET UNIT.

Q. CAUTION: WHEN POWER OR PNEUMATIC NAILERS ARE BEING USED IN THE APPLICATION OF NAILED FLOORLINE BLOCKING OR BRACING, PALLET UNITS BEING LOADED INTO THE CONVEYANCE MUST BE POSITIONED TO ALLOW A CLEAR PATH OF EXIT FOR THE OPERATOR AT ALL TIMES, SHOULD AN EMERGENCY EXIT BECOME NECESSARY.

R. PALLET UNITS WHICH DO NOT CONTAIN A FULL QUANTITY OF ITEMS CAN BE TRANSPORTED. SEE THE "SHIPMENT OF A PARTIAL PALLET UNIT" DETAIL ON PAGE 27. FOR "SHIPMENT OF LEFT-OVER CONTAINERS" SEE THE DETAILS ON PAGE 28.

S. THESE PROCEDURES CAN ALSO BE UTILIZED FOR THE SHIPMENT OF PALLET UNITS OF PA66 SERIES CONTAINERS WHEN THEY ARE LOADED WITH AN ITEM OTHER THAN THE SPECIFIED PROPELLING CHARGES, OR WHEN THEY ARE EMPTY.

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 0.454 KG.

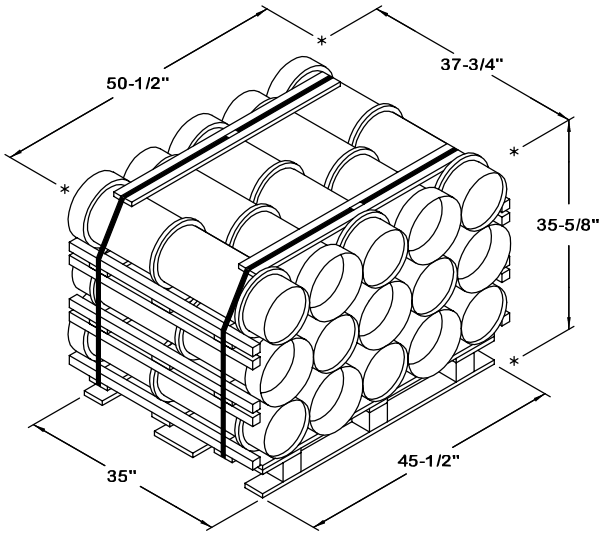
U. ANY OF THE PALLET UNITS DEPICTED ON PAGES 4 AND 5 MAY BE LOADED AS A MIXED LOAD IN THE SAME TRAILER, INCLUDING THE BASIC HEIGHT UNITS WITH THE INCREASED AND/OR DECREASED HEIGHT UNITS. FOR MIXED-HEIGHT LOADS, POSITION ALL PALLET UNITS OF ONE HEIGHT IN ONE LAYER, WITH THE TALLER UNITS IN THE BOTTOM LAYER. IF FULL LAYERS OF ONE HEIGHT UNIT ARE NOT POSSIBLE FOR THE QUANTITY OF EACH SIZE TO BE SHIPPED, THE TALLER UNITS WILL BE LOADED IN THE FORWARD PORTION OF THE BOTTOM LAYER, AND THE SHORTER UNITS IN THE REAR PORTION.

INDEX

REVISION

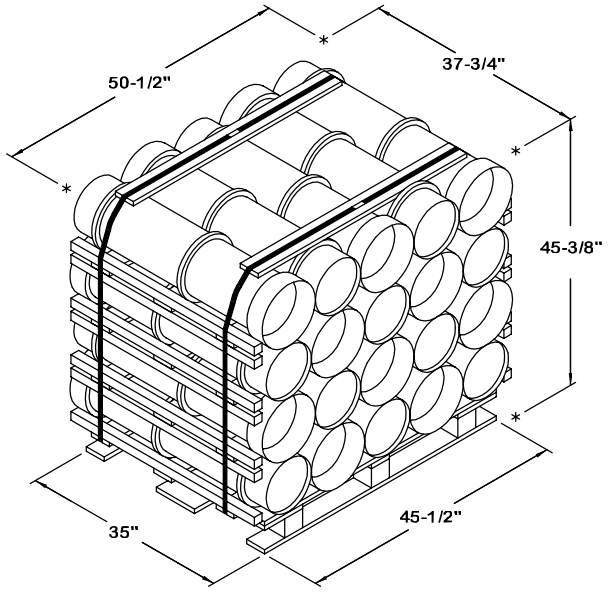
REVISION NO. 1, DATED DECEMBER 1997, CONSISTS OF:

1. INCLUDING LOAD DRAWINGS OF LONGER AND WIDER TRAILERS.
2. INCLUDING CHIMNEY PATTERN LOADS FOR FLAT AND ROUTED DUNNAGE METHOD UNITS.
3. INCORPORATING NAILED-HEADER METHOD INTO LOAD DRAWINGS.
4. REMOVING LOADS IN TRAILERS EQUIPPED WITH MECHANICAL BRACING DEVICES.
5. REMOVING MOST TOP-OF-LOAD ANTI-SWAY BRACES FROM LOAD DRAWINGS.
6. REMOVING TYGARD METHOD OF LOAD RESTRAINT.
7. UPDATING GENERAL NOTES AND DRAWING FORMAT.



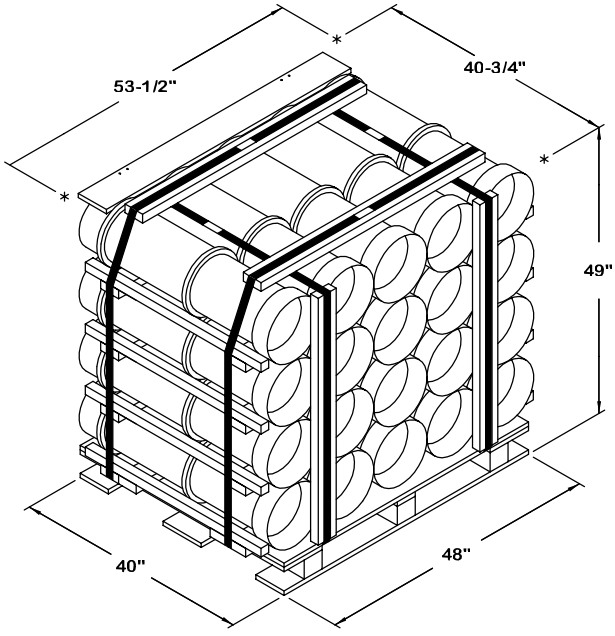
ALTERNATED CONTAINERS UNIT (BASIC HEIGHT)

CONTAINER - - - - - - - - - - 15 EACH @ 77 LBS (APPROX)
CUBE - - - - - - - - - - - - 39.3 CUBIC FEET (APPROX)
GROSS WEIGHT - - - - - - - - 1,275 LBS (APPROX)



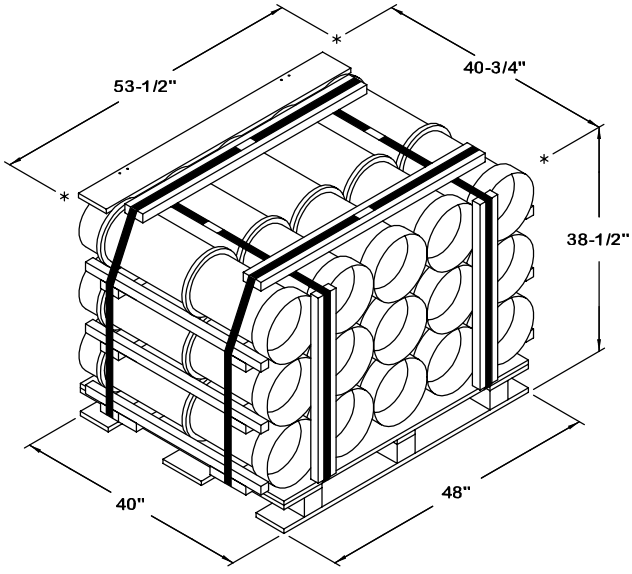
ALTERNATED CONTAINERS UNIT (INCREASED HEIGHT)

CONTAINER - - - - - - - - - - - - 20 EACH @ 77 LBS (APPROX)
CUBE - - - - - - - - - - - - - - 50.1 CUBIC FEET (APPROX)
GROSS WEIGHT - - - - - - - - - - 1,677 LBS (APPROX)



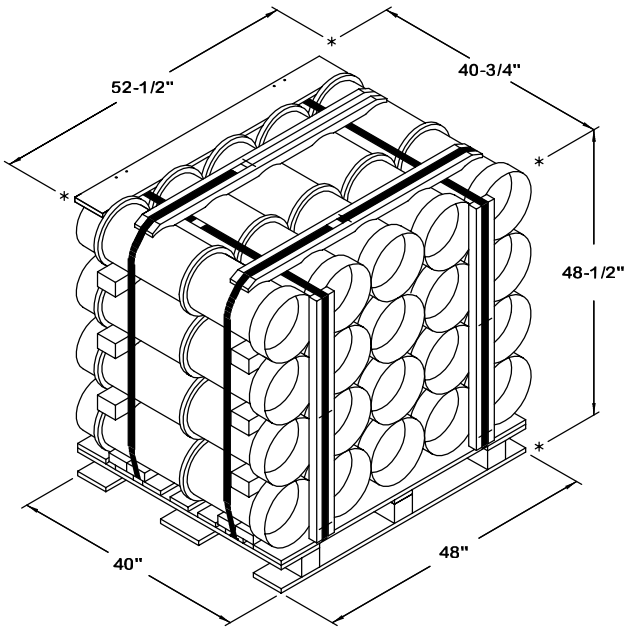
FLAT DUNNAGE METHOD UNIT (BASIC HEIGHT)

CONTAINER - - - - - - - - - 20 EACH @ 77 LBS (APPROX)
CUBE - - - - - - - - - - - - 61.8 CUBIC FEET (APPROX)
GROSS WEIGHT - - - - - - - 1,738 LBS (APPROX)



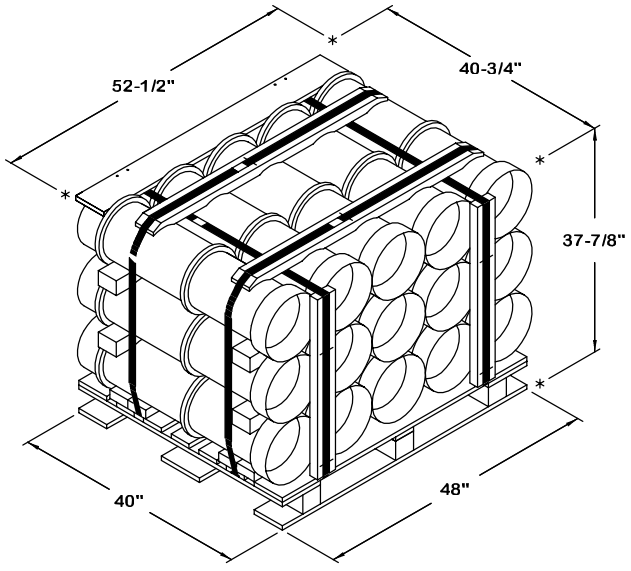
FLAT DUNNAGE METHOD UNIT (DECREASED HEIGHT)

CONTAINER - - - - - - - - - - 15 EACH @ 77 LBS (APPROX)
CUBE - - - - - - - - - - - - - 48.6 CUBIC FEET (APPROX)
GROSS WEIGHT - - - - - - - - - 1,331 LBS (APPROX)



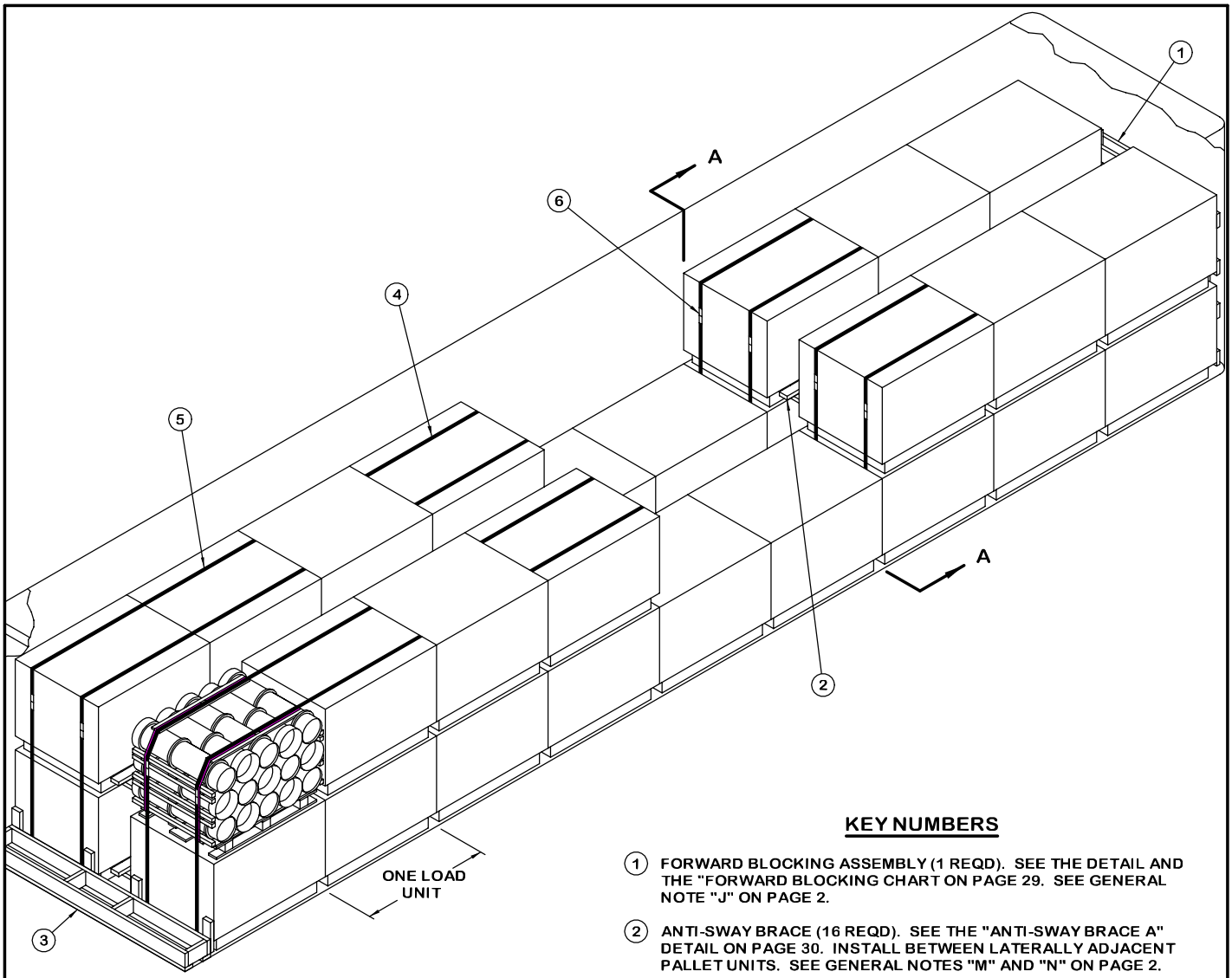
ROUTED DUNNAGE METHOD UNIT (BASIC HEIGHT)

CONTAINER - - - - - - - - - 20 EACH @ 77 LBS (APPROX)
CUBE - - - - - - - - - - - - 60.1 CUBIC FEET (APPROX)
GROSS WEIGHT - - - - - - - - 1,736 LBS (APPROX)



ROUTED DUNNAGE METHOD UNIT (DECREASED HEIGHT)

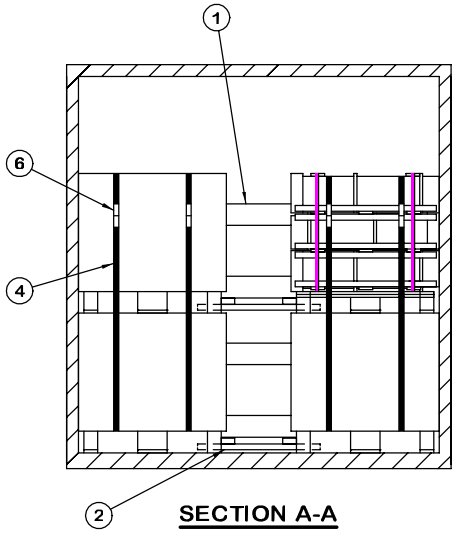
CONTAINER - - - - - - - - - - 15 EACH @ 77 LBS (APPROX)
CUBE - - - - - - - - - - - - - 46.9 CUBIC FEET (APPROX)
GROSS WEIGHT - - - - - - - - - 1,331 LBS (APPROX)



ISOMETRIC VIEW

KEY NUMBERS

1. FORWARD BLOCKING ASSEMBLY (1 REQD). SEE THE DETAIL AND THE "FORWARD BLOCKING CHART ON PAGE 29. SEE GENERAL NOTE "J" ON PAGE 2.
2. ANTI-SWAY BRACE (16 REQD). SEE THE "ANTI-SWAY BRACE A" DETAIL ON PAGE 30. INSTALL BETWEEN LATERALLY ADJACENT PALLET UNITS. SEE GENERAL NOTES "M" AND "N" ON PAGE 2.
3. REAR BLOCKING ASSEMBLY (1 REQD). SEE THE "REAR BLOCKING ASSEMBLY A" DETAIL AND THE "REAR BLOCKING CHART" ON PAGE 29. SEE SPECIAL NOTE 3 ON PAGE 7.
4. UNITIZING STRAP, 1-1/4" X .035" OR .031" X 21'-0" LONG STEEL STRAPPING (8 REQD). INSTALL AS SHOWN TO ENCIRCLE TWO PALLET UNITS. SEE SPECIAL NOTE 4 ON PAGE 7.
5. BUNDLING STRAP, 1-1/4" X .035" OR .031" X 29'-6" LONG STEEL STRAPPING (4 REQD). INSTALL AS SHOWN TO SECURE TWO PALLET UNITS IN THE SECOND LAYER TO TWO PALLET UNITS IN THE FIRST LAYER. SEE SPECIAL NOTE 5 ON PAGE 7.
6. SEAL FOR 1-1/4" STRAPPING (24 REQD, 2 PER STRAP). DOUBLE CRIMP EACH SEAL. SEE GENERAL NOTE "K" ON PAGE 2.



SECTION A-A

ALTERNATED CONTAINERS UNIT (BASIC HEIGHT)
32-UNIT LOAD IN A 40'-0" LONG BY 7'-8" WIDE CONVENTIONAL VAN TRAILER

PROJECT FSA 43C/9-63

SPECIAL NOTES:

1. A 32-UNIT LOAD IS SHOWN IN A 40'-0" LONG BY 7'-8" WIDE (INSIDE DIMENSION) CONVENTIONAL VAN TRAILER HAVING ROUNDED FRONT CORNERS. TRAILERS OF OTHER DIMENSIONS CAN BE USED.

2. THE PALLET UNIT SHOWN IN THE LOAD ON PAGE 6 IS THE ALTERNATED CONTAINERS UNIT (BASIC HEIGHT) HAVING OVERALL DIMENSIONS OF 37-3/4" LONG BY 50-1/2" WIDE BY 35-3/8" HIGH AND WEIGHING APPROXIMATELY 1,275 POUNDS.

3. IF THE REAR OF THE LOAD, BETWEEN THE PALLET UNITS AND THE REAR DOORS, 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 C" AS DETAILED ON PAGE 32. IF THE VOID AT THE REAR OF THE LOAD IS 9" OR GREATER, USE THE REAR BLOCKING ASSEMBLY, PIECE MARKED ③ ON PAGE 6. SEE SPECIAL NOTE 12.

4. 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, 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. THE UNITIZING STRAPS, PIECE MARKED ④, MUST BE INSTALLED PRIOR TO FINAL POSITIONING OF THE STACK.

5. IF A STACK IN THE LOAD UNIT AT THE REAR OF THE LOAD IS MORE THAN ONE UNIT HIGH, BUNDLING STRAPS, SHOWN AS PIECE MARKED ⑤, MUST BE INSTALLED SO AS TO ENCIRCLE THE REAR-MOST TWO STACKS IN EACH APPLICABLE ROW.

6. IF ONLY ONE PALLET UNIT IS TO BE LOADED IN THE SECOND LAYER OF EITHER ROW, IT MUST NOT BE POSITIONED ON TOP OF THE REAR-MOST PALLET UNIT IN THE FIRST LAYER. PROVIDE LONGITUDINAL BRACING BY INSTALLING UNITIZING STRAPS, PIECE MARKED ④. PROVIDE LATERAL BRACING BY INSTALLING A "TOP-OF-LOAD ANTI-SWAY BRACE" AS DETAILED ON PAGE 30 AND SHOWN AS PIECE MARKED ④ ON PAGE 18. WIRE TIE AS SHOWN BY THE "TIE WIRE APPLICATION DETAIL ON PAGE 30.

7. IF A PALLET UNIT IS EITHER ADDED TO OR OMITTED FROM THE DEPICTED LOAD, THE PALLET UNIT IN THE SECOND LAYER THAT DOES NOT HAVE A PALLET UNIT DIRECTLY OPPOSITE MUST BE SECURED BY INSTALLING A BUNDLING STRAP AROUND THAT STACK AND THE STACK IMMEDIATELY ADJACENT.

8. REFER TO PAGE 27 FOR GUIDANCE IN THE SHIPMENT OF PARTIAL PALLET UNITS.

9. LEFTOVER CONTAINERS, IN AN AMOUNT NOT TO EXCEED FOUR, MAY BE SECURED TO THE TOP OF A FULL PALLET UNIT FOR SHIPMENT. REFER TO THE "PROCEDURES FOR SHIPMENT OF LEFTOVER CONTAINERS" ON PAGE 28 FOR GUIDANCE.

10. FOR SHIPMENT OF LESS THAN FULL LOADS, REFER TO THE APPLICABLE GUIDANCE ON PAGES 24 THROUGH 26.

11. SEE PAGE 10 FOR AN ALTERNATIVE LOADING PATTERN.

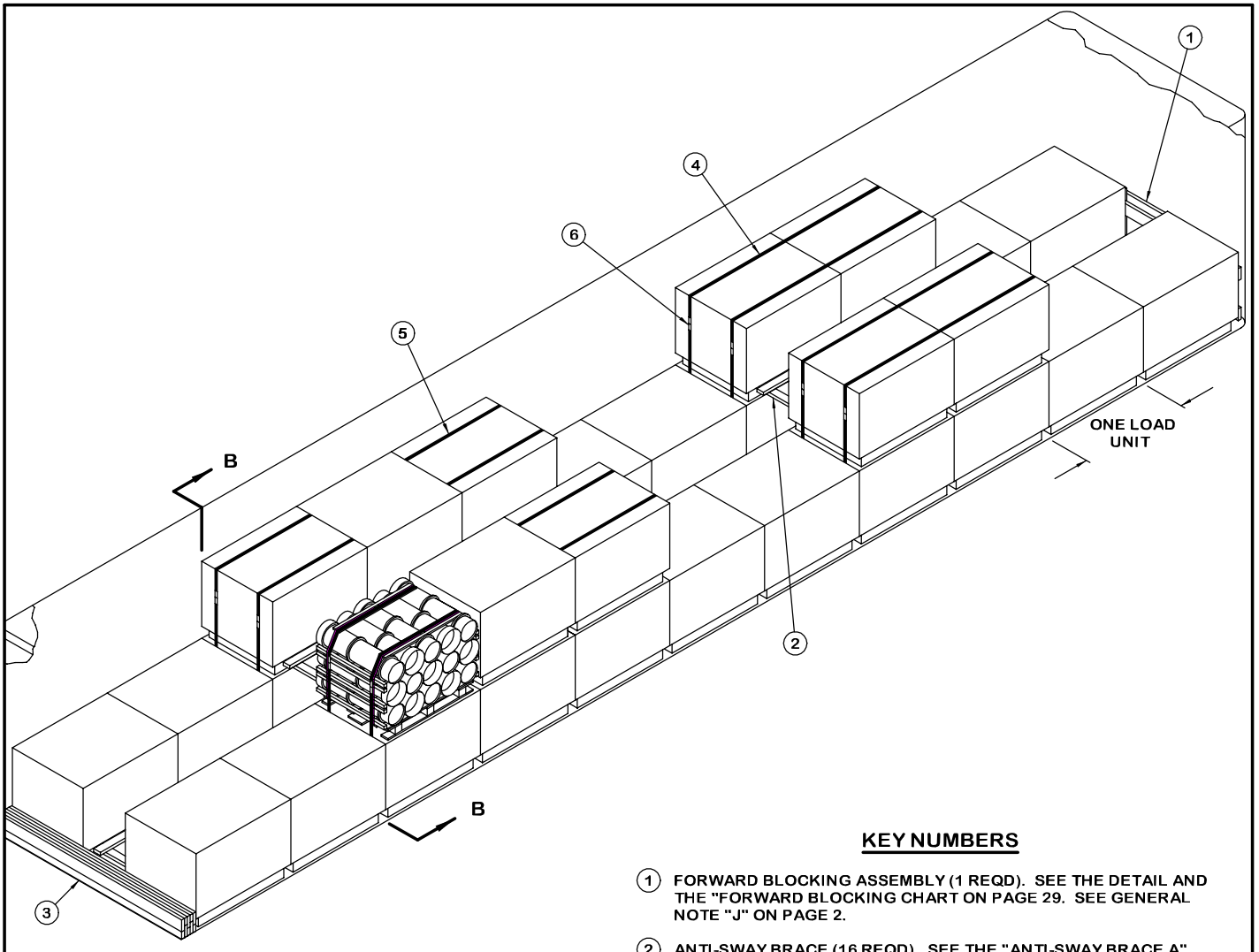
12. TRAILERS EQUIPPED WITH ROLL-UP TYPE DOORS MAY BE USED; HOWEVER, SPECIAL REAR BLOCKING MUST BE INSTALLED. THE NAILED-HEADER METHOD IS SHOWN ON PAGES 12 AND 13. NOTE THAT THE SPECIAL REAR BLOCKING FOR TRAILERS EQUIPPED WITH ROLL-UP TYPE DOORS MAY ALSO BE USED IN TRAILERS EQUIPPED WITH HINGED DOORS.

