

APPROVED BY U.S. COAST GUARD <i>E.H. Gibson</i> DATE: 5/19/80	APPROVED BY BUREAU OF EXPLOSIVES <i>M. B. Miller</i> SUPERVISOR, MILITARY & COMMERCIAL SERVICES DATE: 5/1/80
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HAWK

LOADING AND BRACING¹ WITH WOODEN DUNNAGE IN COMMERCIAL CONTAINERS OF COMPLETE ROUND, PACKED IN THE M430 OR M611 CONTAINER, FOR SHIPMENT BY T/COFC CARRIER

¹LOADING AND BRACING SPECIFICATIONS SET FORTH WITHIN THIS DRAWING ARE APPLICABLE TO LOADS THAT ARE TO BE SHIPPED BY TRAILER/CONTAINER-ON-FLAT-CAR (T/COFC) RAIL CARRIER SERVICE. THESE SPECIFICATIONS MAY ALSO BE USED FOR LOADS THAT ARE TO BE MOVED BY MOTOR OR WATER CARRIERS. SEE GENERAL NOTE "N" ON PAGE 2.

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			U.S. ARMY DARCOM DRAWING		
			JULY 1980		
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DO NOT SCALE

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 HAWK COMPLETE ROUND, WHEN PACKED IN THE M430 OR M611 CONTAINER. SUBSEQUENT REFERENCE TO CONTAINER HEREIN MEANS THE CONTAINER WITH MISSILE COMPONENTS.
- C. FOR DETAIL OF THE M430 CONTAINER, SEE DRAWING NO. 9073970. FOR DETAIL OF THE M611 CONTAINER, SEE DRAWING NO. 8035841.

CONTAINER DIMENSIONS ----- 216" LONG BY 28-3/4" - 29-7/8" WIDE BY
41-1/4" HIGH.
GROSS WEIGHT (M430 CNTR) ---- 3,225 POUNDS (APPROX).
GROSS WEIGHT (M611 CNTR) ---- 3,345 POUNDS (APPROX).
CUBE ----- 149.5 CUBIC FEET

- D. THIS ITEM IS A DOT CLASS "A" EXPLOSIVE, AND A COAST GUARD CLASS X-C. 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.
- E. THE LOAD AS SHOWN IS BASED ON A 4,700 POUND 20' LONG BY 8' WIDE BY 8'-6" HIGH INTERMODAL COMMERCIAL CONTAINER WITH INSIDE DIMENSIONS OF 19'-4" LONG BY 9" WIDE BY 9" HIGH. ALTHOUGH THE LOAD AS SHOWN IS BASED ON AN 8'-6" HIGH CONTAINER, AN 8'-0" HIGH CONTAINER IS PREFERRED FOR SHIPPING THE DEPICTED LOAD. WHEN AN 8'-0" HIGH CONTAINER IS USED, THE HEIGHT OF SOME DUNNAGE ASSEMBLIES WILL HAVE TO BE LOWERED BY REMOVING SOME MATERIAL FROM THE TOP OR BOTTOM OF SOME OF THE VERTICAL PIECES. THE LOAD IS DESIGNED FOR TRAILER/CONTAINER-ON-FLAT-CAR (T/COFC) SHIPMENT, HOWEVER, THE LOAD AS DESIGNED CAN ALSO BE MOVED BY OTHER SURFACE MODES OF TRANSPORT (MOTOR AND WATER).
- F. WHEN LOADING THE CONTAINERS, THEY ARE TO BE POSITIONED SO AS TO ACHIEVE A TIGHT LOAD (TIGHT AGAINST THE FORWARD AND SIDE DUNNAGE ASSEMBLIES). ALTHOUGH A TOTAL OF ONE AND ONE-HALF INCHES (1-1/2") OF UNBLOCKED SPACE ACROSS THE WIDTH OF A LOAD IS PERMITTED, LATERAL VOIDS WITHIN THE LOAD ARE TO BE HELD TO A MINIMUM. EXCESSIVE SLACK CAN BE ELIMINATED FROM A LOAD BY LAMINATING ADDITIONAL BEARING PIECES OF APPROPRIATE THICKNESS TO THE SIDE FILL ASSEMBLIES ON ONE OR BOTH SIDES OF THE CONTAINER. NAIL EACH ADDITIONAL PIECE TO THE BEARING PIECES W/1 APPROPRIATELY SIZED NAIL EVERY 12". ADDITIONALLY, THE NUMBER AND THICKNESS OF THE BEARING PIECES AND VERTICAL PIECES MAY BE ADJUSTED AS REQUIRED TO FACILITATE VARIANCE IN THE WIDTH OF THE INTERMODAL COMMERCIAL CONTAINER.
- G. DUNNAGE LUMBER SPECIFIED IS OF A NOMINAL SIZE. FOR EXAMPLE, 1" X 6" MATERIAL IS ACTUALLY 3/4" THICK BY 5-1/2" WIDE AND 2" X 6" MATERIAL IS ACTUALLY 1-1/2" THICK BY 5-1/2" WIDE.
- H. A STAGGERED NAILING PATTERN WILL BE USED WHEREVER POSSIBLE WHEN NAILS ARE DRIVEN INTO JOINTS OF DUNNAGE ASSEMBLIES OR WHEN LAMINATING DUNNAGE. 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.
- J. IN SOME CONTAINERS, SUCH AS ALL STEEL CONTAINERS, THERE IS A SLOT AT THE CORNERS OF THE FORWARD WALL. A PIECE OF DUNNAGE MATERIAL MUST BE LAMINATED TO THE BUFFER PIECES ON THE FORWARD BLOCKING ASSEMBLY TO PROVIDE A FLAT SURFACE FOR THE 2" X 6" BUFFER PIECES. A PIECE OF 2" X 4", 2" X 3", OR A SPECIAL WIDTH PIECE CUT-TO-FIT CAN BE USED. THIS FILL PIECE WILL BE NAILED WITH ONE APPROPRIATELY SIZED NAIL EVERY 12". THIS PIECE IS NOT REQUIRED WHEN THE FRONT WALL OF THE CONTAINER IS SMOOTH AND FLAT.
- K. CAUTION: DO NOT NAIL DUNNAGE MATERIAL TO THE CONTAINER WALLS OR FLOOR. ALL NAILING WILL BE WITHIN THE DUNNAGE.
- L. PORTIONS OF THE CONTAINERS DEPICTED WITHIN THIS DRAWING, SUCH AS ONE OF THE SIDE WALLS, HAVE NOT BEEN SHOWN IN THE LOAD VIEWS FOR CLARITY PURPOSES.
- M. REQUIREMENTS CITED WITHIN THE BUREAU OF EXPLOSIVES PAMPHLET 6C APPLY WHEN THE SHIPMENT MOVES BY TRAILER/CONTAINER-ON-FLAT-CAR (T/COFC). SPECIAL T/COFC NOTES FOLLOW.
- A. A LOADED CONTAINER MUST BE ON A CHASSIS EQUIPPED WITH TWO BOGIE ASSEMBLIES WHEN BEING MOVED IN TOFC SERVICE.
- B. THE LOAD LIMIT OF A T/COFC RAIL CAR MUST NOT BE EXCEEDED, NOR WILL A CAR BE LOADED SO THAT THE TRUCK UNDER ONE END OF THE CAR CARRIES MORE THAN ONE-HALF OF THE LOAD LIMIT FOR THAT CAR.
- N. DURING INTRASTATE AND/OR INTERSTATE MOVES BY MOTOR CARRIER, A PROPER CHASSIS/MODIFIED FLAT BED TRAILER MUST BE USED TO PRECLUDE VIOLATION OF ONE OR MORE "WEIGHT LAWS" APPLICABLE TO THE STATE OR STATES INVOLVED.

MATERIAL SPECIFICATIONS

LUMBER ----- : TM 743-200-1 (DUNNAGE LUMBER) AND FED SPEC MM-L-751.