BILL OF MATERIAL		
LUMBER	LINEAR FEET	BOARD FEET
2" X 4" 2" X 6"	211 77	141 77
NAILS	NO. REQD	POUNDS
10d (3")	308	4-3/4
1-1/4" STEEL STRAPPING - - 286' REQD - - - - - 41 LBS SEAL FOR 1-1/4" STRAPPING - 24 REQD - - - 1-1/4 LBS		

LOAD AS SHOWN

ITEM	QUANTITY	WEIGHT (APPROX)
PALLET UNIT	32	40,800 LBS
DUNNAGE		483 LBS
TOTAL WEIGHT		41,283 LBS (APPROX)

ALTERNATED CONTAINERS UNIT (BASIC HEIGHT)
32-UNIT LOAD IN A 40'-0" LONG BY 7'-8" WIDE CONVENTIONAL VAN TRAILER



ISOMETRIC VIEW

KEY NUMBERS

1. FORWARD BLOCKING ASSEMBLY (1 REQD). SEE THE DETAIL AND THE "FORWARD BLOCKING CHART ON PAGE 29. SEE GENERAL NOTE "J" ON PAGE 2.
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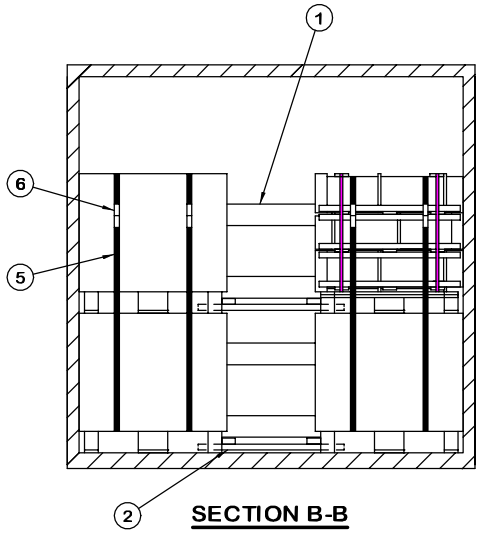
5. UNITIZING STRAP, 1-1/4" X .035" OR .031" X 21'-0" LONG STEEL STRAPPING (8 REQD). INSTALL AS SHOWN TO ENCIRCLE TWO PALLET UNITS. SEE SPECIAL NOTE 5 ON PAGE 9.
6. SEAL FOR 1-1/4" STRAPPING (24 REQD, 2 PER STRAP). DOUBLE CRIMP EACH SEAL. SEE GENERAL NOTE "K" ON PAGE 2.



SECTION B-B

ALTERNATED CONTAINERS UNIT (BASIC HEIGHT)
32-UNIT LOAD IN A 48'-0" LONG BY 8'-2" WIDE CONVENTIONAL VAN TRAILER

PROJECT FSA 43C/9-63

SPECIAL NOTES:

1. A 32-UNIT LOAD IS SHOWN IN A 48'-0" LONG BY 8'-2" WIDE (INSIDE DIMENSION) CONVENTIONAL VAN TRAILER HAVING ROUNDED FRONT CORNERS. TRAILERS OF OTHER DIMENSIONS CAN BE USED.

2. THE PALLET UNIT SHOWN IN THE LOAD ON PAGE 8 IS THE ALTERNATED CONTAINERS UNIT (BASIC HEIGHT) HAVING OVERALL DIMENSIONS OF 37-3/4" LONG BY 50-1/2" WIDE BY 35-3/8" HIGH AND WEIGHING APPROXIMATELY 1,275 POUNDS.

3. IF THE REAR OF THE LOAD, BETWEEN THE PALLET UNITS AND THE REAR DOORS, 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 THE REAR BLOCKING ASSEMBLY, PIECE MARKED ③ ON PAGE 8. IF THE VOID AT THE REAR OF THE LOAD IS 9" OR GREATER, USE "REAR BLOCKING ASSEMBLY A" AS DETAILED ON PAGE 29. SEE SPECIAL NOTE 12.

4. IF A STACK IN THE LOAD UNIT AT THE REAR OF THE LOAD IS MORE THAN ONE UNIT HIGH, BUNDLING STRAPS, SHOWN AS PIECE MARKED ④, MUST BE INSTALLED SO AS TO ENCIRCLE THE REAR-MOST TWO STACKS IN EACH APPLICABLE ROW.

5. 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, 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. THE UNITIZING STRAPS, PIECE MARKED ④, MUST BE INSTALLED PRIOR TO FINAL POSITIONING OF THE STACK.

6. IF ONLY ONE PALLET UNIT IS TO BE LOADED IN THE SECOND LAYER OF EITHER ROW, IT MUST NOT BE POSITIONED ON TOP OF THE REAR-MOST PALLET UNIT IN THE FIRST LAYER. PROVIDE LONGITUDINAL BRACING BY INSTALLING UNITIZING STRAPS, PIECE MARKED ⑤. PROVIDE LATERAL BRACING BY INSTALLING A "TOP-OF-LOAD ANTI-SWAY BRACE" AS DETAILED ON PAGE 30 AND SHOWN AS PIECE MARKED ④ ON PAGE 18. WIRE TIE AS SHOWN BY THE "TIE WIRE APPLICATION DETAIL ON PAGE 30.

7. IF A PALLET UNIT IS EITHER ADDED TO OR OMITTED FROM THE DEPICTED LOAD, THE PALLET UNIT IN THE SECOND LAYER THAT DOES NOT HAVE A PALLET UNIT DIRECTLY OPPOSITE MUST BE SECURED BY INSTALLING A BUNDLING STRAP AROUND THAT STACK AND THE STACK IMMEDIATELY ADJACENT.

8. REFER TO PAGE 27 FOR GUIDANCE IN THE SHIPMENT OF PARTIAL PALLET UNITS.

9. LEFTOVER CONTAINERS, IN AN AMOUNT NOT TO EXCEED FOUR, MAY BE SECURED TO THE TOP OF A FULL PALLET UNIT FOR SHIPMENT. REFER TO THE "PROCEDURES FOR SHIPMENT OF LEFTOVER CONTAINERS" ON PAGE 28 FOR GUIDANCE.

10. FOR SHIPMENT OF LESS THAN FULL LOADS, REFER TO THE APPLICABLE GUIDANCE ON PAGES 24 THROUGH 26.

11. SEE PAGE 10 FOR AN ALTERNATIVE LOADING PATTERN.

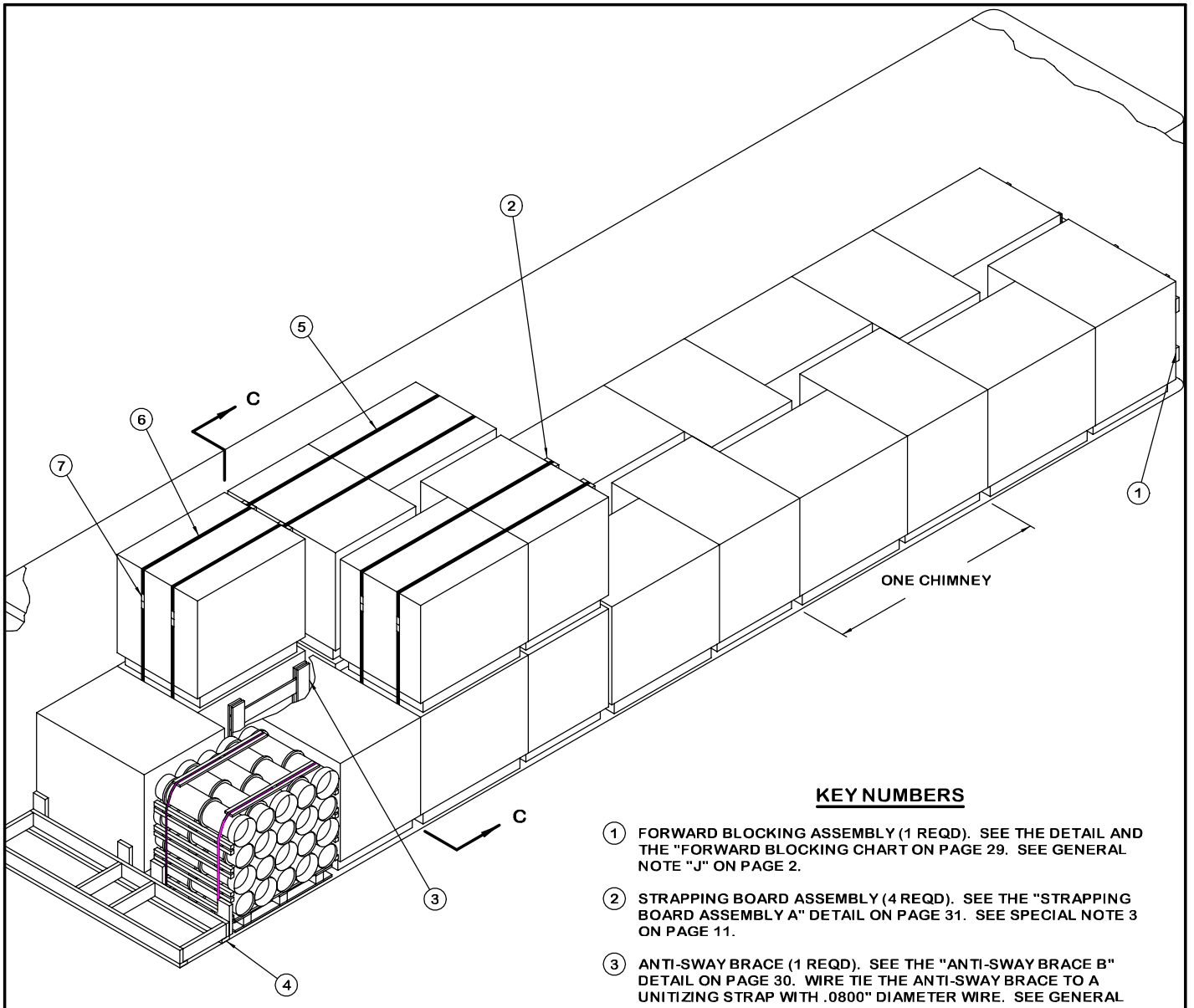
12. TRAILERS EQUIPPED WITH ROLL-UP TYPE DOORS MAY BE USED; HOWEVER, SPECIAL REAR BLOCKING MUST BE INSTALLED. THE NAILED-HEADER METHOD IS SHOWN ON PAGES 12 AND 13. NOTE THAT THE SPECIAL REAR BLOCKING FOR TRAILERS EQUIPPED WITH ROLL-UP TYPE DOORS MAY ALSO BE USED IN TRAILERS EQUIPPED WITH HINGED DOORS.

BILL OF MATERIAL		
LUMBER	LINEAR FEET	BOARD FEET
2" X 4" 2" X 6"	248 72	166 72
NAILS	NO. REQD	POUNDS
10d (3")	296	4-3/4
1-1/4" STEEL STRAPPING - - 286' REQD - - - - - 41 LBS SEAL FOR 1-1/4" STRAPPING - 24 REQD - - - 1-1/4 LBS		

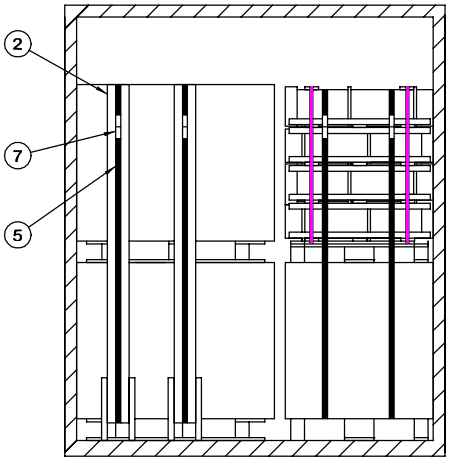
LOAD AS SHOWN

ITEM	QUANTITY	WEIGHT (APPROX)
PALLET UNIT	32	40,800 LBS
DUNNAGE		523 LBS
TOTAL WEIGHT		41,323 LBS (APPROX)

ALTERNATED CONTAINERS UNIT (BASIC HEIGHT)
32-UNIT LOAD IN A 48'-0" LONG BY 8'-2" WIDE CONVENTIONAL VAN TRAILER



ISOMETRIC VIEW



SECTION C-C

KEY NUMBERS

(1) FORWARD BLOCKING ASSEMBLY (1 REQD). SEE THE DETAIL AND THE "FORWARD BLOCKING CHART ON PAGE 29. SEE GENERAL NOTE "J" ON PAGE 2.

(2) STRAPPING BOARD ASSEMBLY (4 REQD). SEE THE "STRAPPING BOARD ASSEMBLY A" DETAIL ON PAGE 31. SEE SPECIAL NOTE 3 ON PAGE 11.

(3) ANTI-SWAY BRACE (1 REQD). SEE THE "ANTI-SWAY BRACE B" DETAIL ON PAGE 30. WIRE TIE THE ANTI-SWAY BRACE TO A UNITIZING STRAP WITH .0800" DIAMETER WIRE. SEE GENERAL NOTES "M" AND "N" ON PAGE 2.

(4) REAR BLOCKING ASSEMBLY (1 REQD). SEE THE "REAR BLOCKING ASSEMBLY A" DETAIL AND THE "REAR BLOCKING CHART" ON PAGE 29. SEE SPECIAL NOTE 5 ON PAGE 11.

(5) BUNDLING STRAP, 1-1/4" X .035" OR .031" X 31'-0" LONG STEEL STRAPPING (4 REQD). INSTALL AS SHOWN TO SECURE TWO PALLET UNITS IN THE SECOND LAYER TO TWO PALLET UNITS IN THE FIRST LAYER. STAPLE TO A STRAPPING BOARD ASSEMBLY, PIECE MARKED (2), W/2 STAPLES. SEE SPECIAL NOTES 6 AND 8 ON PAGE 11.

(6) UNITIZING STRAP, 1-1/4" X .035" OR .031" X 25'-0" LONG STEEL STRAPPING (2 REQD). INSTALL AS SHOWN TO ENCIRCLE TWO PALLET UNITS. SEE SPECIAL NOTE 7 ON PAGE 11.

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

ALTERNATED CONTAINERS UNIT (INCREASED HEIGHT)

25-UNIT LOAD (CHIMNEY PATTERN) IN A 40'-0" LONG BY 7'-8" WIDE HI-VOLUME VAN TRAILER

PROJECT FSA 43C/9-63

(SPECIAL NOTES CONTINUED)

10. REFER TO PAGE 27 FOR GUIDANCE IN THE SHIPMENT OF PARTIAL PALLET UNITS.

11. LEFTOVER CONTAINERS, IN AN AMOUNT NOT TO EXCEED FOUR, MAY BE SECURED TO THE TOP OF A FULL PALLET UNIT FOR SHIPMENT. REFER TO THE "PROCEDURES FOR SHIPMENT OF LEFTOVER CONTAINERS" ON PAGE 28 FOR GUIDANCE.

12. SEE PAGE 6 FOR AN ALTERNATIVE LOADING PATTERN.

13. FOR SHIPMENT OF LESS THAN FULL LOADS, REFER TO THE APPLICABLE GUIDANCE ON PAGES 24 THROUGH 26.

14. TRAILERS EQUIPPED WITH ROLL-UP TYPE DOORS MAY BE USED; HOWEVER, SPECIAL REAR BLOCKING MUST BE INSTALLED. THE NAILED-HEADER METHOD IS SHOWN ON PAGES 12 AND 13. NOTE THAT THE SPECIAL REAR BLOCKING FOR TRAILERS EQUIPPED WITH ROLL-UP TYPE DOORS MAY ALSO BE USED IN TRAILERS EQUIPPED WITH HINGED DOORS.

15. THE ANTI-SWAY BRACE, PIECE MARKED ③, IS ONLY REQUIRED WHEN A 2-HIGH PALLET STACK IS LOADED LATERALLY ADJACENT TO A 1-HIGH STACK, AS SHOWN, TO PREVENT TIPPING OF THE 2-HIGH STACK.

SPECIAL NOTES:

1. A 25-UNIT LOAD IS SHOWN IN A 40'-0" LONG BY 7'-8" WIDE (INSIDE DIMENSION) HI-VOLUME VAN TRAILER WHICH HAS ROUNDED FRONT CORNERS. A "CHIMNEY" TYPE LOADING PATTERN IS SHOWN. WIDER OR NARROWER TRAILERS MAY BE USED; TRAILERS WIDER THAN 7'-10" WILL NOT BE USED.

2. THE PALLET UNIT SHOWN IN THE LOAD ON PAGE 10 IS THE ALTERNATED CONTAINERS UNIT (INCREASED HEIGHT) HAVING OVERALL DIMENSIONS OF 37-3/4" LONG BY 50-1/2" WIDE BY 45-3/8" HIGH AND WEIGHING APPROXIMATELY 1,677 POUNDS.

3. FOR EASE OF INSTALLATION, A STRAPPING BOARD ASSEMBLY "B" MAY BE USED IN LIEU OF EACH PAIR OF STRAPPING BOARD ASSEMBLIES, PIECE MARKED ②. SEE THE "STRAPPING BOARD ASSEMBLY B" DETAIL ON PAGE 31.

4. ANTI-SWAY BRACE "B", SHOWN AS PIECE MARKED ③, MUST BE ADJUSTED IN THICKNESS WHEN TRAILERS OF OTHER WIDTHS ARE BEING LOADED. REFER TO THE NOTE BENEATH THE DETAIL ON PAGE 30 FOR GUIDANCE.

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 C" AS DETAILED ON PAGE 32. IF THE VOID AT THE REAR OF THE LOAD IS 9" OR GREATER, USE THE REAR BLOCKING ASSEMBLY, PIECE MARKED ④ ON PAGE 10. SEE SPECIAL NOTE 14.

6. A CHIMNEY UNIT AT EACH END OF THE SECOND LAYER PORTION OF THE LOAD MUST BE BUNDLED TO A CHIMNEY UNIT IN THE FIRST LAYER, UNLESS THE STACKED CHIMNEY UNITS ARE AGAINST THE FRONT WALL OF A SQUARE FRONT TRAILER OR AGAINST THE FORWARD BLOCKING ASSEMBLY. THE BUNDLING STRAPS AND STRAPPING BOARD ASSEMBLIES, PIECES MARKED ② AND ⑤, MUST BE INSTALLED PRIOR TO FINAL POSITIONING OF THE STACK.

7. THE UNITIZING STRAPS, PIECES MARKED ⑥, ARE ONLY REQUIRED WHEN SECURING A SINGLE UNIT IN THE SECOND LAYER TO A PALLET UNIT DIRECTLY BENEATH. NOTE THAT STRAPPING BOARD ASSEMBLIES WILL BE REQUIRED WHEN UNITIZING STRAPS ARE APPLIED AROUND THE LENGTH OF A UNIT (IN THE SAME DIRECTION AS THE LENGTH OF THE CONTAINERS).

8. IF A PALLET STACK AT THE REAR OF THE LOAD IS MORE THAN ONE UNIT HIGH, BUNDLING STRAPS SHOWN AS PIECE MARKED ⑤, MUST BE INSTALLED SO AS TO ENCIRCLE THE REARMOST TWO STACKS IN EACH APPLICABLE ROW. STRAPPING BOARD ASSEMBLIES WILL BE REQUIRED.

9. IF ONLY ONE PALLET UNIT IS TO BE LOADED IN THE SECOND LAYER OF EITHER ROW, IT MUST NOT BE POSITIONED ON TOP OF THE REARMOST PALLET UNIT IN THE FIRST LAYER. SECURE AS SHOWN BY PIECES MARKED ③ AND ⑥.

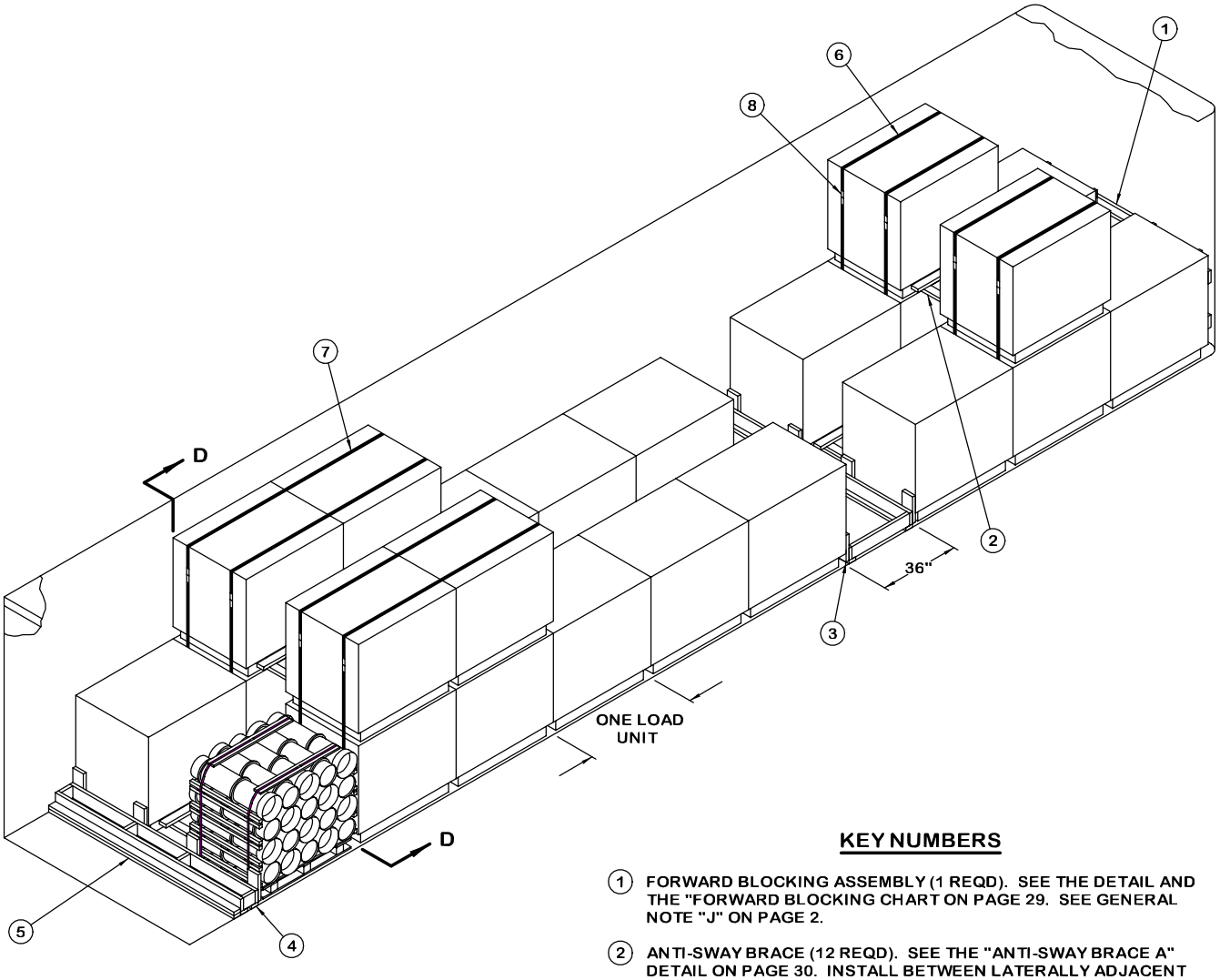
(CONTINUED AT LEFT)

BILL OF MATERIAL		
LUMBER	LINEAR FEET	BOARD FEET
1" X 6" 2" X 2" 2" X 4" 2" X 6"	20 11 30 85	10 4 20 85
NAILS	NO. REQD	POUNDS
6d (2") 10d (3")	24 108	1/4 1-3/4
1-1/4" STEEL STRAPPING - - 174' REQD - - - - - 25 LBS SEAL FOR 1-1/4" STRAPPING - 12 REQD - - - - 3/4 LB STAPLE - - - - - - - - - - - - 8 REQD - - - - - - NIL WIRE, .0800" DIAMETER - - - 2' REQD - - - - - - NIL		

LOAD AS SHOWN

ITEM	QUANTITY	WEIGHT (APPROX)
PALLET UNIT - - - - -	25 - - - - - -	41,925 LBS
DUNNAGE - - - - - - - - - - - - - - - -		266 LBS
TOTAL WEIGHT - - - - - -		42,191 LBS (APPROX)

ALTERNATED CONTAINERS UNIT (INCREASED HEIGHT)
25-UNIT LOAD (CHIMNEY PATTERN) IN A 40'-0" LONG BY 7'-8" WIDE HI-VOLUME VAN TRAILER



ISOMETRIC VIEW

KEY NUMBERS

(1) FORWARD BLOCKING ASSEMBLY (1 REQD). SEE THE DETAIL AND THE "FORWARD BLOCKING CHART ON PAGE 29. SEE GENERAL NOTE "J" ON PAGE 2.

(2) ANTI-SWAY BRACE (12 REQD). SEE THE "ANTI-SWAY BRACE A" DETAIL ON PAGE 30. INSTALL BETWEEN LATERALLY ADJACENT PALLET UNITS. SEE GENERAL NOTES "M" AND "N" ON PAGE 2.

(3) SPACER ASSEMBLY (1 REQD). SEE THE "SPACER ASSEMBLY A" DETAIL ON PAGE 31. SEE SPECIAL NOTE 3 ON PAGE 13.

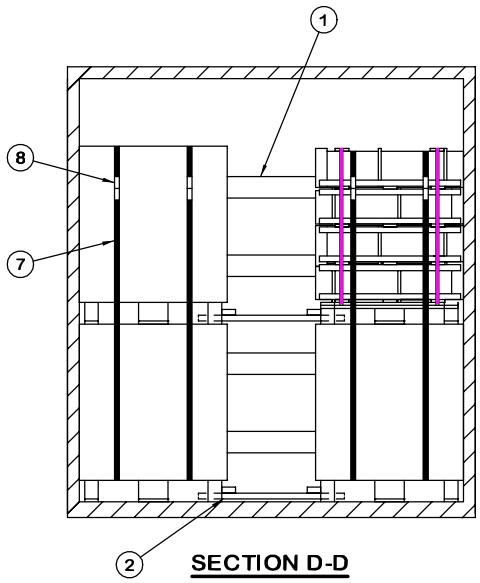
(4) REAR BLOCKING ASSEMBLY (1 REQD). SEE THE "REAR BLOCKING ASSEMBLY A" DETAIL ON PAGE 32. SEE SPECIAL NOTE 4 ON PAGE 13.

(5) REAR HEADER, 2" X 4" BY TRAILER WIDTH MINUS 1/2" IN LENGTH (DOUBLED) (1 REQD). POSITION AGAINST THE REAR BLOCKING ASSEMBLY, PIECE MARKED (4), AND THE PALLET UNIT. NAIL THE FIRST PIECE TO THE TRAILER FLOOR W/18-10d NAILS. NAIL THE SECOND PIECE TO THE FIRST IN A LIKE MANNER AND TOENAIL TO THE REAR BLOCKING ASSEMBLY W/4-10d NAILS. FOR OTHER LOAD WEIGHTS, SEE THE NAILING CHART ON PAGE 13.

(6) UNITIZING STRAP, 1-1/4" X .035" OR .031" X 25'-0" LONG STEEL STRAPPING (4 REQD). INSTALL AS SHOWN TO ENCIRCLE TWO PALLET UNITS. SEE SPECIAL NOTE 7 ON PAGE 13.

(7) BUNDLING STRAP, 1-1/4" X .035" OR .031" X 33'-0" LONG STEEL STRAPPING (4 REQD). INSTALL AS SHOWN TO ENCIRCLE TWO PALLET UNITS. SEE SPECIAL NOTE 5 ON PAGE 13.

(8) SEAL FOR 1-1/4" STRAPPING (16 REQD, 2 PER STRAP). DOUBLE CRIMP EACH SEAL. SEE GENERAL NOTE "K" ON PAGE 2.



SECTION D-D

ALTERNATED CONTAINERS UNIT (INCREASED HEIGHT)
24-UNIT LOAD IN A 45'-0" LONG BY 8'-0" WIDE HI-VOLUME VAN TRAILER

PROJECT FSA 43C/9-63

FORWARD HEADER NAILING CHART •	
# NAILS	MAX. LOAD WEIGHT (LBS)
3	15,000
4	20,000
5	25,000
6	30,000
7	35,000
8	40,000
9	45,000

•HEADERS AT THE FRONT END OF A LOAD OR AT THE FRONT END OF A DIVIDED LOAD WILL BE DOUBLED 2" X 6" MATERIAL. THE NUMBER OF NAILS INDICATED ABOVE REFERS TO THE NUMBER OF NAILS USED IN EACH LAMINATION OF A HEADER, FOR EXAMPLE 8 NAILS MEANS THE FIRST BOARD IS NAILED TO THE TRAILER FLOOR W/8-10d NAILS, AND THE SECOND BOARD IS LAMINATED TO THE FIRST W/8-20d NAILS, FOR A TOTAL OF 8-10d AND 8-20d NAILS PER HEADER.

REAR HEADER NAILING CHART *	
# NAILS	MAX. LOAD WEIGHT (LBS)
6	15,000
7	17,500
8	20,000
9	22,500
10	25,000
11	27,500
12	30,000
13	32,500
14	35,000
15	37,500
16	40,000
17	42,500
18	45,000

*HEADERS AT THE REAR OF A FULL LOAD OR AT THE REAR END OF A DIVIDED LOAD WILL BE DOUBLED 2" X 4" MATERIAL. THE NUMBER OF NAILS INDICATED ABOVE REFERS TO THE NUMBER OF NAILS USED IN EACH LAMINATION OF A HEADER, FOR EXAMPLE 8 NAILS MEANS THE FIRST BOARD IS NAILED TO THE TRAILER FLOOR W/8-10d NAILS, AND THE SECOND BOARD IS LAMINATED TO THE FIRST W/8-10d NAILS, FOR A TOTAL OF 16-10d NAILS. NOTE: REAR HEADERS MAY BE HANDLED IN THE SAME MANNER AS FORWARD HEADERS, USING 2" X 6" MATERIAL WITH 10d AND 20d NAILS, IF DESIRED.

SPECIAL NOTES:

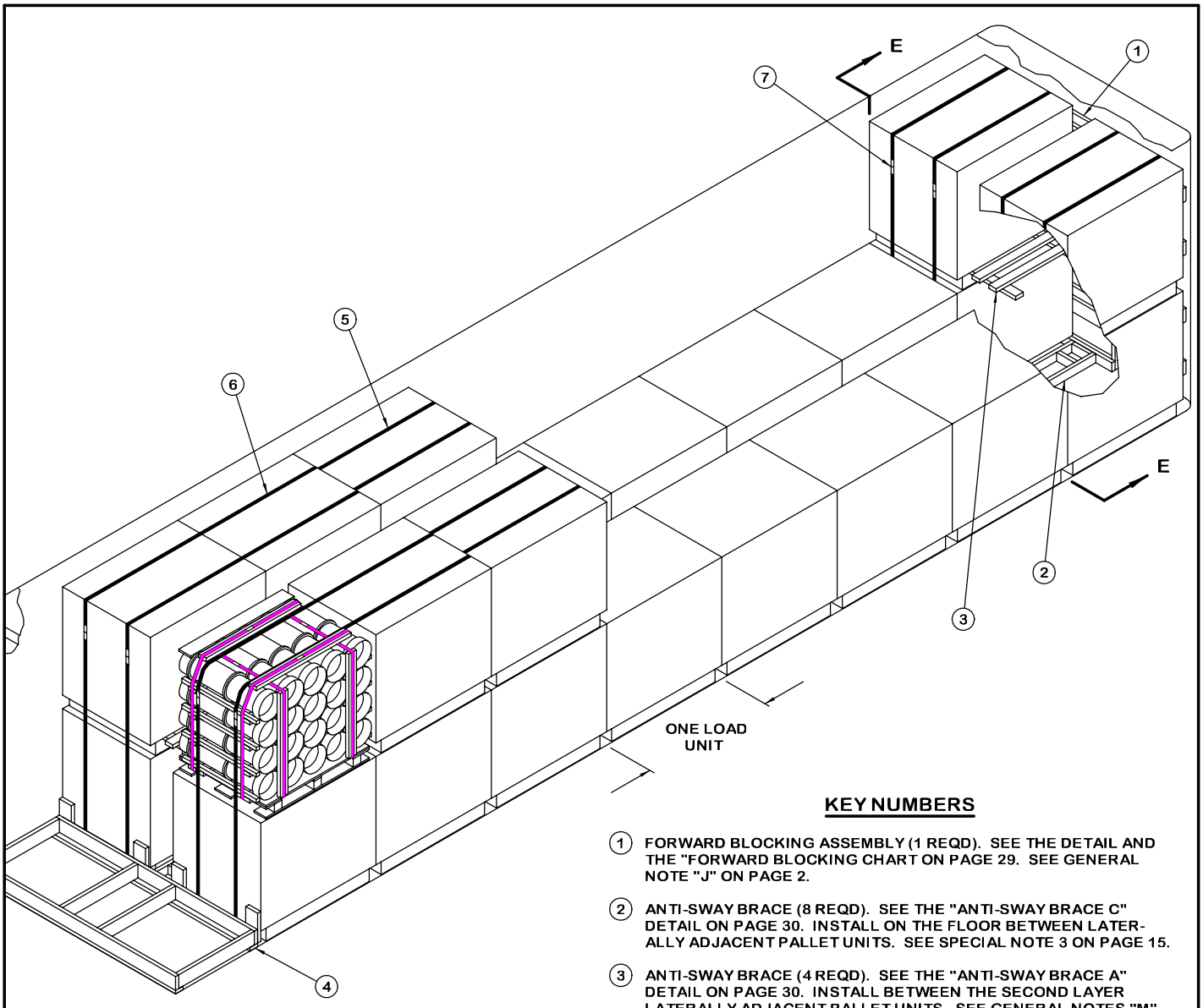
1. A 24-UNIT LOAD IS SHOWN IN A 45'-0" LONG BY 8'-0" WIDE (INSIDE DIMENSION) HI-VOLUME VAN TRAILER WHICH HAS ROUNDED FRONT CORNERS. TRAILERS OF OTHER DIMENSIONS CAN BE USED.
2. THE PALLET UNIT SHOWN IN THE LOAD ON PAGE 12 IS THE ALTERNATED CONTAINERS UNIT (INCREASED HEIGHT) HAVING OVERALL DIMENSIONS OF 37-3/4" LONG BY 50-1/2" WIDE BY 45-3/8" HIGH AND WEIGHING APPROXIMATELY 1,677 POUNDS.
3. THE SPACER ASSEMBLY "A", PIECE MARKED ③ AND DETAILED ON PAGE 31, IS TO BE USED FOR THE PURPOSE OF PROVIDING PROPER WEIGHT DISTRIBUTION, AND IS SHOWN AS TYPICAL ONLY. IF THE TRAILER IS OF DIFFERENT LENGTH, THE STRUT LENGTHS MAY BE DIFFERENT FROM WHAT IS SHOWN. NOTE THAT THE SPACER ASSEMBLY MUST NOT BE POSITIONED ADJACENT TO THE FORWARD BLOCKING ASSEMBLY.
4. 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 C" AS DETAILED ON PAGE 32. IF THE VOID AT THE REAR OF THE LOAD IS 9" OR GREATER, USE THE REAR BLOCKING ASSEMBLY, PIECE MARKED ④ ON PAGE 12. WHEN USING THE NAILED-HEADER METHOD AS SHOWN ON PAGE 12, THE STRUT LENGTHS OF THE REAR BLOCKING ASSEMBLY WILL BE A MINIMUM OF 6". SEE SPECIAL NOTE 12.
5. A PALLET UNIT AT EACH END OF THE SECOND LAYER PORTION OF THE LOAD MUST BE BUNDLED TO A PALLET UNIT IN THE FIRST LAYER, UNLESS THE STACKED UNITS ARE AGAINST THE FRONT WALL OF A SQUARE FRONT TRAILER OR AGAINST THE FORWARD BLOCKING ASSEMBLY. THE BUNDLING STRAPS, PIECES MARKED ⑦, MUST BE INSTALLED PRIOR TO FINAL POSITIONING OF THE STACK.
6. IF A STACK IN THE LOAD UNIT AT THE REAR OF THE LOAD IS MORE THAN ONE UNIT HIGH, BUNDLING STRAPS SHOWN AS PIECE MARKED ⑦, MUST BE INSTALLED SO AS TO ENCIRCLE THE REARMOST TWO STACKS IN EACH APPLICABLE ROW.
7. IF ONLY ONE PALLET UNIT IS TO BE LOADED IN THE SECOND LAYER OF EITHER ROW, IT MUST NOT BE POSITIONED ON TOP OF THE REARMOST PALLET UNIT IN THE FIRST LAYER. PROVIDE LONGITUDINAL BRACING BY INSTALLING UNITIZING STRAPS, PIECE MARKED ⑥. PROVIDE LATERAL BRACING BY INSTALLING A "TOP-OF-LOAD ANTI-SWAY BRACE" AS DETAILED ON PAGE 30 AND SHOWN IN THE LOAD VIEW ON PAGE 18 AS PIECE MARKED ④. WIRE TIE AS SHOWN IN THE "TIE WIRE APPLICATION" DETAIL ON PAGE 30.
8. IF A PALLET UNIT IS EITHER ADDED TO OR OMITTED FROM THE DEPICTED LOAD, THE PALLET UNIT IN THE SECOND LAYER THAT DOES NOT HAVE A PALLET UNIT DIRECTLY OPPOSITE MUST BE SECURED BY INSTALLING A BUNDLING STRAP AROUND THAT STACK AND THE STACK IMMEDIATELY ADJACENT.
9. REFER TO PAGE 27 FOR GUIDANCE IN THE SHIPMENT OF PARTIAL PALLET UNITS.
10. LEFTOVER CONTAINERS, IN AN AMOUNT NOT TO EXCEED FOUR, MAY BE SECURED TO THE TOP OF A FULL PALLET UNIT FOR SHIPMENT. REFER TO THE "PROCEDURES FOR SHIPMENT OF LEFTOVER CONTAINERS" ON PAGE 28 FOR GUIDANCE.
11. FOR SHIPMENT OF LESS THAN FULL LOADS, REFER TO THE APPLICABLE GUIDANCE ON PAGES 24 THROUGH 26.
12. TRAILERS EQUIPPED WITH ROLL-UP TYPE DOORS MAY BE USED; HOWEVER, SPECIAL REAR BLOCKING MUST BE INSTALLED. THE NAILED-HEADER METHOD IS SHOWN ON PAGES 12 AND 13. NOTE THAT THE SPECIAL REAR BLOCKING FOR TRAILERS EQUIPPED WITH ROLL-UP TYPE DOORS MAY ALSO BE USED IN TRAILERS EQUIPPED WITH HINGED DOORS.

BILL OF MATERIAL		
LUMBER	LINEAR FEET	BOARD FEET
2" X 4" 2" X 6"	205 84	137 84
NAILS	NO. REQD	POUNDS
10d (3")	334	5-1/4
1-1/4" STEEL STRAPPING - - 232' REQD - - - 33-1/4 LBS SEAL FOR 1-1/4" STRAPPING - 16 REQD - - - - 3/4 LB		

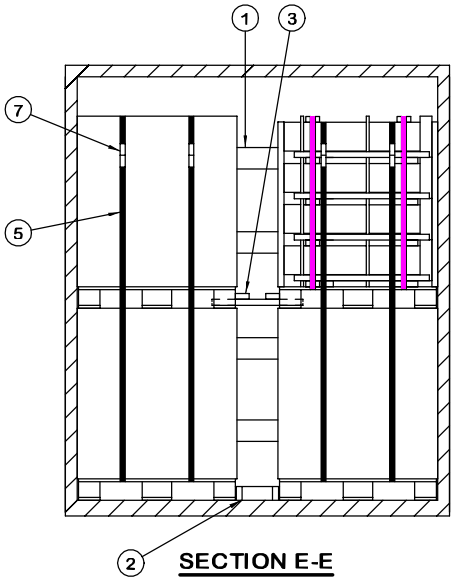
LOAD AS SHOWN

ITEM	QUANTITY	WEIGHT (APPROX)
PALLET UNIT - - - - -	24 - - - - - -	40,248 LBS
DUNNAGE - - - - - - - - - - - - - - - -		482 LBS
TOTAL WEIGHT - - - - - -		40,730 LBS (APPROX)

ALTERNATED CONTAINERS UNIT (INCREASED HEIGHT)
24-UNIT LOAD IN A 45'-0" LONG BY 8'-0" WIDE HI-VOLUME VAN TRAILER



ISOMETRIC VIEW



SECTION E-E

KEY NUMBERS

1. FORWARD BLOCKING ASSEMBLY (1 REQD). SEE THE DETAIL AND THE "FORWARD BLOCKING CHART ON PAGE 29. SEE GENERAL NOTE "J" ON PAGE 2.
2. ANTI-SWAY BRACE (8 REQD). SEE THE "ANTI-SWAY BRACE C" DETAIL ON PAGE 30. INSTALL ON THE FLOOR BETWEEN LATERALLY ADJACENT PALLET UNITS. SEE SPECIAL NOTE 3 ON PAGE 15.
3. ANTI-SWAY BRACE (4 REQD). SEE THE "ANTI-SWAY BRACE A" DETAIL ON PAGE 30. INSTALL BETWEEN THE SECOND LAYER LATERALLY ADJACENT PALLET UNITS. SEE GENERAL NOTES "M" AND "N" ON PAGE 2.
4. REAR BLOCKING ASSEMBLY (1 REQD). SEE THE "REAR BLOCKING ASSEMBLY A" DETAIL AND THE "REAR BLOCKING CHART" ON PAGE 29 FOR FLAT DUNNAGE METHOD UNIT LOADS. SEE THE "REAR BLOCKING ASSEMBLY B" DETAIL ON PAGE 32 FOR ROUTED DUNNAGE METHOD UNIT LOADS. SEE SPECIAL NOTE 4 ON PAGE 15.
5. UNITIZING STRAP, 1-1/4" X .035" OR .031" X 26'-0" LONG STEEL STRAPPING (8 REQD). INSTALL AS SHOWN TO ENCIRCLE TWO PALLET UNITS. SEE SPECIAL NOTE 5 ON PAGE 15.
6. BUNDLING STRAP, 1-1/4" X .035" OR .031" X 35'-0" LONG STEEL STRAPPING (4 REQD). INSTALL AS SHOWN TO SECURE TWO PALLET UNITS IN THE SECOND LAYER TO TWO PALLET UNITS IN THE FIRST LAYER. SEE SPECIAL NOTES 6 AND 14 ON PAGE 15.
7. SEAL FOR 1-1/4" STRAPPING (24 REQD, 2 PER STRAP). DOUBLE CRIMP EACH SEAL. SEE GENERAL NOTE "K" ON PAGE 2.

FLAT DUNNAGE/ROUTED DUNNAGE METHOD UNIT (BASIC HEIGHT)
24-UNIT LOAD IN A 40'-0" LONG BY 8'-0" WIDE HI-VOLUME VAN TRAILER

PROJECT FSA 43C/9-63

(SPECIAL NOTES CONTINUED)

10. LEFTOVER CONTAINERS, IN AN AMOUNT NOT TO EXCEED FOUR, MAY BE SECURED TO THE TOP OF A FULL PALLET UNIT FOR SHIPMENT. REFER TO THE "PROCEDURES FOR SHIPMENT OF LEFTOVER CONTAINERS" ON PAGE 28 FOR GUIDANCE.

11. FOR SHIPMENTS OF LESS THAN FULL LOADS, REFER TO THE APPLICABLE GUIDANCE ON PAGES 24 THROUGH 26.

12. IF THE TRAILER BEING LOADED DOES NOT HAVE A DOOR OPENING HEIGHT OF AT LEAST 8'-2" IT WILL BE NECESSARY TO LIMIT THE REARMOST LOAD UNIT TO ONE PALLET UNIT IN HEIGHT. IF THE SECOND LAYER AT THE REAR OF THE LOAD IS MOVED FORWARD, THE BUNDLING STRAPS, PIECE MARKED ⑦, WILL NOT BE REQUIRED.

13. TRAILERS EQUIPPED WITH ROLL-UP TYPE DOORS MAY BE USED; HOWEVER, SPECIAL REAR BLOCKING MUST BE INSTALLED. THE NAILED-HEADER METHOD IS SHOWN ON PAGES 12 AND 13. NOTE THAT THE SPECIAL REAR BLOCKING FOR TRAILERS EQUIPPED WITH ROLL-UP TYPE DOORS MAY ALSO BE USED IN TRAILERS EQUIPPED WITH HINGED DOORS.

SPECIAL NOTES:

1. A 24-UNIT LOAD IS SHOWN IN A 40'-0" LONG BY 7"8" WIDE (INSIDE DIMENSION) HI-VOLUME VAN TRAILER WHICH HAS ROUNDED FRONT CORNERS. WIDER OR NARROWER TRAILERS CAN BE USED.

2. THE PALLET UNIT SHOWN IN THE LOAD ON PAGE 14 IS THE FLAT DUNNAGE METHOD UNIT (BASIC HEIGHT) HAVING OVERALL DIMENSIONS OF 40-3/4" LONG BY 53-1/2" WIDE BY 49" HIGH AND WEIGHING APPROXIMATELY 1,738 POUNDS. THE PROCEDURES ARE ALSO APPLICABLE FOR THE ROUTED DUNNAGE METHOD UNIT (BASIC HEIGHT) HAVING OVERALL DIMENSIONS OF 40-3/4" LONG BY 52-1/2" WIDE BY 49" HIGH AND WEIGHING APPROXIMATELY 1,736 POUNDS.

3. IF DESIRED, ANTI-SWAY BRACE "A" WHICH IS SHOWN AS PIECE MARKED ③ AND USED BETWEEN LATERALLY ADJACENT PALLET UNITS IN THE SECOND LAYER MAY ALSO BE USED BETWEEN THE PALLET UNITS IN THE FIRST LAYER IN LIEU OF ANTI-SWAY BRACE "C". THE STOP PIECE ON THE FORWARD BLOCKING ASSEMBLY MAY THEN BE OMITTED.

4. IF THE VOID AT THE REAR OF THE LOAD, BETWEEN THE PALLET UNITS AND THE REAR DOORS 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 C" AS SHOWN ON PAGE 32. IF THE VOID AT THE REAR OF THE LOAD IS 9" OR GREATER, USE THE REAR BLOCKING ASSEMBLY "A" AS SHOWN IN THE LOAD ON PAGE 14 FOR FLAT DUNNAGE METHOD UNITS OR REAR BLOCKING ASSEMBLY "B" IF THE ROUTED DUNNAGE METHOD UNITS ARE BEING LOADED. SEE SPECIAL NOTE 13.

5. 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, 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 IN A CONVENTIONAL VAN TRAILER. THE UNITIZING STRAPS, PIECE MARKED ⑥, MUST BE INSTALLED PRIOR TO FINAL POSITIONING OF THE STACK. STACKS IN A LONE LOAD UNIT AT THE FRONT OF THE TRAILER MUST BE UNITIZED.

6. IF A STACK IN THE LOAD UNIT AT THE REAR OF THE LOAD IN A CONVENTIONAL VAN TRAILER IS MORE THAN ONE UNIT HIGH, BUNDLING STRAPS, SHOWN AS PIECE MARKED ⑦, MUST BE INSTALLED SO AS TO ENCIRCLE THE REARMOST TWO STACKS IN EACH APPLICABLE ROW.

7. IF ONLY ONE PALLET UNIT IS TO BE LOADED IN THE SECOND LAYER OF EITHER ROW, IT MUST NOT BE POSITIONED ON TOP OF THE REARMOST PALLET UNIT IN THE FIRST LAYER. PROVIDE LONGITUDINAL BRACING BY INSTALLING UNITIZING STRAPS, PIECE MARKED ⑥. PROVIDE LATERAL BRACING BY INSTALLING A "TOP-OF-LOAD ANTI-SWAY BRACE" AS DETAILED ON PAGE 30 AND SHOWN IN THE LOAD VIEW ON PAGE 18 AS PIECE MARKED ④. WIRE TIE AS SHOWN BY THE "TIE PIECE APPLICATION" DETAILED ON PAGE 30.