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

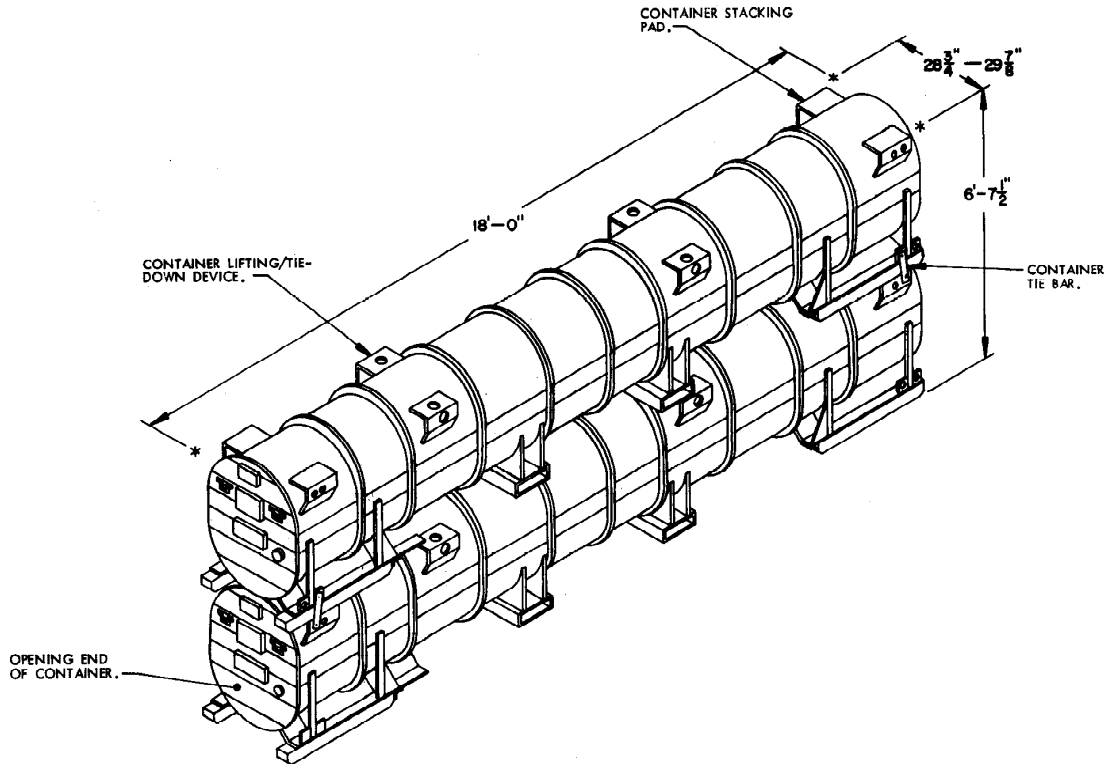
WIRE ----- : FED SPEC QQ-W-461.

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

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

ANTI-CHAFING MATERIAL ----- : MIL SPEC MIL-B-121; NEUTRAL BARRIER MATERIAL.

STEEL, STRUCTURAL ----- : FED SPEC QQ-S-741; SQUARE STRUCTURAL TUBING AND HOT-ROLLED STRIP.



STACK DETAIL

(A STACK OF M430 CONTAINERS IS SHOWN)

UNITIZING AND HANDLING PROCEDURAL GUIDANCE

1. STACKING CONTAINERS FOR UNITIZING.
 - A. THE UPPER CONTAINER SHOULD BE PLACED AS CLOSELY AS POSSIBLE IN VERTICAL ALIGNMENT WITH THE LOWER CONTAINER.
 - B. POSITION THE OPENING END OF THE UPPER CONTAINER ABOVE THE OPENING END OF THE LOWER CONTAINER.
2. APPLICATION OF CONTAINER TIE BARS.
 - A. TIE BARS ARE LOCATED ON THE SIDE OF THE CONTAINER.
 - B. INSTALL FOUR TIE BARS, TWO ON EACH SIDE, OF A TWO-CONTAINER HIGH STACK.
3. CONTAINER OR CONTAINER STACK HANDLING.

NOTES: (1) APPROVED MATERIALS HANDLING EQUIPMENT (MHE) IS SPECIFIED IN OTHER DOCUMENTS. MHE IS INTENDED TO MEAN EQUIPMENT SUCH AS FORKLIFT TRUCKS, CRANES, HAND TRUCKS, DOLLIES, ROLLER ASSEMBLIES, SLINGS AND SPREADER BARS.