8. IF A PALLET UNIT IS EITHER ADDED TO OR OMITTED FROM THE DEPICTED LOAD, THE PALLET UNIT THAT DOES NOT HAVE A PALLET UNIT DIRECTLY OPPOSITE MUST BE SECURED BY INSTALLING TWO BUNDLING STRAPS AROUND THAT STACK AND THE STACK IMMEDIATELY ADJACENT.

9. REFER TO PAGE 27 FOR GUIDANCE IN THE SHIPMENT OF PARTIAL PALLET UNITS.

(CONTINUED AT LEFT)

BILL OF MATERIAL (ROUTED DUNNAGE)		
LUMBER	LINEAR FEET	BOARD FEET
2" X 4" 2" X 6"	166 92	111 92
NAILS	NO. REQD	POUNDS
10d (3")	280	4-1/2
1-1/4" STEEL STRAPPING - - 348' REQD - - - 49-3/4 LBS SEAL FOR 1-1/4" STRAPPING - 24 REQD - - - 1-1/4 LBS		

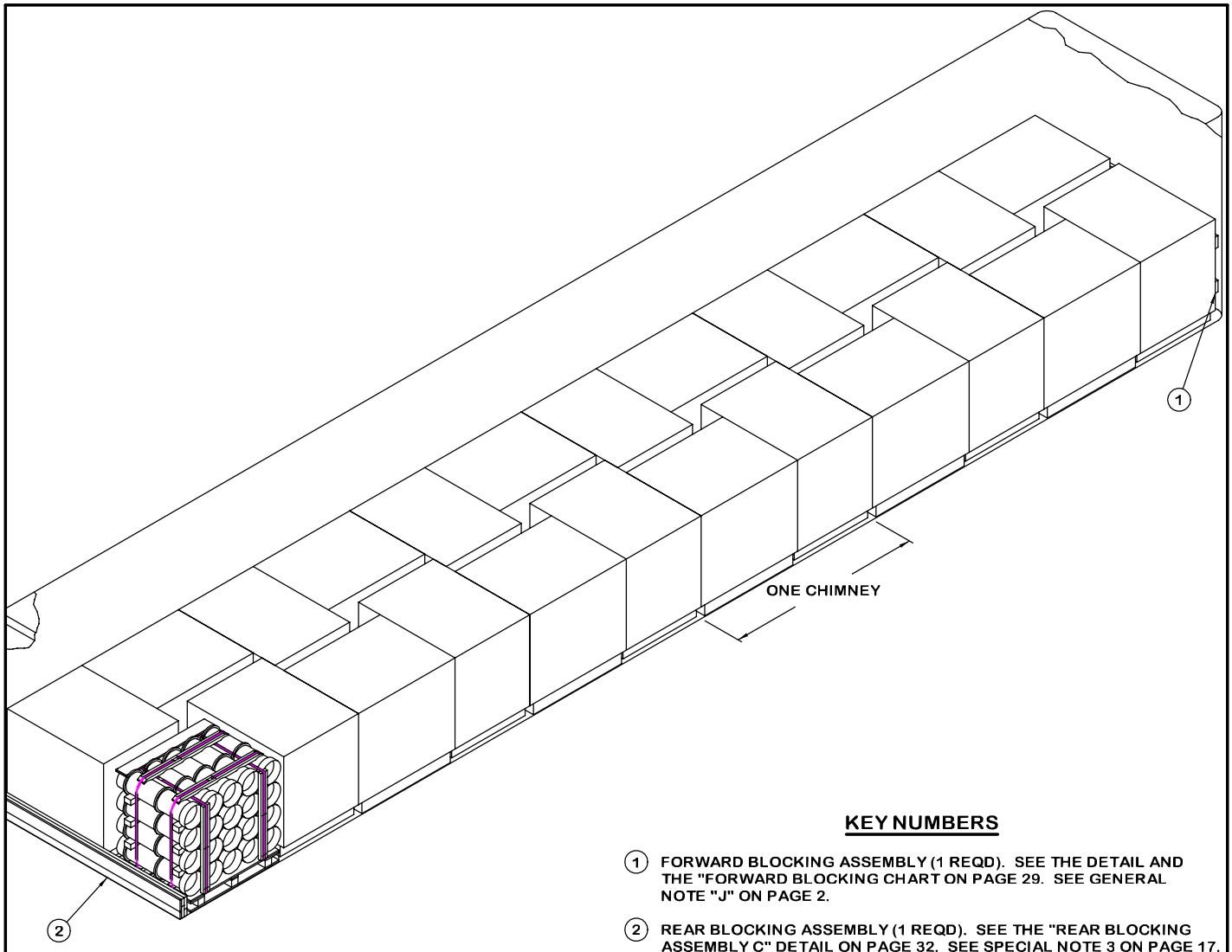
BILL OF MATERIAL (FLAT DUNNAGE)		
LUMBER	LINEAR FEET	BOARD FEET
2" X 4" 2" X 6"	186 89	124 89
NAILS	NO. REQD	POUNDS
10d (3")	296	4-3/4
1-1/4" STEEL STRAPPING - - 348' REQD - - - 49-3/4 LBS SEAL FOR 1-1/4" STRAPPING - 24 REQD - - - 1-1/4 LBS		

LOAD AS SHOWN

ITEM	QUANTITY	WEIGHT (APPROX)
PALLET UNIT - - - - -	24 - - - - - -	41,712 LBS *
DUNNAGE - - - - - - - - - - - - - - - -		482 LBS
TOTAL WEIGHT - - - - - -		42,194 LBS (APPROX)

* FLAT DUNNAGE METHOD UNIT SHOWN; 41,664 POUNDS FOR ROUTED DUNNAGE METHOD UNIT, PLUS 462 POUNDS OF DUNNAGE.

FLAT DUNNAGE/ROUTED DUNNAGE METHOD UNIT (BASIC HEIGHT)
24-UNIT LOAD IN A 40'-0" LONG BY 8'-0" WIDE HI-VOLUME VAN TRAILER



ISOMETRIC VIEW

KEY NUMBERS

(1) FORWARD BLOCKING ASSEMBLY (1 REQD). SEE THE DETAIL AND THE "FORWARD BLOCKING CHART ON PAGE 29. SEE GENERAL NOTE "J" ON PAGE 2.

(2) REAR BLOCKING ASSEMBLY (1 REQD). SEE THE "REAR BLOCKING ASSEMBLY C" DETAIL ON PAGE 32. SEE SPECIAL NOTE 3 ON PAGE 17.

FLAT DUNNAGE/ROUTED DUNNAGE METHOD UNIT (BASIC HEIGHT)
24-UNIT LOAD IN A 48'-0" LONG BY 8'-2" WIDE CONVENTIONAL VAN TRAILER

PROJECT FSA 43C/9-63

SPECIAL NOTES:

1. A 24-UNIT LOAD IS SHOWN IN A 48'-0" LONG BY 8'-2" WIDE (INSIDE DIMENSION) CONVENTIONAL VAN TRAILER WHICH HAS ROUNDED FRONT CORNERS. A "CHIMNEY" TYPE LOADING PATTERN IS SHOWN. TRAILERS OF OTHER WIDTHS CAN BE USED. TRAILERS NARROWER THAN 7'-10" WILL NOT BE USED FOR ROUTED DUNNAGE METHOD UNITS, 7'-11" FOR FLAT DUNNAGE METHOD UNITS.

2. THE PALLET UNIT SHOWN IN THE LOAD ON PAGE 16 IS THE ROUTED DUNNAGE METHOD UNIT (BASIC HEIGHT) HAVING OVERALL DIMENSIONS OF 40-3/4" LONG BY 52-1/2" WIDE BY 48-1/2" HIGH AND WEIGHING APPROXIMATELY 1,736 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 C" AS SHOWN AND DETAILED ON PAGE 32. IF THE VOID AT THE REAR OF THE LOAD IS 9" OR GREATER, USE "REAR BLOCKING ASSEMBLY A" AS DETAILED ON PAGE 29. SEE SPECIAL NOTE 12.

4. IF A PALLET UNIT IS TO BE ADDED TO THE DEPICTED LOAD, REFER TO PAGES 10 AND 11 FOR GUIDANCE.

5. A CHIMNEY UNIT AT EACH END OF THE SECOND LAYER PORTION OF THE LOAD MUST BE BUNDLED TO A CHIMNEY UNIT IN THE FIRST LAYER, UNLESS THE STACKED CHIMNEY UNITS ARE AGAINST THE FRONT WALL OF A SQUARE FRONT TRAILER OR AGAINST THE FORWARD BLOCKING ASSEMBLY. BUNDLING STRAPS AND STRAPPING BOARD ASSEMBLIES, PIECES MARKED ② AND ⑤ ON PAGE 10, MUST BE INSTALLED PRIOR TO FINAL POSITIONING OF THE STACK.

6. UNITIZING STRAPS, PIECES MARKED ⑥ ON PAGE 10, ARE ONLY REQUIRED WHEN SECURING A SINGLE UNIT IN THE SECOND LAYER TO A PALLET UNIT DIRECTLY BENEATH. NOTE THAT STRAPPING BOARD ASSEMBLIES WILL BE REQUIRED WHEN UNITIZING STRAPS ARE APPLIED AROUND THE LENGTH OF A UNIT (IN THE SAME DIRECTION AS THE LENGTH OF THE CONTAINERS).

7. IF A PALLET STACK AT THE REAR OF THE LOAD IS MORE THAN ONE UNIT HIGH, BUNDLING STRAPS SHOWN AS PIECE MARKED ⑤ ON PAGE 10, MUST BE INSTALLED SO AS TO ENCIRCLE THE REARMOST TWO STACKS IN EACH APPLICABLE ROW. STRAPPING BOARD ASSEMBLIES WILL BE REQUIRED.

8. IF ONLY ONE PALLET UNIT IS TO BE LOADED IN THE SECOND LAYER OF EITHER ROW, IT MUST NOT BE POSITIONED ON TOP OF THE REARMOST PALLET UNIT IN THE FIRST LAYER. SECURE AS SHOWN IN THE LOAD ON PAGE 10 BY PIECES MARKED ③ AND ⑥ ON THAT PAGE.

9. REFER TO PAGE 27 FOR GUIDANCE IN THE SHIPMENT OF PARTIAL PALLET UNITS.

10. LEFTOVER CONTAINERS, IN AN AMOUNT NOT TO EXCEED FOUR, MAY BE SECURED TO THE TOP OF A FULL PALLET UNIT FOR SHIPMENT. REFER TO THE "PROCEDURES FOR SHIPMENT OF LEFTOVER CONTAINERS" ON PAGE 28 FOR GUIDANCE.

11. FOR SHIPMENT OF LESS THAN FULL LOADS, REFER TO THE APPLICABLE GUIDANCE ON PAGES 24 THROUGH 26.

12. TRAILERS EQUIPPED WITH ROLL-UP TYPE DOORS MAY BE USED; HOWEVER, SPECIAL REAR BLOCKING MUST BE INSTALLED. THE NAILED-HEADER METHOD IS SHOWN ON PAGES 12 AND 13. NOTE THAT THE SPECIAL REAR BLOCKING FOR TRAILERS EQUIPPED WITH ROLL-UP TYPE DOORS MAY ALSO BE USED IN TRAILERS EQUIPPED WITH HINGED DOORS.

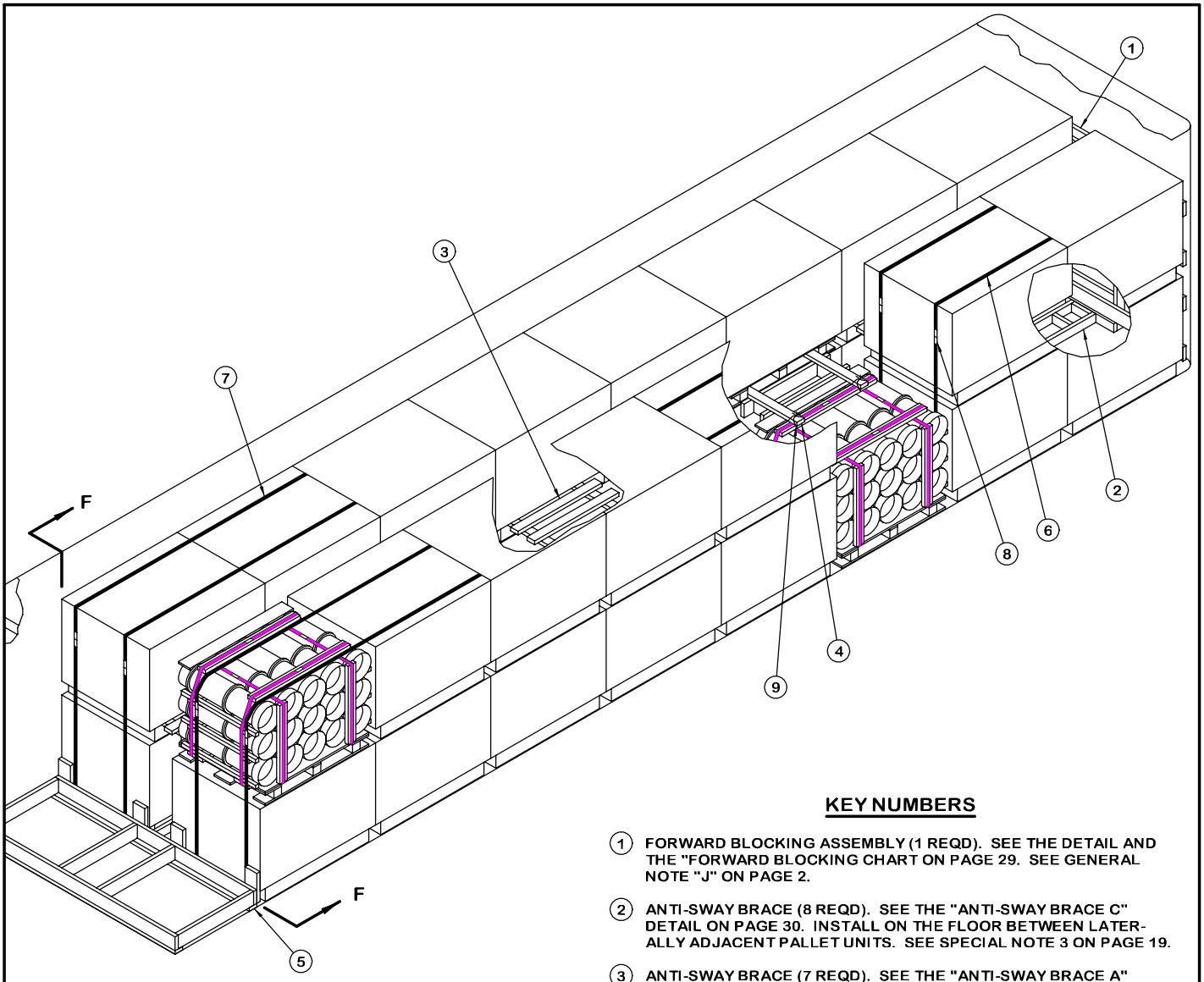
BILL OF MATERIAL		
LUMBER	LINEAR FEET	BOARD FEET
1" X 4" 1" X 6" 2" X 4" 2" X 6"	9 9 32 48	3 5 22 48
NAILS	NO. REQD	POUNDS
6d (2") 10d (3")	18 50	1/4 1
1-1/4" STEEL STRAPPING - - 360' REQD - - - 51-1/2 LBS SEAL FOR 1-1/4" STRAPPING - 24 REQD - - - 1-1/4 LBS		

* ROUTED DUNNAGE METHOD UNIT SHOWN; 41,712 POUNDS FOR FLAT DUNNAGE METHOD UNIT.

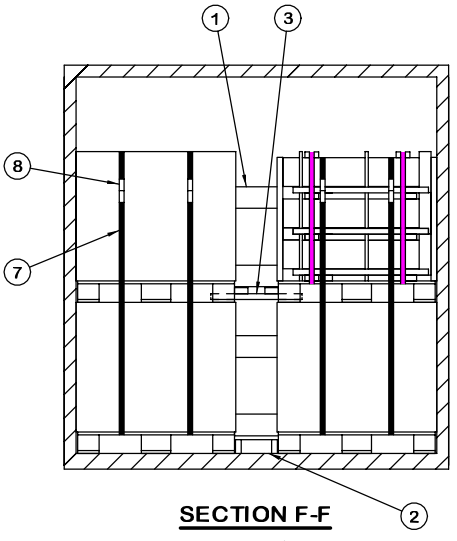
LOAD AS SHOWN

ITEM	QUANTITY	WEIGHT (APPROX)
PALLET UNIT	24	41,664 LBS *
DUNNAGE		158 LBS
TOTAL WEIGHT		41,822 LBS (APPROX)

FLAT DUNNAGE/ROUTED DUNNAGE METHOD UNIT (BASIC HEIGHT)
24-UNIT LOAD IN A 48'-0" LONG BY 8'-2" WIDE CONVENTIONAL VAN TRAILER



ISOMETRIC VIEW



SECTION F-F

PIECE MARKED ④ OMITTED FOR CLARITY PURPOSES.

KEY NUMBERS

① FORWARD BLOCKING ASSEMBLY (1 REQD). SEE THE DETAIL AND THE "FORWARD BLOCKING CHART ON PAGE 29. SEE GENERAL NOTE "J" ON PAGE 2.

② ANTI-SWAY BRACE (8 REQD). SEE THE "ANTI-SWAY BRACE C" DETAIL ON PAGE 30. INSTALL ON THE FLOOR BETWEEN LATERALLY ADJACENT PALLET UNITS. SEE SPECIAL NOTE 3 ON PAGE 19.

③ ANTI-SWAY BRACE (7 REQD). SEE THE "ANTI-SWAY BRACE A" DETAIL ON PAGE 30. INSTALL BETWEEN THE SECOND LAYER LATERALLY ADJACENT PALLET UNITS. SEE GENERAL NOTES "M" AND "N" ON PAGE 2.

④ TOP-OF-LOAD ANTI-SWAY BRACE (1 REQD). SEE THE DETAIL ON PAGE 30. SEE KEY NUMBER ⑨. SEE SPECIAL NOTE 4 ON PAGE 19.

⑤ REAR BLOCKING ASSEMBLY (1 REQD). SEE THE "REAR BLOCKING ASSEMBLY A" DETAIL AND THE "REAR BLOCKING CHART" ON PAGE 29 FOR FLAT DUNNAGE METHOD UNIT LOADS. SEE THE "REAR BLOCKING ASSEMBLY B" DETAIL ON PAGE 32 FOR ROUTED DUNNAGE METHOD UNIT LOADS. SEE SPECIAL NOTE 5 ON PAGE 19.

⑥ UNITIZING STRAP, 1-1/4" X .035" OR .031" X 22'-6" LONG STEEL STRAPPING (4 REQD). INSTALL AS SHOWN TO ENCIRCLE TWO PALLET UNITS. SEE SPECIAL NOTE 6 ON PAGE 19.

⑦ BUNDLING STRAP, 1-1/4" X .035" OR .031" X 31'-6" LONG STEEL STRAPPING (4 REQD). INSTALL AS SHOWN TO SECURE TWO PALLET UNITS IN THE SECOND LAYER TO TWO PALLET UNITS IN THE FIRST LAYER. SEE SPECIAL NOTE 7 ON PAGE 19.

⑧ SEAL FOR 1-1/4" STRAPPING (16 REQD, 2 PER STRAP). DOUBLE CRIMP EACH SEAL. SEE GENERAL NOTE "K" ON PAGE 2.

⑨ TIE WIRE, .0800" DIAMETER, 36" LONG (2 REQD). INSTALL TO FORM TWO COMPLETE LOOPS AROUND A SUPPORT PIECE OF PIECE MARKED ④ AND THE PALLET UNIT STRAPPING BOARD. SEE THE "TIE WIRE APPLICATION" DETAIL ON PAGE 30.

FLAT DUNNAGE/ROUTED DUNNAGE METHOD UNIT (DECREASED HEIGHT)
31-UNIT LOAD IN A 40'-0" LONG BY 7'-8" WIDE CONVENTIONAL VAN TRAILER

PROJECT FSA 43C/9-63

SPECIAL NOTES:

1. A 31-UNIT LOAD IS SHOWN IN A 40'-0" LONG BY 7'-8" WIDE (INSIDE DIMENSION) CONVENTIONAL VAN TRAILER WHICH HAS ROUNDED FRONT CORNERS. WIDER OR NARROWER TRAILERS MAY BE USED.

2. THE PALLET UNIT SHOWN IN THE LOAD ON PAGE 18 IS THE FLAT DUNNAGE METHOD (DECREASED HEIGHT) HAVING OVERALL DIMENSIONS OF 40-3/4" LONG BY 53-1/2" WIDE BY 38-1/2" HIGH AND WEIGHING APPROXIMATELY 1,331 POUNDS. THE PROCEDURES ARE ALSO APPLICABLE FOR THE ROUTED DUNNAGE METHOD UNIT (DECREASED HEIGHT) HAVING OVERALL DIMENSIONS OF 40-3/4" LONG BY 53-1/2" WIDE BY 37-7/8" HIGH AND WEIGHING APPROXIMATELY 1,331 POUNDS.

3. IF DESIRED, ANTI-SWAY BRACE "A" WHICH IS SHOWN AS PIECE MARKED ③ AND USED BETWEEN LATERALLY ADJACENT PALLET UNITS IN THE SECOND LAYER MAY ALSO BE USED BETWEEN THE PALLET UNITS IN THE FIRST LAYER IN LIEU OF ANTI-SWAY BRACE "C". THE STOP PIECE ON THE FORWARD BLOCKING ASSEMBLY MAY THEN BE OMITTED.

4. IN LIEU OF USING A "TOP-OF-LOAD ANTI-SWAY BRACE" FOR THE BRACING OF A PALLET UNIT IN THE SECOND LAYER THAT DOES NOT HAVE A PALLET UNIT DIRECTLY OPPOSITE, THE ODD PALLET MAY BE SECURED BY ENCIRCLING THAT STACK AND AN IMMEDIATELY ADJACENT STACK WITH BUNDLING STRAPS, PIECES MARKED ⑦.

5. IF THE VOID AT THE REAR OF THE LOAD, BETWEEN THE PALLET UNITS AND THE REAR DOORS 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 "C" AS DETAILED ON PAGE 32. IF THE VOID AT THE REAR OF THE LOAD IS 9" OR GREATER, USE THE REAR BLOCKING ASSEMBLY "A" AS SHOWN IN THE LOAD ON PAGE 18 FOR FLAT DUNNAGE METHOD UNITS OR REAR BLOCKING ASSEMBLY "B" IF ROUTED DUNNAGE METHOD UNITS ARE BEING LOADED SEE SPECIAL NOTE 12.

6. 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, 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. THE UNITIZING STRAPS, PIECE MARKED ⑥, MUST BE INSTALLED PRIOR TO FINAL POSITIONING OF THE STACK.

7. IF A STACK IN THE LOAD UNIT AT THE REAR OF THE LOAD IN A CONVENTIONAL VAN TRAILER IS MORE THAN ONE UNIT HIGH, BUNDLING STRAPS, SHOWN AS PIECE MARKED ⑦, MUST BE INSTALLED SO AS TO ENCIRCLE THE REARMOST TWO STACKS IN EACH APPLICABLE ROW.

8. IF ONLY ONE PALLET UNIT IS TO BE LOADED IN THE SECOND LAYER OF EITHER ROW, IT MUST NOT BE POSITIONED ON TOP OF THE REARMOST PALLET UNIT IN THE FIRST LAYER. PROVIDE LONGITUDINAL BRACING BY INSTALLING UNITIZING STRAPS, PIECE MARKED ⑥. PROVIDE LATERAL BRACING BY INSTALLING PIECES MARKED ④ AND ⑨.

9. REFER TO PAGE 27 FOR GUIDANCE IN THE SHIPMENT OF PARTIAL PALLET UNITS.

10. LEFTOVER CONTAINERS, IN AN AMOUNT NOT TO EXCEED FOUR, MAY BE SECURED TO THE TOP OF A FULL PALLET UNIT FOR SHIPMENT. REFER TO THE "PROCEDURES FOR SHIPMENT OF LEFTOVER CONTAINERS" ON PAGE 28 FOR GUIDANCE.

11. FOR SHIPMENT OF LESS THAN FULL LOADS, REFER TO THE APPLICABLE GUIDANCE ON PAGES 24 THROUGH 26.

12. TRAILERS EQUIPPED WITH ROLL-UP TYPE DOORS MAY BE USED; HOWEVER, SPECIAL REAR BLOCKING MUST BE INSTALLED. THE NAILED-HEADER METHOD IS SHOWN ON PAGES 12 AND 13. NOTE THAT THE SPECIAL REAR BLOCKING FOR TRAILERS EQUIPPED WITH ROLL-UP TYPE DOORS MAY ALSO BE USED IN TRAILERS EQUIPPED WITH HINGED DOORS.

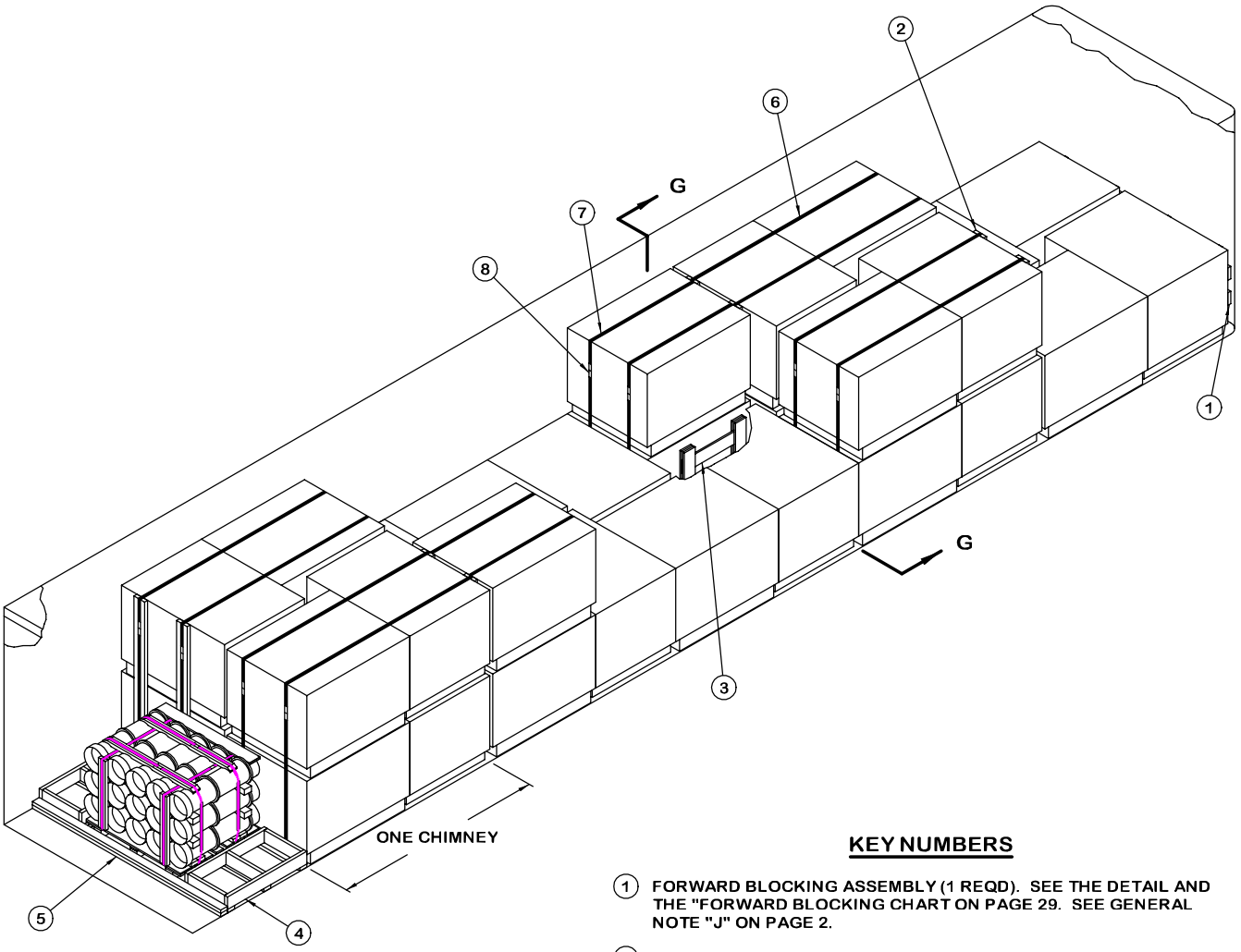
BILL OF MATERIAL (ROUTED DUNNAGE)		
LUMBER	LINEAR FEET	BOARD FEET
2" X 4" 2" X 6"	202 94	135 94
NAILS	NO. REQD	POUNDS
10d (3")	346	5-1/2
1-1/4" STEEL STRAPPING - - 216' REQD - - - - - 31 LBS SEAL FOR 1-1/4" STRAPPING - 16 REQD - - - - 3/4 LB WIRE, .0800" DIA. - - - - - - 3' REQD - - - - - - - NIL		

BILL OF MATERIAL (FLAT DUNNAGE)		
LUMBER	LINEAR FEET	BOARD FEET
2" X 4" 2" X 6"	219 95	146 95
NAILS	NO. REQD	POUNDS
10d (3")	358	5-1/2
1-1/4" STEEL STRAPPING - - 216' REQD - - - - - 31 LBS SEAL FOR 1-1/4" STRAPPING - 16 REQD - - - - 3/4 LB WIRE, .0800" DIA. - - - - - - 3' REQD - - - - - - - NIL		

LOAD AS SHOWN

ITEM	QUANTITY	WEIGHT (APPROX)
PALLET UNIT - - - - -	31 - - - - - -	41,261 LBS *
DUNNAGE - - - - - - - - - - - - - - - -		520 LBS
TOTAL WEIGHT - - - - - -		41,781 LBS (APPROX)

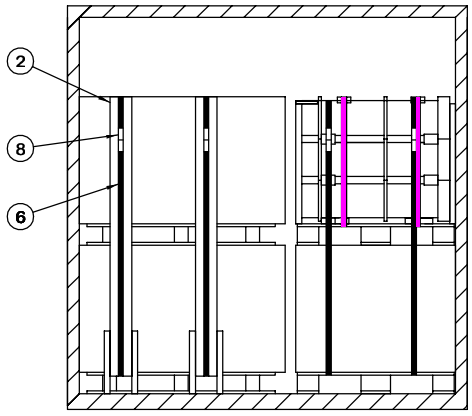
* FLAT DUNNAGE METHOD UNIT SHOWN; 41,261 POUNDS FOR ROUTED DUNNAGE METHOD UNIT, PLUS 496 POUNDS OF DUNNAGE.



ISOMETRIC VIEW

KEY NUMBERS

1. FORWARD BLOCKING ASSEMBLY (1 REQD). SEE THE DETAIL AND THE "FORWARD BLOCKING CHART ON PAGE 29. SEE GENERAL NOTE "J" ON PAGE 2.
2. STRAPPING BOARD ASSEMBLY (8 REQD). SEE THE "STRAPPING BOARD ASSEMBLY A" DETAIL ON PAGE 31. SEE SPECIAL NOTE 3 ON PAGE 21.
3. ANTI-SWAY BRACE (2 REQD). SEE THE "ANTI-SWAY BRACE B" DETAIL ON PAGE 30. WIRE TIE THE ANTI-SWAY BRACE TO A UNITIZING STRAP WITH .0800" DIAMETER WIRE. SEE GENERAL NOTES "M" AND "N" ON PAGE 2.
4. SIDE BLOCKING ASSEMBLY (2 REQD). SEE THE DETAIL ON PAGE 32.
5. REAR HEADER, 2" X 4" BY TRAILER WIDTH MINUS 1/2" IN LENGTH (DOUBLED) (1 REQD). POSITION AGAINST THE SIDE BLOCKING ASSEMBLIES, PIECES MARKED (4), AND THE PALLET UNIT. NAIL THE FIRST PIECE TO THE TRAILER FLOOR W/18-10d NAILS. NAIL THE SECOND PIECE TO THE FIRST IN A LIKE MANNER AND TOE-NAIL TO THE SIDE BLOCKING ASSEMBLIES W/2-10d NAILS AT EACH ASSEMBLY. FOR OTHER LOAD WEIGHTS, SEE THE NAILING CHART ON PAGE 13.
6. BUNDLING STRAP, 1-1/4" X .035" OR .031" X 29'-0" LONG STEEL STRAPPING (8 REQD). INSTALL AS SHOWN TO SECURE TWO PALLET UNITS IN THE SECOND LAYER TO TWO PALLET UNITS IN THE FIRST LAYER. STAPLE TO A STRAPPING BOARD ASSEMBLY, PIECE MARKED (2), W/2 STAPLES. SEE SPECIAL NOTES 6 AND 8 ON PAGE 21.
7. UNITIZING STRAP, 1-1/4" X .035" OR .031" X 22'-0" LONG STEEL STRAPPING (4 REQD). INSTALL AS SHOWN TO ENCIRCLE TWO PALLET UNITS. SEE SPECIAL NOTE 7 ON PAGE 21.
8. SEAL FOR 1-1/4" STRAPPING (24 REQD, 2 PER STRAP). DOUBLE CRIMP EACH SEAL. SEE GENERAL NOTE "K" ON PAGE 2.



SECTION G-G

FLAT DUNNAGE/ROUTED DUNNAGE METHOD UNIT (DECREASED HEIGHT)
31-UNIT LOAD IN A 40'-0" LONG BY 7'-8" WIDE CONVENTIONAL VAN TRAILER

PROJECT FSA 43C/9-63

(SPECIAL NOTES CONTINUED)

10. REFER TO PAGE 27 FOR GUIDANCE IN THE SHIPMENT OF PARTIAL PALLET UNITS.

11. LEFTOVER CONTAINERS, IN AN AMOUNT NOT TO EXCEED FOUR, MAY BE SECURED TO THE TOP OF A FULL PALLET UNIT FOR SHIPMENT. REFER TO THE "PROCEDURES FOR SHIPMENT OF LEFTOVER CONTAINERS" ON PAGE 28 FOR GUIDANCE.

12. FOR SHIPMENT OF LESS THAN FULL LOADS, REFER TO THE APPLICABLE GUIDANCE ON PAGES 24 THROUGH 26.

13. TRAILERS EQUIPPED WITH ROLL-UP TYPE DOORS MAY BE USED; HOWEVER, SPECIAL REAR BLOCKING MUST BE INSTALLED. THE NAILED-HEADER METHOD IS SHOWN ON PAGES 20 AND 21. IF THE LAST PALLET UNIT IS REMOVED, OMIT THE SIDE BLOCKING ASSEMBLIES AND INSTALL AN APPROPRIATE REAR BLOCKING ASSEMBLY, AS DEPICTED IN THE LOAD ON PAGE 12. NOTE THAT THE SPECIAL REAR BLOCKING FOR TRAILERS EQUIPPED WITH ROLL-UP TYPE DOORS MAY ALSO BE USED IN TRAILERS EQUIPPED WITH HINGED DOORS.

SPECIAL NOTES:

1. A 31-UNIT LOAD IS SHOWN IN A 45'-0" LONG BY 8'-0" WIDE (INSIDE DIMENSION) HI-VOLUME VAN TRAILER WHICH HAS ROUNDED FRONT CORNERS. A "CHIMNEY" TYPE LOADING PATTERN IS SHOWN. WIDER OR NARROWER TRAILERS MAY BE USED; TRAILERS WIDER THAN 7'-10" WILL NOT BE USED. TRAILERS NARROWER THAN 7'-10" WILL NOT BE USED FOR ROUTED DUNNAGE METHOD UNITS, 7'-11" FOR FLAT DUNNAGE METHOD UNITS.

2. THE PALLET UNIT SHOWN IN THE LOAD ON PAGE 20 IS THE ROUTED DUNNAGE METHOD UNIT (DECREASED HEIGHT) HAVING OVERALL DIMENSIONS OF 40-3/4" LONG BY 52-1/2" WIDE BY 37-7/8" HIGH AND WEIGHING APPROXIMATELY 1,331 POUNDS. THE PROCEDURES ARE ALSO APPLICABLE FOR THE FLAT DUNNAGE METHOD UNIT (DECREASED HEIGHT) HAVING OVERALL DIMENSIONS OF 40-3/4" LONG BY 53-1/2" WIDE BY 38-1/2" HIGH AND WEIGHING APPROXIMATELY 1,331 POUNDS.

3. FOR EASE OF INSTALLATION, A STRAPPING BOARD ASSEMBLY "B" MAY BE USED IN LIEU OF EACH PAIR OF STRAPPING BOARD ASSEMBLIES, PIECE MARKED ②. SEE THE "STRAPPING BOARD ASSEMBLY B" DETAIL ON PAGE 31.

4. ANTI-SWAY BRACE "B", SHOWN AS PIECE MARKED ③, MUST BE ADJUSTED IN THICKNESS WHEN TRAILERS OF OTHER WIDTHS ARE BEING LOADED. REFER TO THE NOTE BENEATH THE DETAIL ON PAGE 30 FOR GUIDANCE.

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 C" AS DETAILED ON PAGE 32. IF THE VOID AT THE REAR OF THE LOAD IS 9" OR GREATER, USE THE REAR BLOCKING ASSEMBLY, PIECE MARKED ④ ON PAGE 10. SEE SPECIAL NOTE 13.

6. A CHIMNEY UNIT AT EACH END OF THE SECOND LAYER PORTION OF THE LOAD MUST BE BUNDLED TO A CHIMNEY UNIT IN THE FIRST LAYER, UNLESS THE STACKED CHIMNEY UNITS ARE AGAINST THE FRONT WALL OF A SQUARE FRONT TRAILER OR AGAINST THE FORWARD BLOCKING ASSEMBLY. THE BUNDLING STRAPS AND STRAPPING BOARD ASSEMBLIES, PIECES MARKED ② AND ⑥, MUST BE INSTALLED PRIOR TO FINAL POSITIONING OF THE STACK.

7. THE UNITIZING STRAPS, PIECES MARKED ⑦, ARE ONLY REQUIRED WHEN SECURING A SINGLE UNIT IN THE SECOND LAYER TO A PALLET UNIT DIRECTLY BENEATH. NOTE THAT STRAPPING BOARD ASSEMBLIES WILL BE REQUIRED WHEN UNITIZING STRAPS ARE APPLIED AROUND THE LENGTH OF A UNIT (IN THE SAME DIRECTION AS THE LENGTH OF THE CONTAINERS).

8. IF A PALLET STACK AT THE REAR OF THE LOAD IS MORE THAN ONE UNIT HIGH, BUNDLING STRAPS SHOWN AS PIECE MARKED ⑥, MUST BE INSTALLED SO AS TO ENCIRCLE THE REARMOST TWO STACKS IN EACH APPLICABLE ROW. STRAPPING BOARD ASSEMBLIES WILL BE REQUIRED.

9. IF ONLY ONE PALLET UNIT IS TO BE LOADED IN THE SECOND LAYER OF EITHER ROW, IT MUST NOT BE POSITIONED ON TOP OF THE REARMOST PALLET UNIT IN THE FIRST LAYER. SECURE AS SHOWN BY PIECES MARKED ③ AND ⑦.

(CONTINUED AT LEFT)

BILL OF MATERIAL (FLAT DUNNAGE)

LUMBER	LINEAR FEET	BOARD FEET
1" X 6"	18	9
2" X 2"	22	8
2" X 4"	38	26
2" X 6"	102	102
NAILS	**NO. REQD**	**POUNDS**
6d (2")	24	1/4
10d (3")	174	2-3/4

1-1/4" STEEL STRAPPING - - 320' REQD - - - 45-3/4 LBS
SEAL FOR 1-1/4" STRAPPING - 24 REQD - - - 1-1/4 LBS
STAPLE - - - - - - - - - - - - 16 REQD - - - - - - NIL
WIRE, .0800" DIA. - - - - - - 8' REQD - - - - - - NIL

BILL OF MATERIAL (ROUTED DUNNAGE)

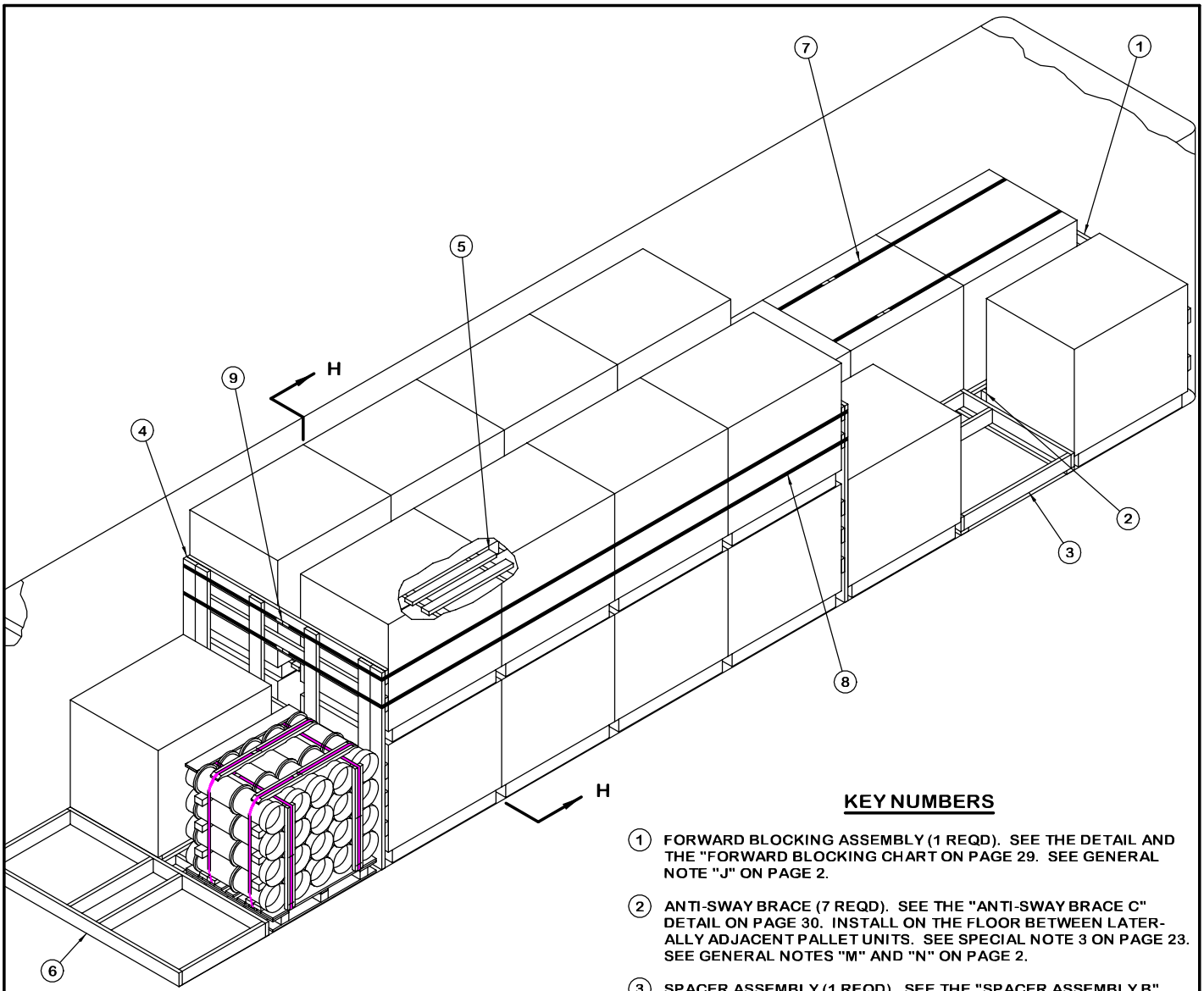
LUMBER	LINEAR FEET	BOARD FEET
1" X 6"	18	9
2" X 2"	22	8
2" X 4"	38	26
2" X 6"	102	102
NAILS	**NO. REQD**	**POUNDS**
6d (2")	24	1/4
10d (3")	174	2-3/4

1-1/4" STEEL STRAPPING - - 320' REQD - - - 45-3/4 LBS
SEAL FOR 1-1/4" STRAPPING - 24 REQD - - - 1-1/4 LBS
STAPLE - - - - - - - - - - - - 16 REQD - - - - - - NIL
WIRE, .0800" DIA. - - - - - - 8' REQD - - - - - - NIL

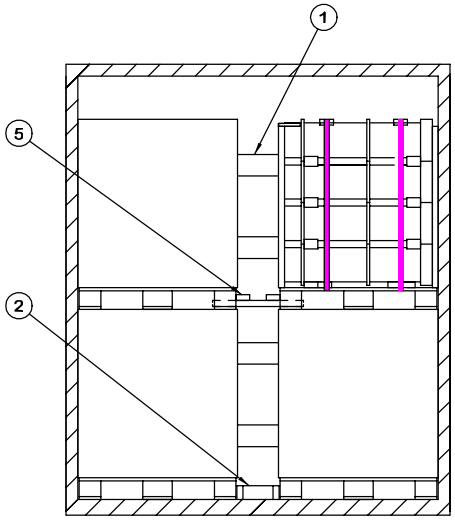
LOAD AS SHOWN

ITEM	QUANTITY	WEIGHT (APPROX)
PALLET UNIT	31	41,261 LBS
DUNNAGE		340 LBS
TOTAL WEIGHT		41,601 LBS (APPROX)

FLAT DUNNAGE/ROUTED DUNNAGE METHOD UNIT (DECREASED HEIGHT)
31-UNIT LOAD IN A 40'-0" LONG BY 7'-8" WIDE CONVENTIONAL VAN TRAILER



ISOMETRIC VIEW



SECTION H-H

KEY NUMBERS

1. FORWARD BLOCKING ASSEMBLY (1 REQD). SEE THE DETAIL AND THE "FORWARD BLOCKING CHART ON PAGE 29. SEE GENERAL NOTE "J" ON PAGE 2.
2. ANTI-SWAY BRACE (7 REQD). SEE THE "ANTI-SWAY BRACE C" DETAIL ON PAGE 30. INSTALL ON THE FLOOR BETWEEN LATERALLY ADJACENT PALLET UNITS. SEE SPECIAL NOTE 3 ON PAGE 23. SEE GENERAL NOTES "M" AND "N" ON PAGE 2.
3. SPACER ASSEMBLY (1 REQD). SEE THE "SPACER ASSEMBLY B" DETAIL ON PAGE 33. SEE SPECIAL NOTE 5 ON PAGE 23.
4. BULKHEAD GATE (2 REQD). SEE THE DETAIL AND THE "BULKHEAD GATE CHART" ON PAGE 33.
5. ANTI-SWAY BRACE (4 REQD). SEE THE "ANTI-SWAY BRACE A" DETAIL ON PAGE 30. INSTALL BETWEEN THE SECOND LAYER LATERALLY ADJACENT PALLET UNITS.
6. REAR BLOCKING ASSEMBLY (1 REQD). SEE THE "REAR BLOCKING ASSEMBLY A" DETAIL AND THE "REAR BLOCKING CHART" ON PAGE 29 FOR FLAT DUNNAGE METHOD UNIT LOADS. SEE THE "REAR BLOCKING ASSEMBLY B" DETAIL ON PAGE 32 FOR ROUTED DUNNAGE METHOD UNIT LOADS. SEE SPECIAL NOTE 6 ON PAGE 23.
7. BUNDLING STRAP, 1-1/4" X .035" OR .031" X 27'-0" LONG STEEL STRAPPING (4 REQD). INSTALL AS SHOWN TO SECURE TWO PALLET UNITS. SEE SPECIAL NOTE 7 ON PAGE 23.
8. BUNDLING STRAP, 1-1/4" X .035" OR .031" X 53'-0" LONG STEEL STRAPPING (2 REQD). INSTALL AS SHOWN. STAPLE TO EACH BULKHEAD GATE, PIECE MARKED ④, W/4 STAPLES PER STRAP. SEE SPECIAL NOTE 8 ON PAGE 23.
9. SEAL FOR 1-1/4" STRAPPING (8 REQD, 2 PER STRAP). DOUBLE CRIMP EACH SEAL. SEE GENERAL NOTE "K" ON PAGE 2.

ALTERNATIVE LOADING PROCEDURE FOR ALL UNITS
23-UNIT LOAD IN A 40'-0" LONG HI-VOLUME TRAILER

SPECIAL NOTES:

1. A 23-UNIT LOAD IS SHOWN IN A 40'-0" LONG BY 7'-8" WIDE (INSIDE DIMENSION) HI-VOLUME VAN TRAILER WHICH HAS ROUNDED FRONT CORNERS. WIDER OR NARROWER TRAILERS MAY BE USED.

2. THE PALLET UNIT SHOWN IN THE LOAD ON PAGE 22 IS THE ROUTED DUNNAGE METHOD UNIT (BASIC HEIGHT) HAVING OVERALL DIMENSIONS OF 40-3/4" LONG BY 52-1/2" WIDE BY 48-1/2" HIGH AND WEIGHING APPROXIMATELY 1,736 POUNDS. THE PROCEDURES ARE ALSO APPLICABLE FOR THE OTHER UNITS DEPICTED ON PAGES 4 AND 5.

3. IF DESIRED, ANTI-SWAY BRACE "A" AS DETAILED ON PAGE 30 MAY BE USED IN LIEU OF ANTI-SWAY BRACE "C". THE STOP PIECES ON THE FORWARD BLOCKING ASSEMBLY AND THE BULKHEAD GATES MAY THEN BE OMITTED. IF THE ANTI-SWAY BRACE "C" IS USED ADJACENT TO THE REAR BLOCKING ASSEMBLY THE ANTI-SWAY BRACE SHALL BE CONSTRUCTED 3/4" SHORTER THAN UNIT WIDTH.