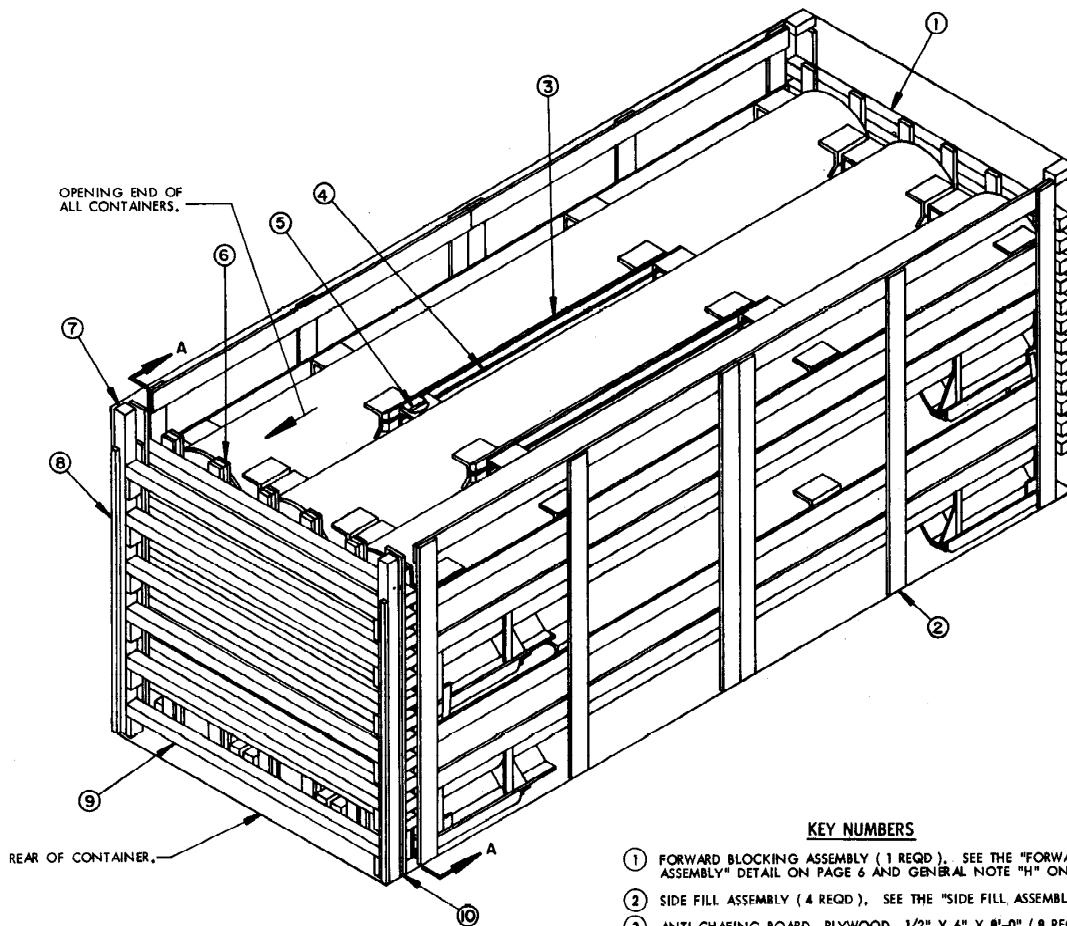
(2) PRECAUTIONARY HANDLING TECHNIQUES NORMALLY EMPLOYED OR AS SPECIFIED FOR THE TYPE OF COMMODITY INVOLVED WILL BE OBSERVED.

- A. ONLY APPROVED AND APPROPRIATELY SIZED MATERIALS HANDLING EQUIPMENT WILL BE USED FOR HANDLING THE DEPICTED CONTAINERS.
- B. IF HANDLING IS ACCOMPLISHED WITH A FORKLIFT TRUCK, THE CONTAINERS SHOULD BE HANDLED FROM A SIDE POSITION AS MUCH AS POSSIBLE. CARE MUST BE EXERCISED WHEN INSERTING FORKS UNDER A CONTAINER, TO PREVENT DAMAGE TO THE CONTAINER BY THE FORK TINES OR THE FORKLIFT PACKAGE GUARD.
- C. A CONTAINER OR A CONTAINER STACK SHOULD BE HANDLED FROM A SIDE POSITION. POSITION THE CONTAINER (S) WITH THE CLOSED END(S) PARTIALLY IN THE DOORWAY AREA OF THE COMMERCIAL CONTAINER. THEN A FORKLIFT TRUCK, WITH A BUFFER BOARD ACROSS THE FORK TINES (4" X 4", ETC.), CAN LIFT THE LOWER CONTAINER OR STACK AND SLIDE THE CONTAINER OR STACK INTO PROPER LOCATION. CONTAINER(S) MAY HAVE TO BE PRIED INTO FINAL LOCATION WITH A PRY BAR.