4. THE SPACER ASSEMBLY SHOWN IN THE LOAD VIEW AS PIECE MARKED ③ IS ONLY SHOWN TO DEPICT A TYPICAL INSTALLATION. IF A PALLET UNIT IS LOADED IN PLACE OF THE SPACER ASSEMBLY, THE BUNDLING STRAPS, PIECE MARKED ⑦, WILL NOT BE REQUIRED. NOTE THAT A SPACER ASSEMBLY MUST BE POSITIONED WHERE THERE WILL BE A PALLET UNIT AT EACH END; A SPACER ASSEMBLY MUST NOT BE POSITIONED ADJACENT TO THE FORWARD BLOCKING ASSEMBLY, PIECE MARKED ① OR ADJACENT TO A BULKHEAD GATE, PIECE MARKED ④.

5. IF THE VOID AT THE REAR OF THE LOAD, BETWEEN THE PALLET UNITS AND THE REAR DOORS 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 "C" AS DETAILED ON PAGE 32. IF THE VOID AT THE REAR OF THE LOAD IS 9" OR GREATER, USE THE REAR BLOCKING ASSEMBLY "B" AS SHOWN IN THE LOAD ON PAGE 22 FOR ROUTED DUNNAGE METHOD UNITS OR REAR BLOCKING ASSEMBLY "A" IF FLAT DUNNAGE METHOD UNITS ARE BEING LOADED. SEE SPECIAL NOTE 10.

6. A PALLET UNIT THAT DOES NOT HAVE A PALLET UNIT DIRECTLY OPPOSITE MUST BE SECURED BY INSTALLING A BUNDLING STRAP, SHOWN AS PIECE MARKED ⑦ IN THE LOAD ON PAGE 22, AROUND THAT PALLET UNIT AND THE PALLET UNIT IMMEDIATELY ADJACENT. NOTE THAT A PALLET UNIT WILL NOT BE OMITTED FROM THE SECOND PORTION OF THE LOAD.

7. THE SECOND LAYER PORTION OF THE LOAD IS LIMITED TO NOT MORE THAN TEN PALLET UNITS OF THE INCREASED HEIGHT ALTERNATED CONTAINERS UNIT, THE BASIC HEIGHT FLAT DUNNAGE METHOD UNIT, OR THE BASIC HEIGHT ROUTED DUNNAGE METHOD UNIT. ONE BUNDLING STRAP, PIECE MARKED ⑧, MAY BE OMITTED IF THE SECOND LAYER CONTAINS ONLY TWO OR FOUR PALLETS. THE SECOND LAYER PORTION IS LIMITED TO NOT MORE THAN 14 PALLET UNITS WHEN SHIPPING THE BASIC HEIGHT ALTERNATED CONTAINERS UNIT, THE DECREASED HEIGHT FLAT DUNNAGE METHOD UNIT, OR THE DECREASED HEIGHT ROUTED DUNNAGE METHOD UNIT. ONE BUNDLING STRAP, PIECE MARKED ⑧, MAY BE OMITTED IF THE SECOND LAYER CONTAINS SIX OR LESS PALLET UNITS.

8. REFER TO PAGE 27 FOR GUIDANCE IN THE SHIPMENT OF PARTIAL PALLET UNITS.

9. LEFTOVER CONTAINERS, IN AN AMOUNT NOT TO EXCEED FOUR, MAY BE SECURED TO THE TOP OF A FULL PALLET UNIT FOR SHIPMENT. REFER TO THE "PROCEDURES FOR SHIPMENT OF LEFTOVER CONTAINERS" ON PAGE 28 FOR GUIDANCE.

10. TRAILERS EQUIPPED WITH ROLL-UP TYPE DOORS MAY BE USED; HOWEVER, SPECIAL REAR BLOCKING MUST BE INSTALLED. THE NAILED-HEADER METHOD IS SHOWN ON PAGES 12 AND 13. NOTE THAT THE SPECIAL REAR BLOCKING FOR TRAILERS EQUIPPED WITH ROLL-UP TYPE DOORS MAY ALSO BE USED IN TRAILERS EQUIPPED WITH HINGED DOORS.

BILL OF MATERIAL (TYPICAL)

LUMBER	LINEAR FEET	BOARD FEET
2" X 4" 2" X 6"	153 234	102 234
NAILS	NO. REQD	POUNDS
10d (3")	346	5-1/2

1-1/4" STEEL STRAPPING - - 160' REQD - - - - - 23 LBS
SEAL FOR 1-1/4" STRAPPING - - 8 REQD - - - - 1/2 LB
STAPLE - - - - - - - - - - - - 8 REQD - - - - - - NIL

LOAD AS SHOWN

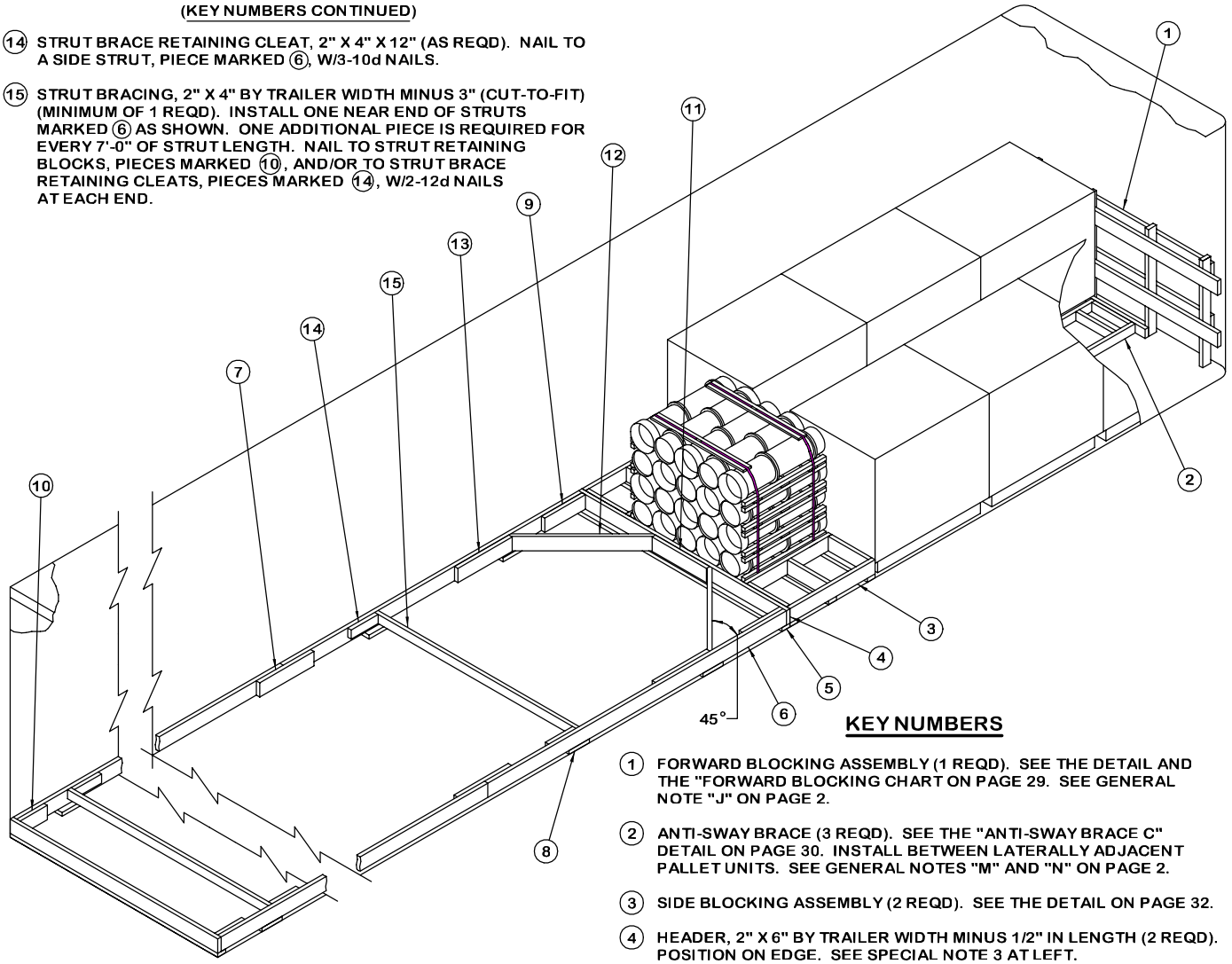
ITEM	QUANTITY	WEIGHT (APPROX)
PALLET UNIT	23	39,928 LBS
DUNNAGE		880 LBS
TOTAL WEIGHT		40,808 LBS (APPROX)

ALTERNATIVE LOADING PROCEDURE FOR ALL UNITS
23-UNIT LOAD IN A 40'-0" LONG HI-VOLUME TRAILER

(KEY NUMBERS CONTINUED)

(14) STRUT BRACE RETAINING CLEAT, 2" X 4" X 12" (AS REQD). NAIL TO A SIDE STRUT, PIECE MARKED (6), W/3-10d NAILS.

(15) STRUT BRACING, 2" X 4" BY TRAILER WIDTH MINUS 3" (CUT-TO-FIT) (MINIMUM OF 1 REQD). INSTALL ONE NEAR END OF STRUTS MARKED (6) AS SHOWN. ONE ADDITIONAL PIECE IS REQUIRED FOR EVERY 7'-0" OF STRUT LENGTH. NAIL TO STRUT RETAINING BLOCKS, PIECES MARKED (10), AND/OR TO STRUT BRACE RETAINING CLEATS, PIECES MARKED (14), W/2-12d NAILS AT EACH END.



ISOMETRIC VIEW

KEY NUMBERS

(1) FORWARD BLOCKING ASSEMBLY (1 REQD). SEE THE DETAIL AND THE "FORWARD BLOCKING CHART ON PAGE 29. SEE GENERAL NOTE "J" ON PAGE 2.

(2) ANTI-SWAY BRACE (3 REQD). SEE THE "ANTI-SWAY BRACE C" DETAIL ON PAGE 30. INSTALL BETWEEN LATERALLY ADJACENT PALLET UNITS. SEE GENERAL NOTES "M" AND "N" ON PAGE 2.

(3) SIDE BLOCKING ASSEMBLY (2 REQD). SEE THE DETAIL ON PAGE 32.

(4) HEADER, 2" X 6" BY TRAILER WIDTH MINUS 1/2" IN LENGTH (2 REQD). POSITION ON EDGE. SEE SPECIAL NOTE 3 AT LEFT.

(5) HEADER AND SIDE STRUT SUPPORT, 2" X 4" BY TRAILER WIDTH MINUS 1/2" IN LENGTH (2 REQD). NAIL TO BOTTOM EDGE OF A HEADER MARKED (4) W/1-10d NAIL EVERY 12". SEE SPECIAL NOTE 2 AT LEFT.

(6) SIDE STRUT, 2" X 6" BY CUT-TO-FIT BETWEEN HEADERS MARKED (4) (2 REQD).

(7) SPLICE PIECE, 2" X 6" X 24" (AS REQD). CENTER ON A JOINT OF PIECES MARKED (6) AND NAIL W/4-10d NAILS AT EACH END.

(8) RISER PIECE, 2" X 4" X 9" (AS REQD). POSITION SO AS TO BE CENTERED UNDER THE JOINT OF A DIAGONAL BRACE AND A BACK-UP CLEAT, PIECES MARKED (12) AND (13) AND/OR UNDER THE JOINT OF THE STRUT BRACE AND THE STRUT BRACE RETAINING CLEAT, PIECES MARKED (14) AND (15). NAIL TO A SIDE STRUT, PIECE MARKED (6), W/2-10d NAILS.

(9) POCKET CLEAT, 2" X 6" X 18" (2 REQD). NAIL TO A SIDE STRUT, PIECE MARKED (6), W/5-10d NAILS. TOENAIL TO THE ADJACENT HEADER MARKED (4) W/3-12d NAILS.

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

(11) CENTER CLEAT, 2" X 6" X 24" (1 REQD). NAIL TO HEADER MARKED (4) W/6-10d NAILS.

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

(13) BACK-UP CLEAT, 2" X 6" X 24" (2 REQD). POSITION AGAINST END OF DIAGONAL BRACE, PIECE MARKED (12), AND NAIL TO A STRUT MARKED (6) W/8-10d NAILS.

SPECIAL NOTES:

1. THESE OUTLOADING PROCEDURES COVER THE USE OF BOTH "K-BRACE" AND NAILED FLOORLINE BLOCKING IN A 7'-8" WIDE (INSIDE DIMENSION) VAN TRAILER WHICH IS EQUIPPED WITH OR WITHOUT NAILABLE FLOORS AND REAR CORNER POSTS. WIDER OR NARROWER TRAILERS MAY BE USED. SEE SPECIAL NOTES 4 AND 5.

2. THE PALLET UNIT SHOWN IS THE ALTERNATED CONTAINERS UNIT (INCREASED HEIGHT). THE PROCEDURES ARE ALSO APPLICABLE FOR THE OTHER UNITS DEPICTED ON PAGES 4 AND 5. NOTE THAT WHEN LOADING THE FLAT/ROUTED DUNNAGE METHOD UNIT WITH THE HEADER AGAINST THE UNIT WIDTH (48" DIMENSION), THE HEADER AND SIDE STRUT SUPPORT PIECES, PIECES MARKED (5), AND THE RISER PIECES, PIECES MARKED (9), CAN BE OMITTED.

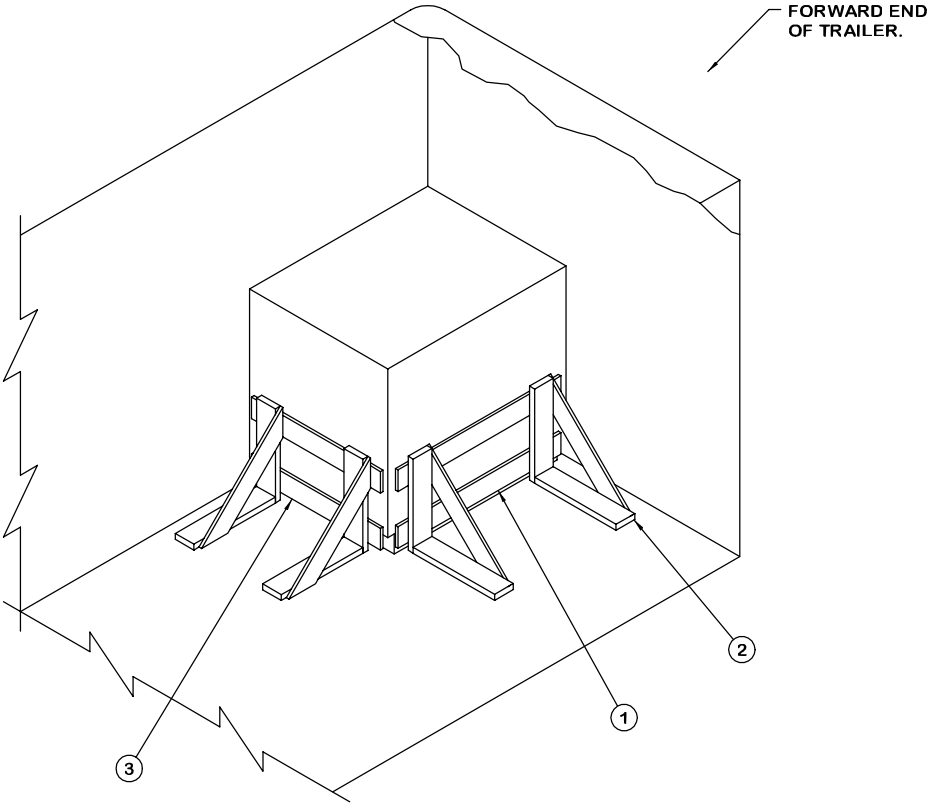
3. THE "K-BRACE" BLOCKING, SHOWN AS PIECES MARKED (4) THRU (15) IS ADEQUATE FOR RETAINING A MAXIMUM LTL LOAD OF 20,000 POUNDS.

4. TRAILERS EQUIPPED WITH ROLL-UP TYPE DOORS MAY BE USED; HOWEVER, SPECIAL REAR BLOCKING MUST BE INSTALLED IN LIEU OF THE "K-BRACE" TYPE BLOCKING. SEE THE "NAILED HEADER" METHODS SHOWN IN THE LOADS ON PAGES 12 AND 20. NOTE THAT THE SPECIAL REAR BLOCKING MAY ALSO BE USED IN TRAILERS EQUIPPED WITH HINGED DOORS, AND MAY BE USED IN LIEU OF PIECES MARKED (4) THRU (15) WHICH APPLY TO TRAILERS HAVING NON-NAILABLE FLOORS. SEE SPECIAL NOTE 5.

5. WHEN THE NAILED-HEADER METHOD OF BRACING SHOWN ON PAGE 20 IS APPLIED FOR THE BRACING OF THE DEPICTED 7-UNIT LOAD OR ANY ODD NUMBERED QUANTITY, ONLY THE DOUBLED 2" X 4" PIECES ARE REQUIRED; OMIT THE HEADER ASSEMBLY. WHEN SHIPPING AN EVEN NUMBERED QUANTITY, USE THE METHODS SHOWN ON PAGE 12, I.E., INCLUDE A REAR BLOCKING ASSEMBLY.

(CONTINUED AT LEFT)

TYPICAL LTL-7 PALLET UNITS IN A CONVENTIONAL TYPE VAN TRAILER



ISOMETRIC VIEW

SPECIAL NOTES:

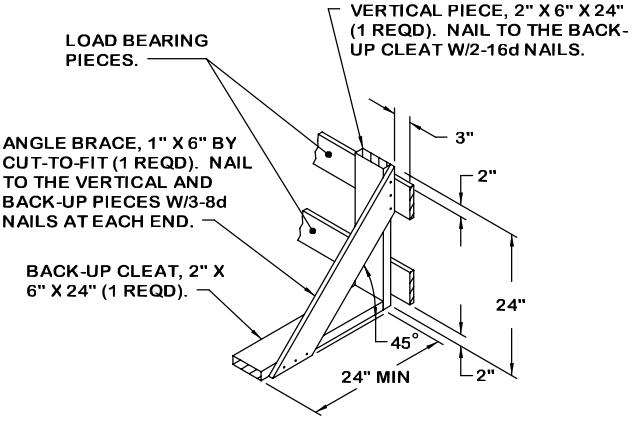
1. A ONE-PALLET UNIT LOAD IS SHOWN DEPICTING THE USE OF LTL BRACES IN A CONVENTIONAL TYPE VAN TRAILER EQUIPPED WITH NAILABLE FLOORS. TRAILERS WITH ALL METAL FLOORS CANNOT BE USED.
2. THE PALLET UNIT SHOWN IS THE ROUTED DUNNAGE METHOD UNIT (BASIC HEIGHT) HAVING OVERALL DIMENSIONS OF 40-3/4" LONG BY 52-1/2" WIDE BY 48-1/2" HIGH AND WEIGHING APPROXIMATELY 1,736 POUNDS. THE PROCEDURES ARE ALSO APPLICABLE FOR THE OTHER UNITS DEPICTED ON PAGES 4 AND 5.
3. IF THE TRAILER BEING LOADED HAS ROUNDED FRONT CORNERS, TWO ADDITIONAL LTL BRACES, AND TWO ADDITIONAL LOAD BEARING PIECES MAY BE POSITIONED AT THE FORWARD END OF THE LADING OR A FORWARD BLOCKING ASSEMBLY, SHOWN AS KEY NUMBER (1) ON PAGE 6 MAY BE USED.
4. EACH LTL BRACE AS APPLIED FOR LONGITUDINAL BRACING WILL SUPPORT 2,000 POUNDS OF LADING. HOWEVER, NOT LESS THAN TWO BRACES WILL BE USED AGAINST EACH PALLET ACROSS THE WIDTH OF THE TRAILER.
5. MORE THAN ONE PALLET UNIT CAN BE SHIPPED PROVIDING THE CAPACITY OF THE LTL BRACES IS NOT EXCEEDED. THE LOAD SHOULD BE FORMED IN TWO ROWS, WITH THE UNITS POSITIONED AGAINST OPPOSITE SIDEWALLS. ANTI-SWAY BRACES WILL BE INSTALLED BETWEEN THE LATERALLY ADJACENT UNITS.

KEY NUMBERS

(1) LOAD BEARING PIECE, 1" X 6" X 48" (2 REQD). LOCATE AT HEIGHTS SPECIFIED IN "LTL BRACE" DETAIL BELOW. NAIL TO THE VERTICAL PIECES OF THE LTL BRACE W/4-6d NAILS AT EACH JOINT.

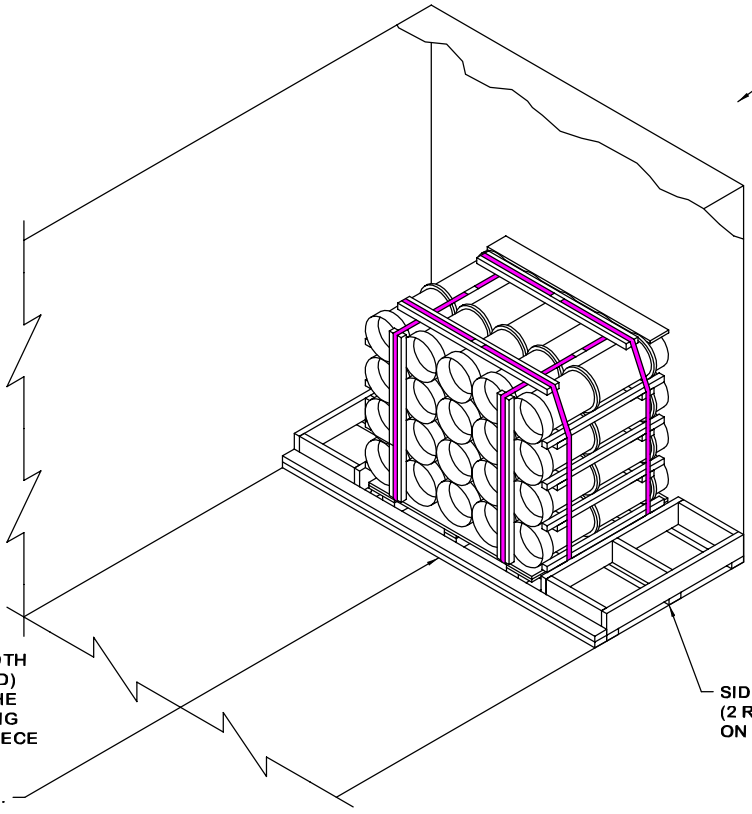
(2) LTL BRACE (4 REQD). SEE THE DETAIL BELOW. NAIL EACH LTL BRACE TO TRAILER FLOOR W/7-10d NAILS. SEE SPECIAL NOTE 4 AT LEFT.

(3) LOAD BEARING PIECE, 1" X 6" X 38" (2 REQD). LOCATE AT HEIGHTS SPECIFIED IN "LTL BRACE" DETAIL BELOW. NAIL TO THE VERTICAL PIECES OF THE LTL BRACE W/4-6d NAILS AT EACH JOINT.