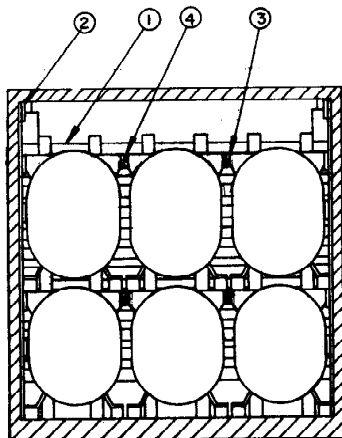
(CONTINUED AT RIGHT)

(UNITIZING AND HANDLING PROCEDURAL GUIDANCE CONTINUED)

- D. THE DUNNAGE ASSEMBLIES AT THE FRONT AND ALONG THE SIDE WALLS OF THE COMMERCIAL CONTAINER MUST BE PRE-POSITIONED BEFORE THE CONTAINER STACKS ARE LOADED INTO THE COMMERCIAL CONTAINER. THE CONTAINER STACKS ADJACENT TO THE SIDE WALLS MUST BE POSITIONED IN THE COMMERCIAL CONTAINER FIRST. AFTER THE ANTI-CHAFING ASSEMBLIES HAVE BEEN INSTALLED, THE CENTER CONTAINER STACK CAN BE SLID INTO POSITION AGAINST THE FORWARD BLOCKING ASSEMBLY.
- E. ACCESS TO THE FRONT OF A COMMERCIAL CONTAINER IN A ONE-CONTAINER HIGH LOAD CAN BE ACCOMPLISHED BY WALKING ON TOP OF THE MISSILE CONTAINERS.



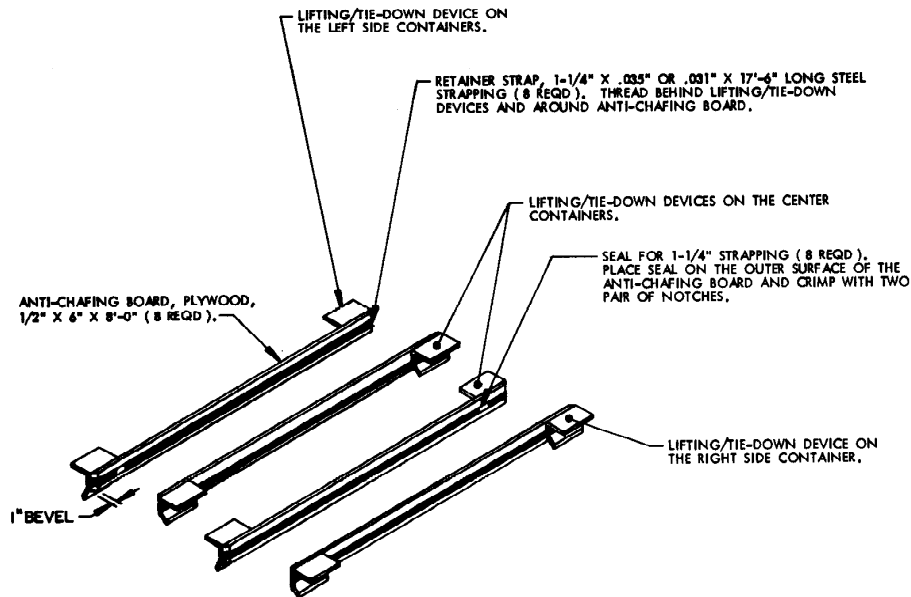
ISOMETRIC VIEW



SECTION A-A

KEY NUMBERS

- ① FORWARD BLOCKING ASSEMBLY (1 REQD). SEE THE "FORWARD BLOCKING ASSEMBLY" DETAIL ON PAGE 6 AND GENERAL NOTE "H" ON PAGE 2.
- ② SIDE FILL ASSEMBLY (4 REQD). SEE THE "SIDE FILL ASSEMBLY" DETAIL ON PAGE 6.
- ③ ANTI-CHAFING BOARD, PLYWOOD, 1/2" X 6" X 8'-0" (8 REQD). SEE THE "ANTI-CHAFING ASSEMBLY" DETAIL AND SPECIAL NOTE 4 ON PAGE 5.
- ④ RETAINER STRAP, 1-1/4" X .035" X 17'-6" LONG STEEL STRAPPING (8 REQD). SEE THE "ANTI-CHAFING ASSEMBLY" DETAIL ON PAGE 5.
- ⑤ SEAL FOR 1-1/4" STEEL STRAPPING (8 REQD). SEE THE "ANTI-CHAFING ASSEMBLY" DETAIL ON PAGE 5.
- ⑥ REAR BLOCKING ASSEMBLY (1 REQD). SEE THE "REAR BLOCKING ASSEMBLY" DETAIL ON PAGE 7 AND GENERAL NOTE "H" ON PAGE 2.
- ⑦ DOOR POST VERTICAL (2 REQD). SEE THE "DOOR POST VERTICAL" DETAIL AND "DETAIL B" ON PAGE 9.
- ⑧ DOOR POST VERTICAL RETAINER (2 REQD). SEE THE "DOOR POST VERTICAL RETAINER" DETAILS ON PAGE 8 AND "DETAIL A" ON PAGE 9. NAIL THROUGH HOLES INTO DOOR POST VERTICAL W/4-10d NAILS.
- ⑨ DOOR SPANNER, 4" X 4" MATERIAL, CUT TO A LENGTH THAT WILL PROVIDE FOR A DRIVE FIT (REF: 7'-1-3/8") (6 REQD). TOENAIL TO THE DOOR POST VERTICALS W/2-12d NAILS AT EACH END. SEE THE "BEVEL-CUT" DETAIL ON PAGE 9.
- ⑩ FILL MATERIAL, 1" X 6" X 7'-8" LONG MATERIAL (AS REQD). NAIL TO THE BUFFER PIECE OF THE REAR BLOCKING ASSEMBLY W/8 NAILS OF A SUITABLE SIZE. CAUTION: DO NOT NAIL TO THE DOOR POST VERTICALS, PIECES MARKED ⑦.