LTL BRACE

TYPICAL LTL-1 PALLET UNIT IN A CONVENTIONAL TYPE VAN TRAILER



ISOMETRIC VIEW

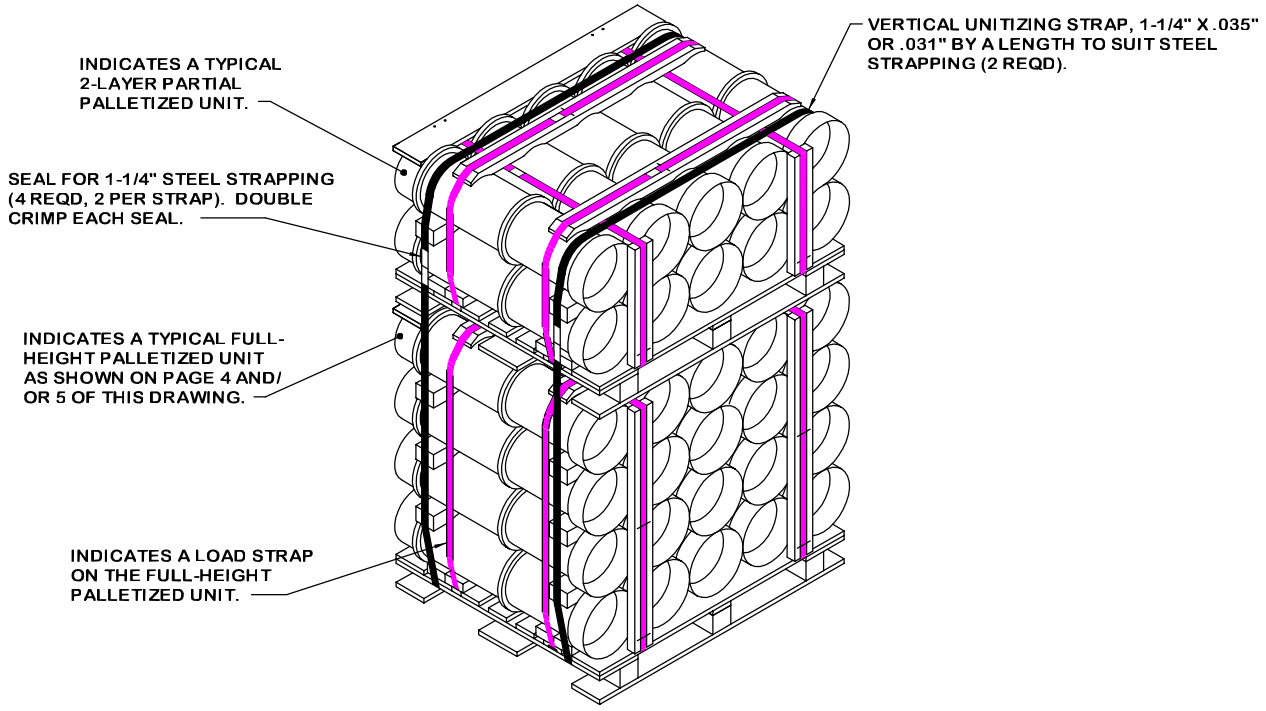
SPECIAL NOTES:

1. A 1-UNIT LOAD IS SHOWN DEPICTING THE USE OF A NAILED HEADER IN A CONVENTIONAL TYPE VAN TRAILER EQUIPPED WITH NAILABLE FLOORS. TRAILERS WITH ALL METAL TYPE FLOORS CANNOT BE USED.

2. THE PALLET UNIT SHOWN IS THE FLAT DUNNAGE METHOD UNIT (BASIC HEIGHT) HAVING OVERALL DIMENSIONS OF 40-3/4" LONG BY 53-1/2" WIDE BY 49" HIGH AND WEIGHING APPROXIMATELY 1,738 POUNDS. THE PROCEDURES ARE ALSO APPLICABLE FOR THE OTHER UNITS ON PAGES 4 AND 5.

3. IF THE TRAILER BEING LOADED IS EQUIPPED WITH ROUNDED CORNERS, A FORWARD BLOCKING ASSEMBLY AS DETAILED ON PAGE 29 IS REQUIRED.

4. FOR AN EVEN NUMBER OF PALLET UNITS TO BE LOADED, THE LOAD SHOULD BE FORMED IN TWO ROWS WITH THE UNITS POSITIONED AGAINST OPPOSITE SIDEWALLS. ANTI-SWAY BRACES WILL BE INSTALLED BETWEEN LATERALLY ADJACENT PALLET UNITS AS IN THE LOAD ON PAGE 6, AND A REAR BLOCKING ASSEMBLY, PIECE MARKED ④ ON PAGE 12, WILL ALSO BE INSTALLED. FOR OTHER QUANTITY LTL LOADS USING THE NAILED HEADER METHOD, REFER TO THE NAILING CHARTS ON PAGE 13 FOR GUIDANCE.



SECUREMENT OF A PARTIAL PALLET UNIT ON TOP OF A FULL PALLET UNIT

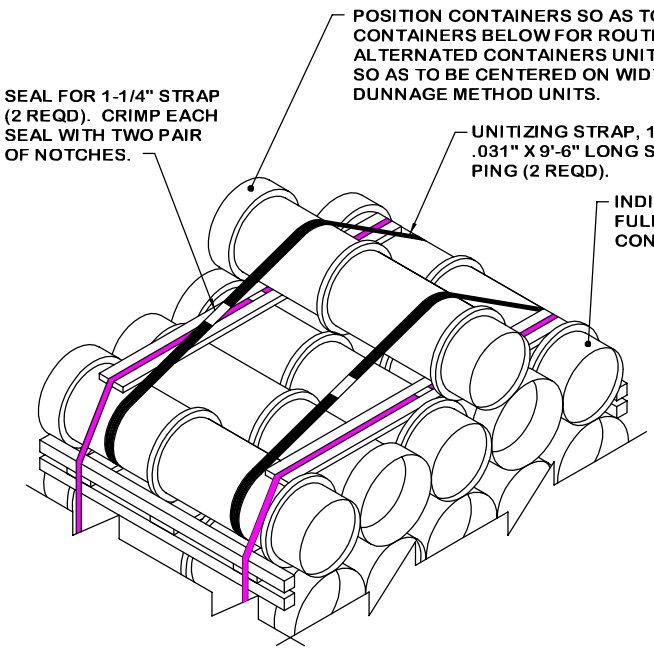
SPECIAL NOTES:

1. THE VIEW ABOVE DEPICTS A PARTIAL 2-LAYER PALLET UNIT POSITION 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 (AT THE END OF A ROW). 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.

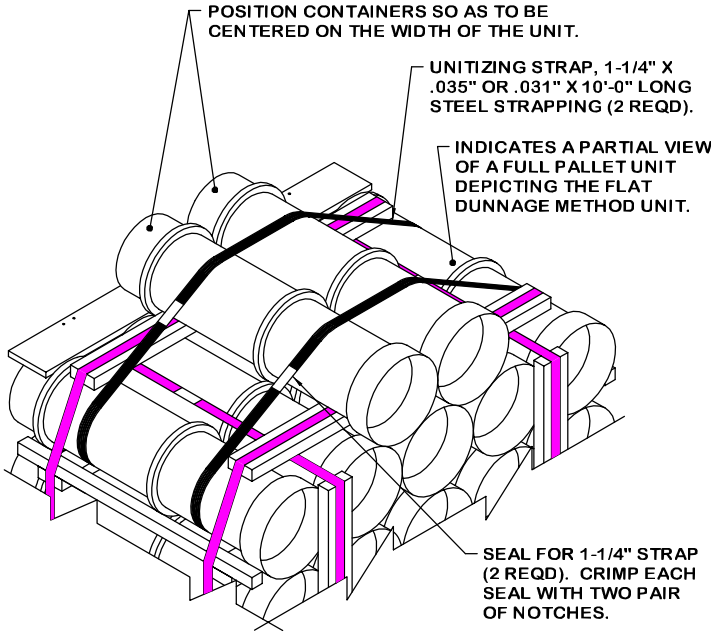
2. SHIPMENTS OF PALLET UNITS SHOULD CONSIST OF FULL-HEIGHT AND FULL-LAYER UNITS TO THE MAXIMUM EXTENT POSSIBLE. HOWEVER, THE END OF A LOT, OR THE QUANTITY NEEDED TO FILL A REQUISITION MAY NECESSITATE THE SHIPMENT OF ONE OR MORE LESS-THAN-FULL PALLET UNITS WITHIN A LOAD.

3. THE "SHIPMENT OF A PARTIAL PALLET UNIT" PROCEDURE ON THIS PAGE ARE APPLICABLE FOR LOADS IN COMMERCIAL TYPE VAN TRAILERS.

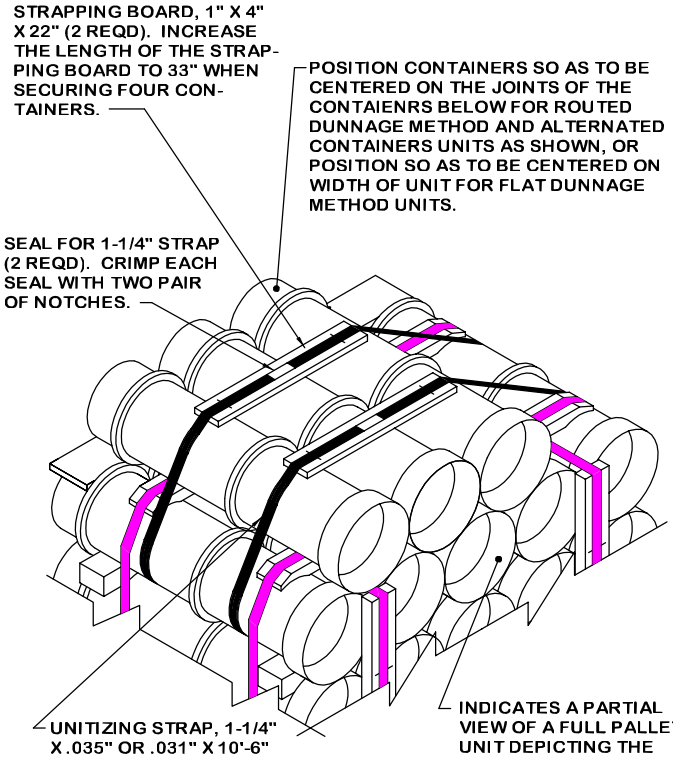
4. FOR SHIPMENT OF ONE THROUGH FOUR "LEFTOVER" CONTAINERS, SEE THE PROCEDURES ON PAGE 28 OF THIS DRAWING.



SECUREMENT OF ONE CONTAINER



SECUREMENT OF TWO CONTAINERS



SECUREMENT OF THREE CONTAINERS

SPECIAL NOTES:

1. SHIPMENTS OF PROPELLING CHARGES SHOULD CONSIST OF FULL-HEIGHT AND FULL-LAYER UNITS TO THE MAXIMUM EXTENT POSSIBLE. 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 27.

2. SHIPMENT OF LEFTOVER CONTAINERS IS APPLICABLE FOR CONUS AND OCONUS MOTOR CARRIER SHIPMENTS FROM DEPOT TO DEPOT OR FROM DEPOTS TO POSTS, CAMPS, AND STATIONS, OR, UPON APPROVAL FROM HIGHER HEADQUARTERS, FOR SHIPMENTS FROM LOAD, ASSEMBLE, AND PACK 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.

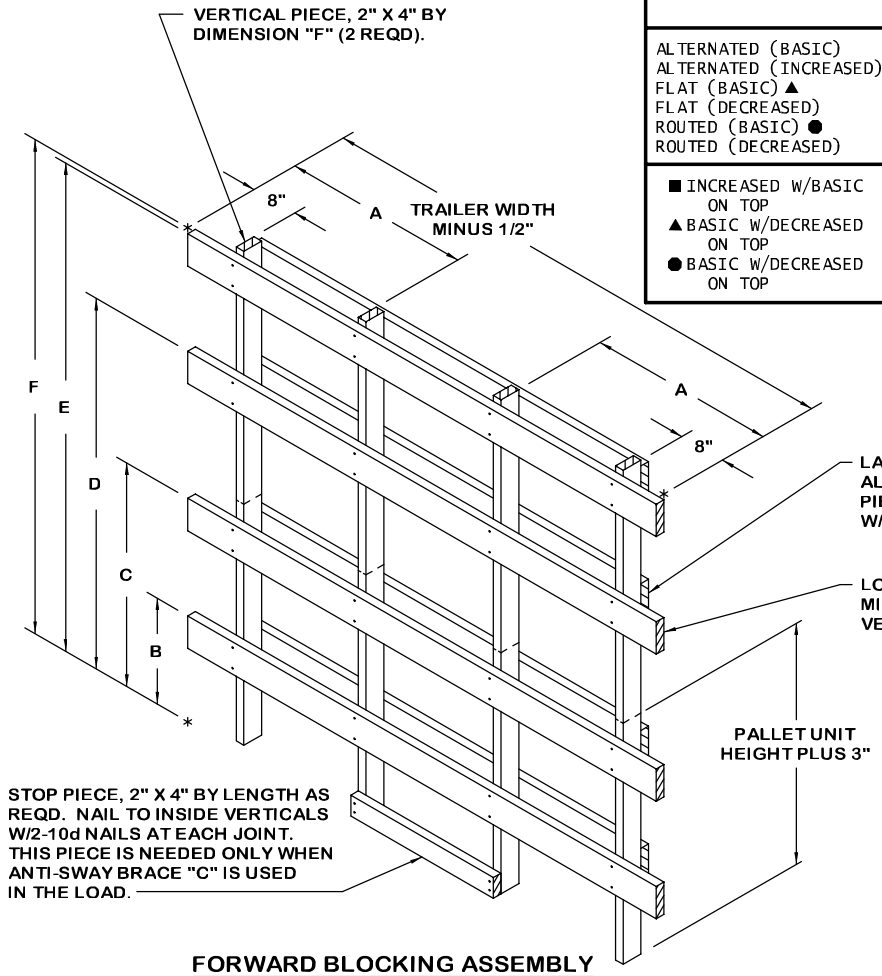
3. THE PROCEDURES ON THIS PAGE ARE PRESENTED AS GUIDANCE IN THE SECUREMENT OF LEFTOVER CONTAINERS FOR SHIPMENT. THE VIEW AT TOP LEFT DEPICTS ONE LEFTOVER CONTAINER SECURED TO A FULL-HEIGHT ALTERNATED CONTAINERS METHOD PALLET UNIT. THE VIEW ABOVE DEPICTS TWO LEFTOVER CONTAINERS SECURED TO A FULL-HEIGHT FLAT DUNNAGE METHOD PALLET UNIT. FOR THE ALTERNATED CONTAINERS UNIT AND FOR THE FLAT DUNNAGE METHOD UNIT THE UNITIZING STRAP MUST NOT GO AROUND THE INTERMEDIATE DUNNAGE ASSEMBLY; THE STRAP MUST BE THREADED BEHIND THE 2" X 2" PIECES OF THE ASSEMBLIES. THE VIEW AT LEFT DEPICTS THREE LEFTOVER CONTAINERS SECURED TO A FULL-HEIGHT ROUTED DUNNAGE METHOD PALLET UNIT. WHEN THREE OR FOUR LEFTOVER CONTAINERS ARE BEING SHIPPED, A STRAPPING BOARD WILL BE NEEDED. LEFTOVER CONTAINERS MUST BE SECURED WITH A MINIMUM OF TWO PIECES OF STEEL STRAPPING.

4. 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.

5. THE PROCEDURES ON THIS PAGE ARE APPLICABLE FOR THE SHIPMENT OF LEFTOVER CONTAINERS IN ANY OF THE LOADS DEPICTED HEREIN.

PROCEDURES FOR SHIPMENT OF LEFTOVER CONTAINERS

FORWARD BLOCKING CHART						
PALLET UNIT TYPE	DIMENSIONS					
	A	B	C	D	E	F
ALTERNATED (BASIC)	32"	9-1/2"	28"	45"	63-1/2"	66"
ALTERNATED (INCREASED) ■	32"	18"	38"	63"	6'-11"	7'-0"
FLAT (BASIC) ▲	33"	20-1/2"	41-1/2"	68-1/2"	7'-6"	7'-8"
FLAT (DECREASED)	33"	10"	30"	48"	68"	72"
ROUTED (BASIC) ●	34"	19"	40"	67"	7'-4"	7'-6"
ROUTED (DECREASED)	34"	19"	30"	57"	68"	72"
■ INCREASED W/BASIC ON TOP	34"	18"	38"	63"	6'-1"	6'-3"
▲ BASIC W/DECREASED ON TOP	33"	20-1/2"	41-1/2"	68-1/2"	7'-4"	6'-9"
● BASIC W/DECREASED ON TOP	34"	19"	40"	67"	6'-6"	6'-8"

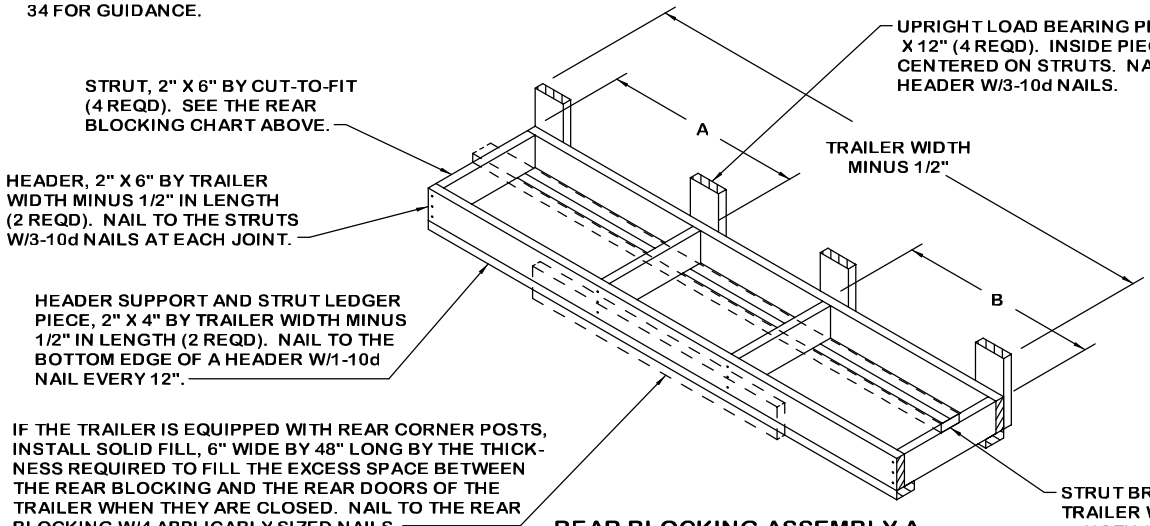


FORWARD BLOCKING ASSEMBLY

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 SHOWN. IF THE TRAILER HAS LARGE-ANGLED FRONT CORNERS, REFER TO PAGE 34 FOR GUIDANCE.

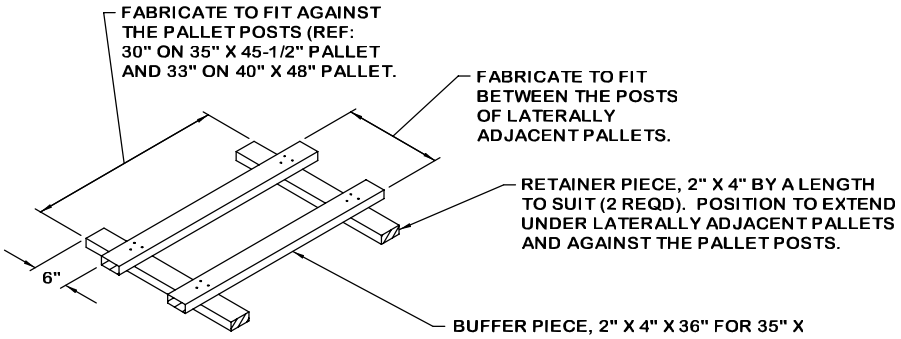
REAR BLOCKING CHART		
PAGE	DIMENSIONS A	DIMENSIONS B
6	35"	35"
10	43"	35"
12	35"	35"
14	38"	38"
16 *	45-1/2"	38"
18	38"	38"

* IF REAR BLOCKING ASSEMBLY "A" IS TO BE USED.



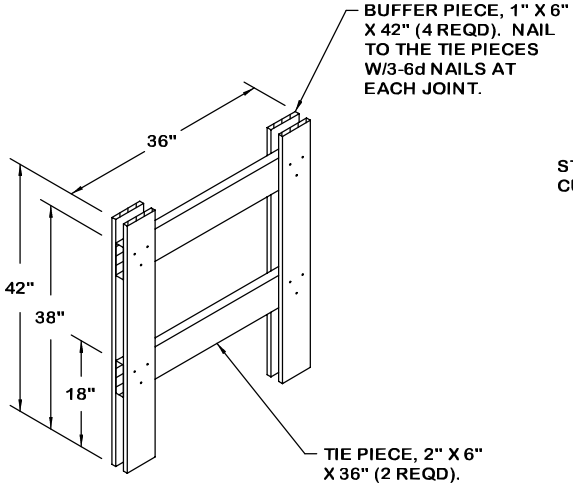
REAR BLOCKING ASSEMBLY A

THIS ASSEMBLY IS DESIGNED FOR USE AT THE REAR OF ALL LOADS EXCEPT THE ROUTED DUNNAGE METHOD UNIT LOADS WHEN THE EXCESS SPACE BETWEEN THE LADING AND THE TRAILER DOORS IS 9" OR GREATER.



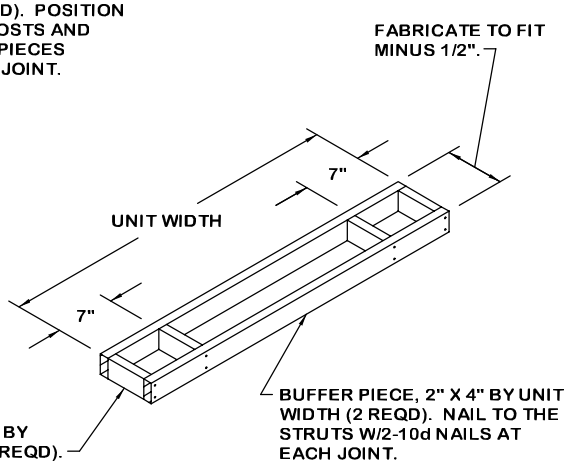
ANTI-SWAY BRACE A

THIS ANTI-SWAY BRACE MUST BE FABRICATED IN PLACE BETWEEN THE PALLETS.



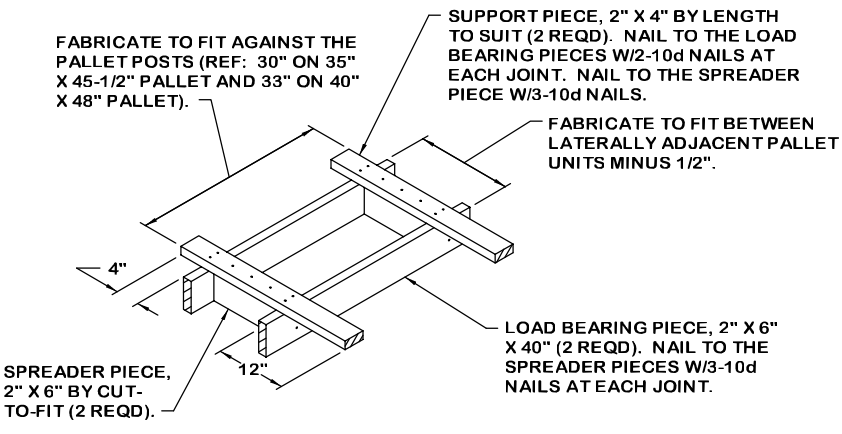
ANTI-SWAY BRACE B

THE THICKNESS OF THE ASSEMBLY WILL BE ADJUSTED AS REQUIRED TO PROVIDE ADEQUATE LATERAL SUPPORT.



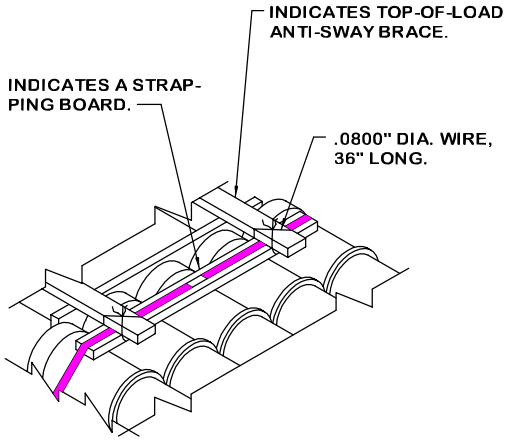
ANTI-SWAY BRACE C

THIS ANTI-SWAY BRACE IS DESIGNED FOR USE ON THE FLOOR BETWEEN LATERALLY ADJACENT PALLET UNITS. NOTE THAT AN ASSEMBLY NEED NOT BE CONSTRUCTED FOR A TIGHT FIT; UP TO 1/2" SPACE IS PERMITTED.



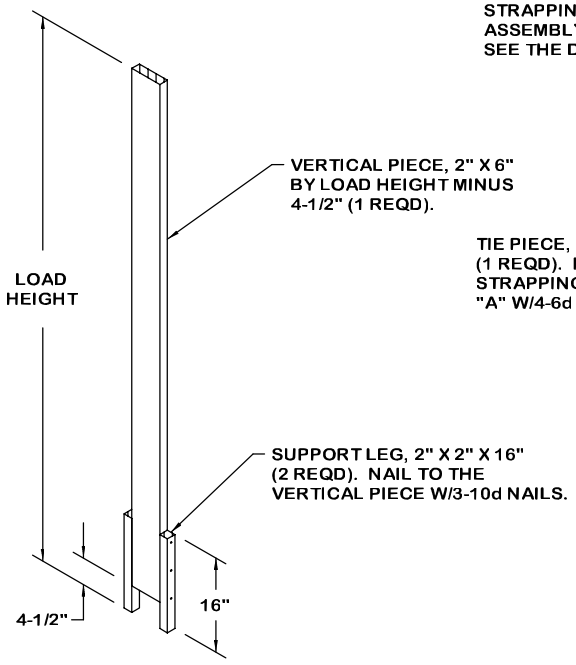
TOP-OF-LOAD ANTI-SWAY BRACE

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.