ANTI-CHAFING ASSEMBLY

THIS INSTALLATION MUST BE MADE AT BOTH LAYERS IN THE BASIC LOAD AS SHOWN ON PAGE 2. SEE SPECIAL NOTES.

SPECIAL NOTES:

1. THE LOAD AS SHOWN ON PAGE 4 DEPICTS A SIX-CONTAINER LOAD IN A COMMERCIAL CONTAINER.
2. PRIOR TO LOADING THE MISSILE CONTAINERS INTO THE COMMERCIAL CONTAINER, SEE THE "UNITIZATION AND HANDLING PROCEDURAL GUIDANCE" ON PAGE 3 FOR HANDLING OF THE MISSILE CONTAINER STACKS.
3. THE THICKNESS OF THE ANTI-CHAFING ASSEMBLIES, AS DEPICTED BETWEEN THE MISSILE CONTAINER LIFTING/TIE-DOWN DEVICES, MUST BE ADJUSTED AS REQUIRED TO COMPLY WITH THE DIMENSIONAL VARIANCE OF THE CONTAINER SKIDS, SO AS TO NOT ALLOW MORE THAN ONE AND ONE-HALF INCH (1-1/2") VOID ACROSS THE WIDTH OF A BRACED LOAD. ADJUSTMENTS CAN BE MADE BY USING A DIFFERENT THICKNESS ANTI-CHAFING BOARD OR BY LAMINATING ADDITIONAL PIECES ON ONE OR BOTH SETS OF THE ANTI-CHAFING ASSEMBLY.
4. EIGHT ACCEPTABLE 6" WIDE PIECES CAN BE MADE BY RIPPING (SAWING) A 48" WIDE SHEET OF PLYWOOD SEVEN TIMES ACROSS ITS 48" WIDTH.
5. WHEN USING THE ANTI-CHAFING PIECES DEPICTED IN THE ANTI-CHAFING ASSEMBLY ABOVE, INSTALLATION OF THE PLYWOOD ANTI-CHAFING PIECES TO THE M430 OR M611 CONTAINERS MUST BE MADE PRIOR TO THE LOADING OF THE M430 OR M611 CONTAINERS INTO THE COMMERCIAL CONTAINER. ADDITIONALLY, THE RETAINER STRAPS FOR THE ANTI-CHAFING PIECES ON ADJACENT M430 OR M611 CONTAINERS SHOULD BE LOCATED SO THAT THE SEALS ON THE STRAPS DO NOT INTERFERE WITH EACH OTHER WHEN LOADING THE M430 OR M611 CONTAINERS INTO THE COMMERCIAL CONTAINER.