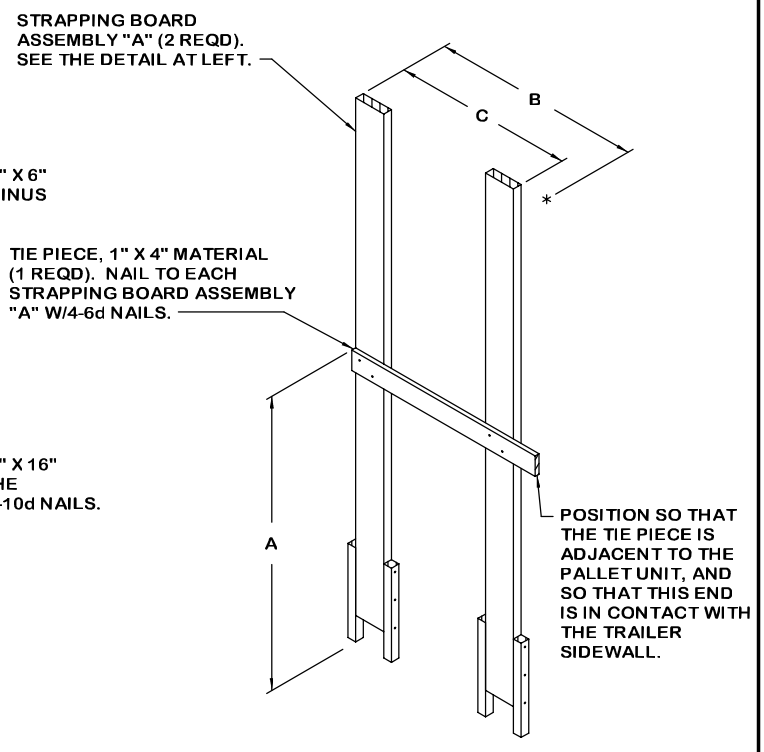
TIE WIRE APPLICATION

THIS VIEW DEPICTS THE SECUREMENT OF A TOP-OF-LOAD ANTI-SWAY BRACE TO THE TOP OF A PALLET UNIT BY WIRE TYING TO THE STRAPPING BOARD WITH .0800" DIA. WIRE.



STRAPPING BOARD ASSEMBLY A

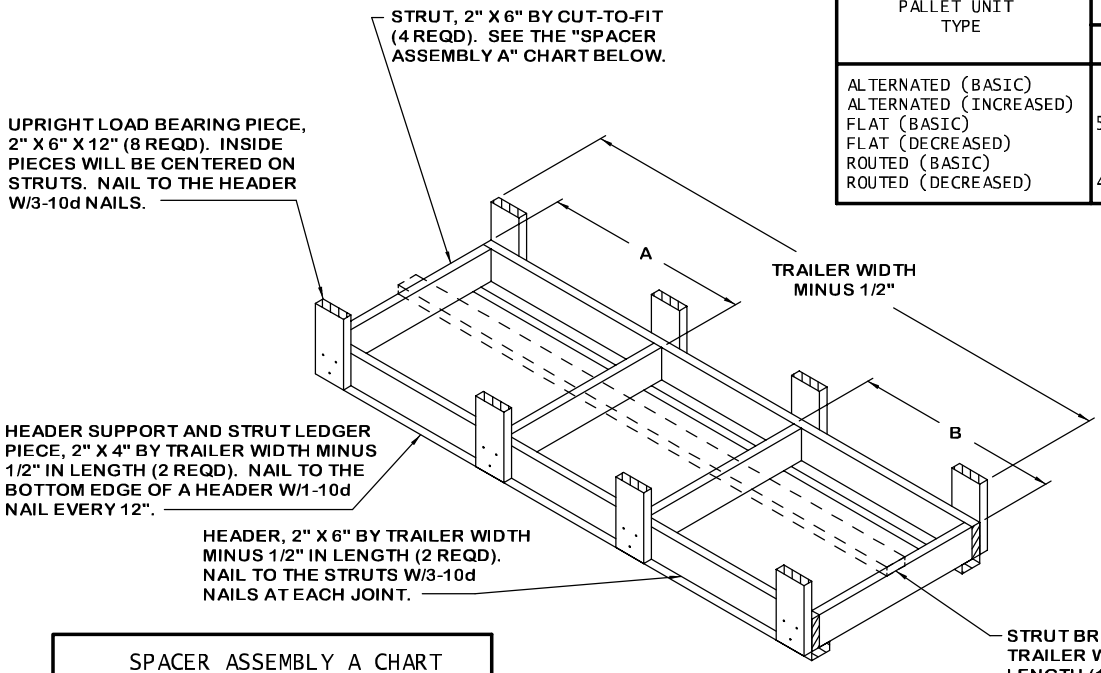
THIS ASSEMBLY IS DESIGNED FOR USE IN THE CHIMNEY PATTERN LOADS SHOWN ON PAGES 10, 16, AND 20.



STRAPPING BOARD ASSEMBLY B

RIGHT HAND AND LEFT HAND ASSEMBLIES ARE REQUIRED.

STRAPPING BOARD B CHART			
PALLET UNIT TYPE	DIMENSIONS		
	A	B	C
ALTERNATED (BASIC)	40"	33-1/2"	25-1/2"
ALTERNATED (INCREASED)	50"	33-1/2"	25-1/2"
FLAT (BASIC)	53-1/2"	36-1/2"	28-1/2"
FLAT (DECREASED)	43"	36-1/2"	28-1/2"
ROUTED (BASIC)	53"	36-1/2"	28-1/2"
ROUTED (DECREASED)	42-1/2"	36-1/2"	28-1/2"

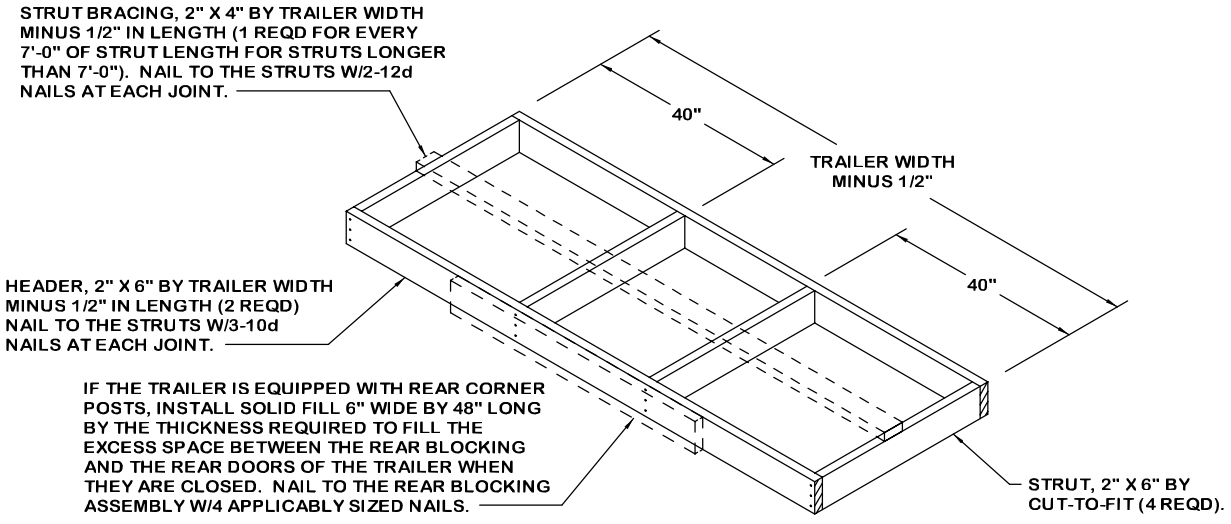


SPACER ASSEMBLY A CHART		
PAGE	DIMENSIONS	
	A	B
6	35"	35"
10	43"	35"
12	35"	35"
14	38"	38"
18	38"	38"

SPACER ASSEMBLY A

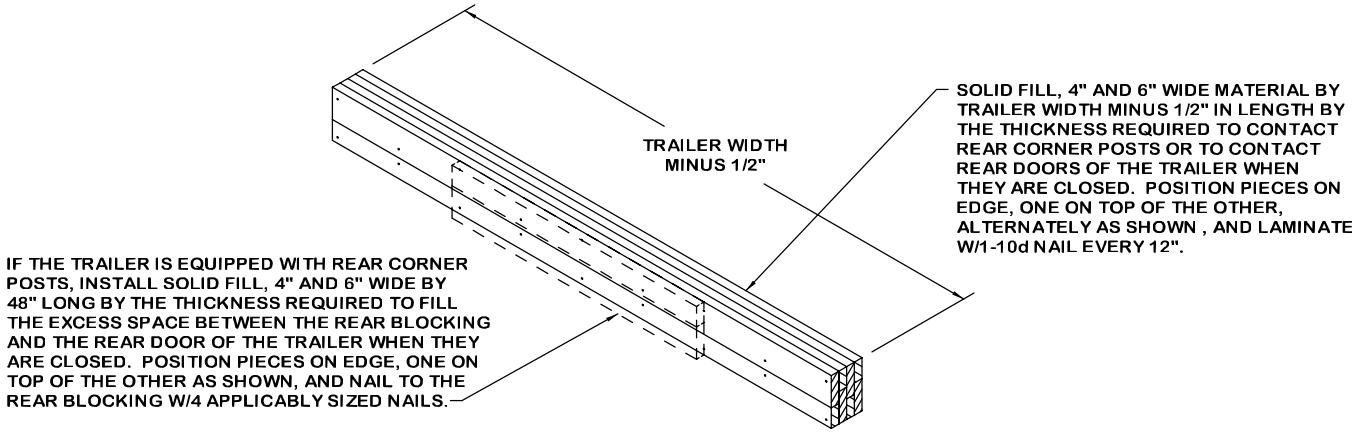
THIS ASSEMBLY IS DESIGNED FOR USE IN A CONVENTIONAL VAN TRAILER TO ENSURE PROPER WEIGHT DISTRIBUTION AS SHOWN IN THE LOAD ON PAGE 12.

DETAILS

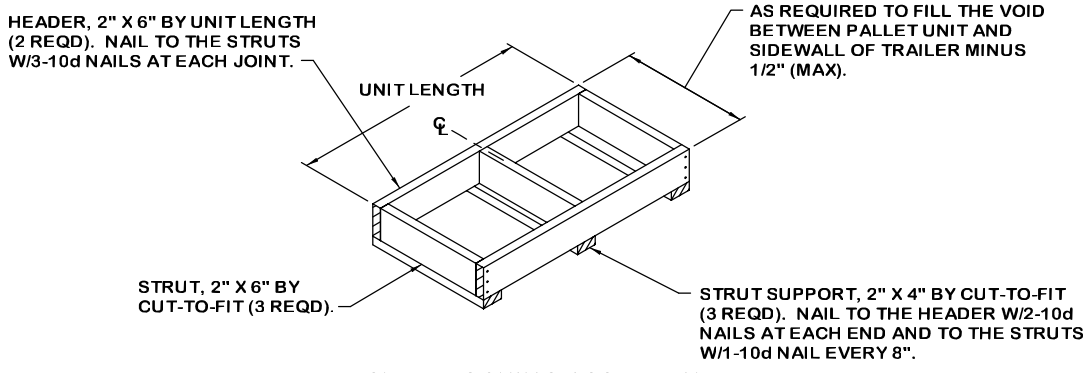


REAR BLOCKING ASSEMBLY B

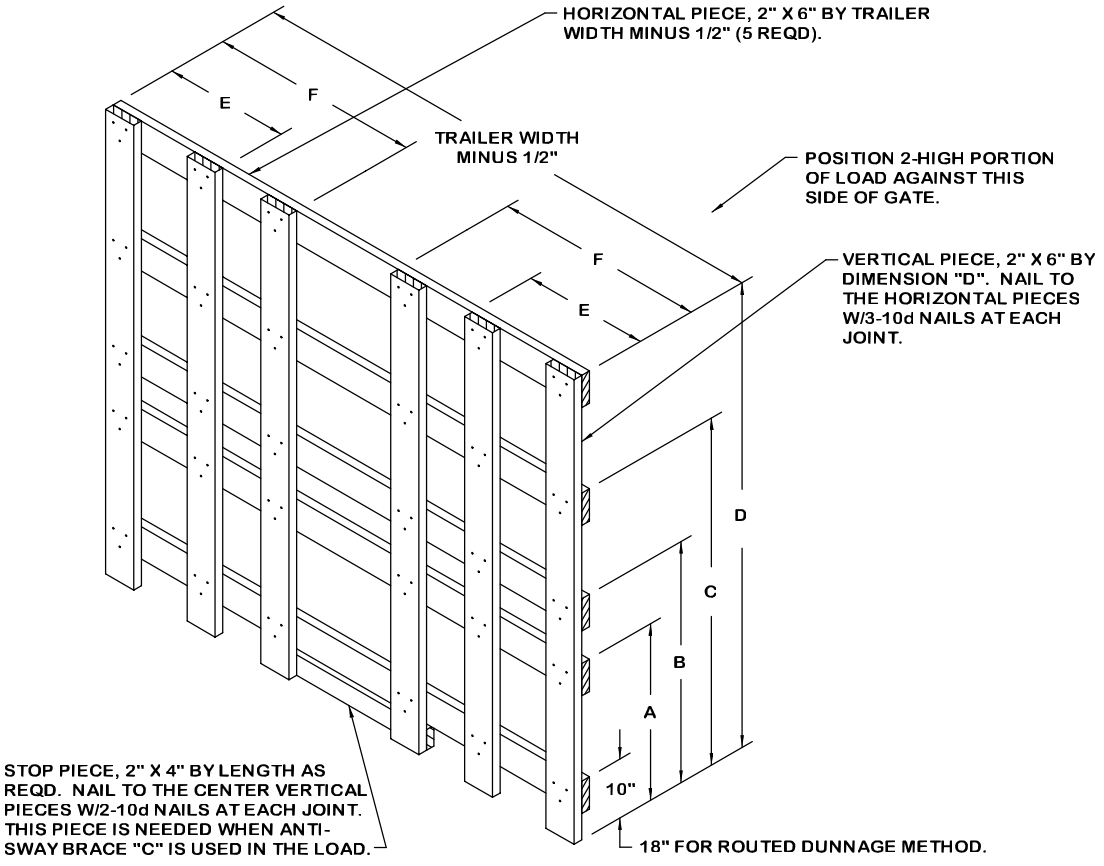
THIS ASSEMBLY IS DESIGNED FOR USE AT THE REAR OF THE ROUTED DUNNAGE METHOD UNIT LOADS WHEN THE EXCESS SPACE BETWEEN THE LADING AND THE REAR DOORS IS 9" OR GREATER.



REAR BLOCKING ASSEMBLY C



SIDE BLOCKING ASSEMBLY

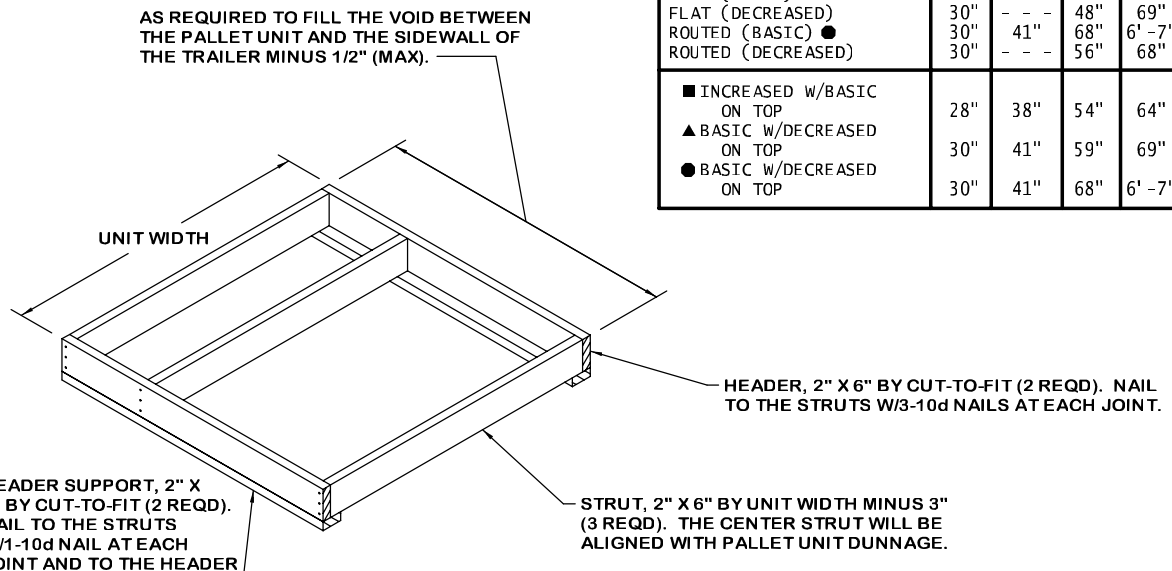


BULKHEAD GATE

THIS GATE IS DESIGNED FOR USE IN THE ALTERNATIVE LOADING PROCEDURE LOAD ON PAGE 22.

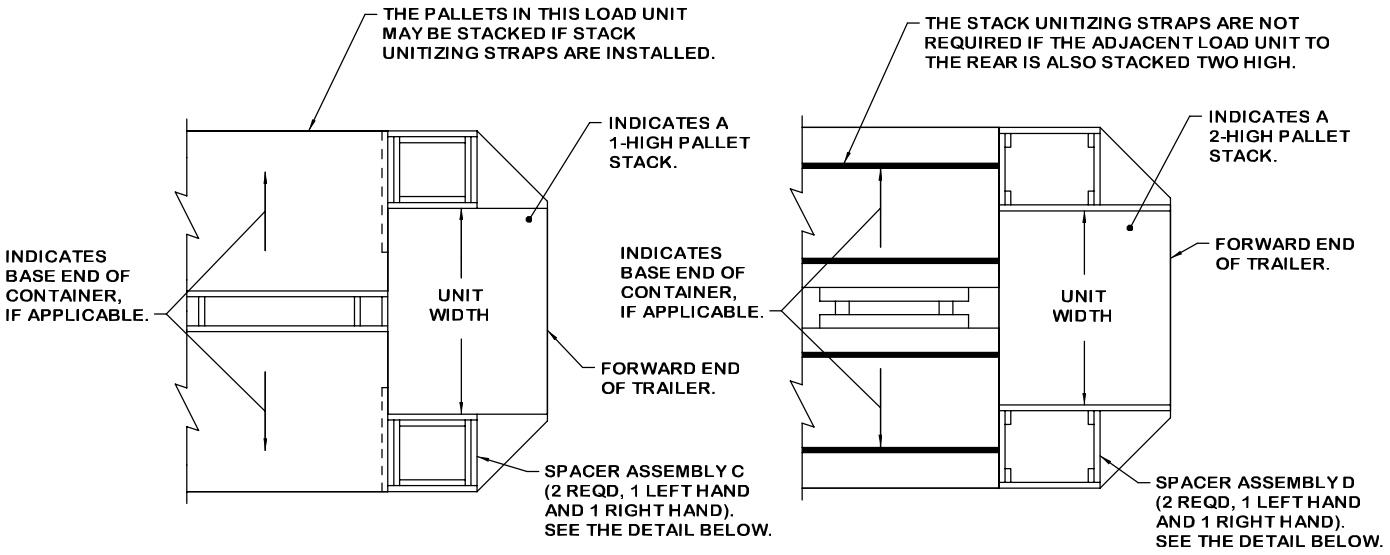
BULKHEAD GATE CHART

PALLET UNIT TYPE	DIMENSIONS					
	A	B	C	D	E	F
ALTERNATED (BASIC)	28"	- - -	45"	64"	21-1/2"	35"
ALTERNATED (INCREASED) ■	28"	38"	54"	72"	21-1/2"	35"
FLAT (BASIC) ▲	30"	41"	59"	6'-7"	11"	36"
FLAT (DECREASED)	30"	- - -	48"	69"	11"	36"
ROUTED (BASIC) ●	30"	41"	68"	6'-7"	11"	36"
ROUTED (DECREASED)	30"	- - -	56"	68"	11"	36"
■ INCREASED W/BASIC ON TOP	28"	38"	54"	64"	21-1/2"	35"
▲ BASIC W/DECREASED ON TOP	30"	41"	59"	69"	11"	36"
● BASIC W/DECREASED ON TOP	30"	41"	68"	6'-7"	11"	36"



SPACER ASSEMBLY B

THIS ASSEMBLY IS DESIGNED FOR USE AS LATERAL BRACING AS SHOWN IN THE LOAD ON PAGE 22.

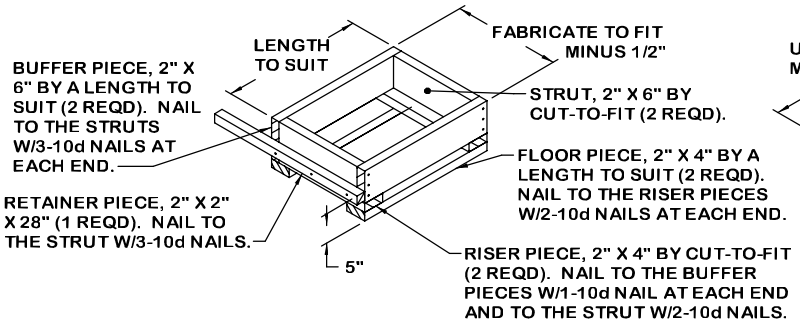


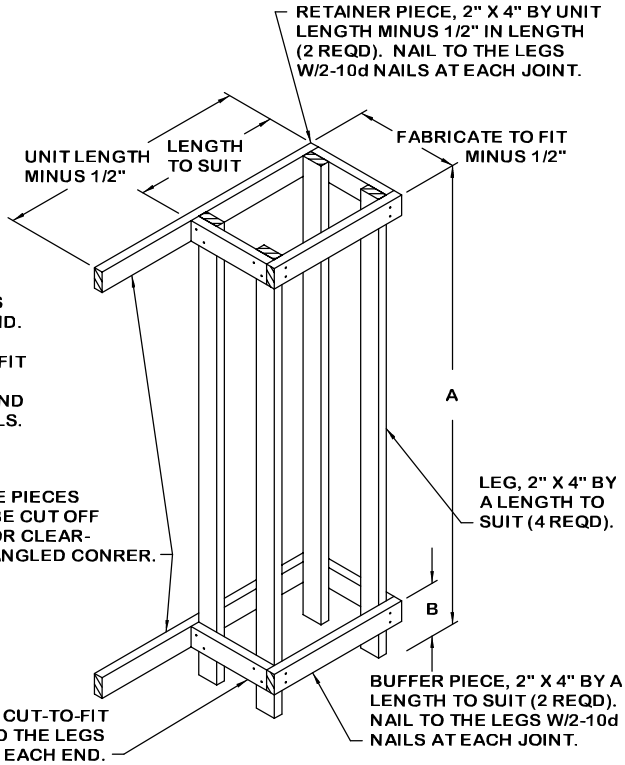
ALTERNATIVE FORWARD LOADING PATTERN A

THIS PROCEDURE IS APPLICABLE TO THE LOADING OF ONE 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 ROUTED DUNNAGE METHOD UNIT (BASIC HEIGHT) IS SHOWN. THE PROCEDURES ARE ALSO APPLICABLE FOR THE OTHER UNITS DEPICTED ON PAGES 4 AND 5.

ALTERNATIVE FORWARD LOADING PATTERN B

THIS PROCEDURE IS APPLICABLE TO THE LOADING OF A STACK OF TWO 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 PALLETS IN THE FRONT OF THE TRAILER IS ONLY ONE HIGH, TWO STACK UNITIZING STRAPS MUST BE INSTALLED AROUND THOSE PALLET UNITS IN THE FRONT STACK. THE ROUTED DUNNAGE METHOD (BASIC HEIGHT) IS SHOWN. THE PROCEDURES ARE ALSO APPLICABLE FOR THE OTHER UNITS DEPICTED ON PAGES 4 AND 5.





SPACER ASSEMBLY C

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.

ENDS OF THESE PIECES MAY NEED TO BE CUT OFF TO PROVIDE FOR CLEARANCE OF THE ANGLED CONRER.

SPACER ASSEMBLY D CHART		
PALLET UNIT TYPE	DIM A	DIM B
ALTERNATED (BASIC)	45"	9"
ALTERNATED (INCREASED) ■	72	9"
FLAT (BASIC) ▲	6'-6"	9"
FLAT (DECREASED)	47"	9"
ROUTED (BASIC) ●	6'-5"	18"
ROUTED (DECREASED)	56"	18"
■ INCREASED W/BASIC ON TOP	54"	9"
▲ BASIC W/DECREASED ON TOP	58"	9"
● BASIC W/DECREASED ON TOP	66"	18"

SPACER ASSEMBLY D

THIS ASSEMBLY IS DESIGNED FOR LATERAL BRACING OF A TWO-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.