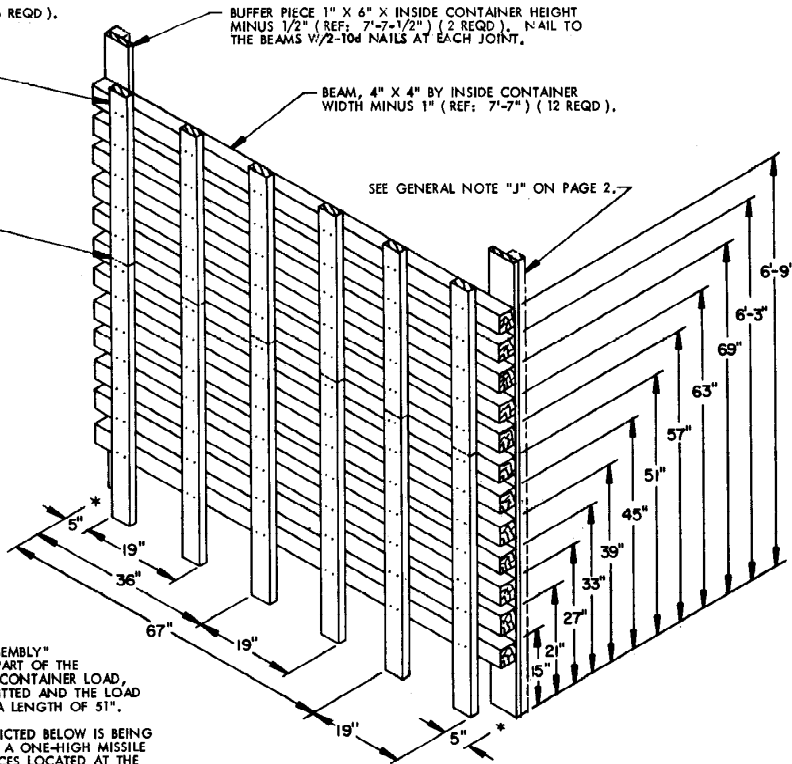
BILL OF MATERIAL		
LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	72	24
1" X 6"	319	160
2" X 4"	78	52
4" X 4"	241	322
NAILS	NO. REQD	POUNDS
6d (2")	196	1-1/4
10d (3")	830	8-1/4
12d (3-1/4")	24	1/2
STEEL STRAPPING, 1-1/4" -----	140° REQD -----	20 LBS
SEAL FOR 1-1/4" STRAPPING -----	8 REQD -----	NIL
PLYWOOD, 1/2" -----	82 SQ FT REQD -----	44 LBS
DOOR POST VERTICAL RETAINER -----	2 REQD -----	64 LBS

LOAD AS SHOWN

ITEM	QUANTITY	WEIGHT (APPROX)
M430 OR M611 CONTAINER	6	20,070 LBS
DUNNAGE		1,254 LBS
COMMERCIAL CONTAINER		4,700 LBS
TOTAL GROSS WEIGHT		26,024 LBS

LOAD BEARING PIECE, 2" X 4" X 7'-0" (6 REQD).
NAIL TO THE BEAMS W/2-10d NAILS AT EACH JOINT.

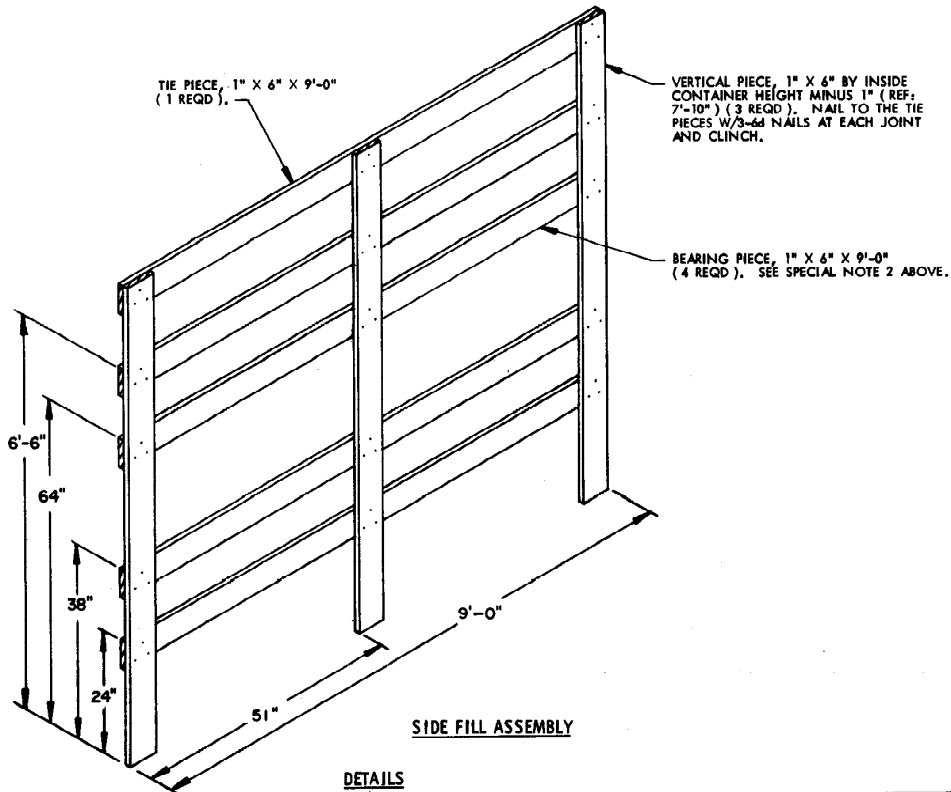
DUNNAGE ASSEMBLY MODIFICATION
REQUIRED FOR LOADS SHOWN ON
PAGES 14, 16, AND 18. SEE
SPECIAL NOTE 1 BELOW.



SPECIAL NOTES:

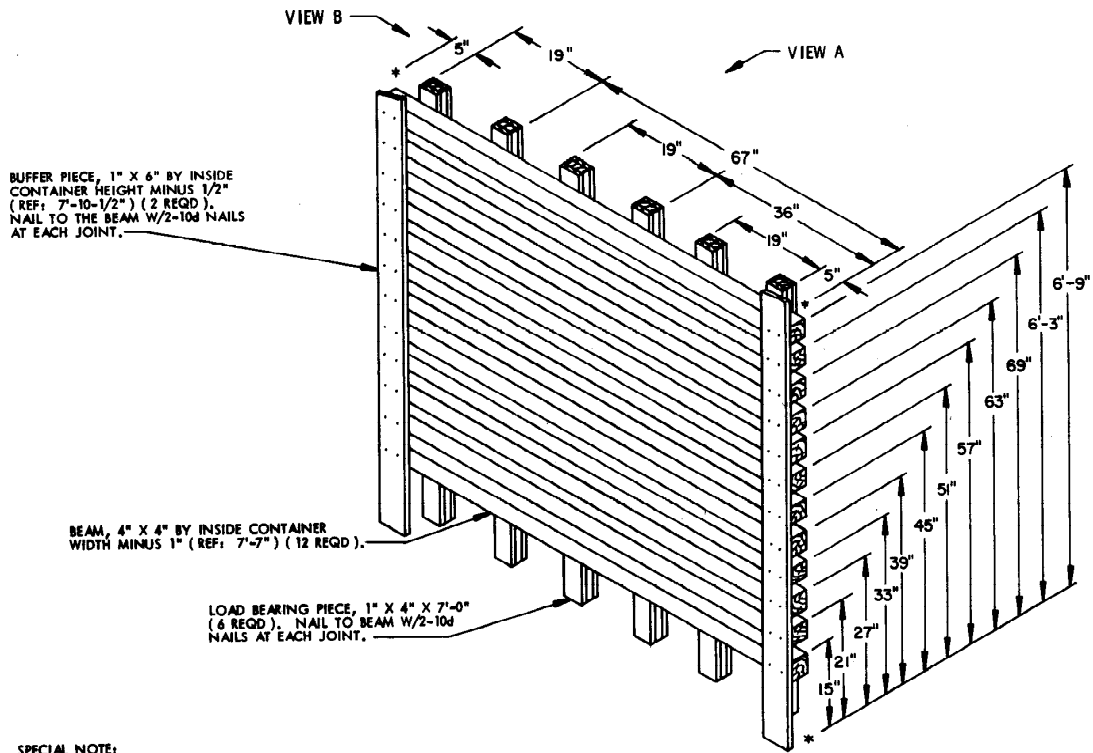
1. WHEN THE "FORWARD BLOCKING ASSEMBLY" DEPICTED ABOVE IS BEING USED AS PART OF THE BLOCKING IN A ONE-HIGH MISSILE CONTAINER LOAD, THE UPPER SIX BEAMS ARE TO BE OMITTED AND THE LOAD BEARING PIECES ARE TO BE CUT TO A LENGTH OF 51".
2. WHEN THE "SIDE FILL ASSEMBLY" DEPICTED BELOW IS BEING USED AS PART OF THE BLOCKING IN A ONE-HIGH MISSILE CONTAINER LOAD, THE BEARING PIECES LOCATED AT THE 64" AND 6'-6" HEIGHT LOCATIONS ARE TO BE OMITTED.

FORWARD BLOCKING ASSEMBLY



SIDE FILL ASSEMBLY

DETAILS

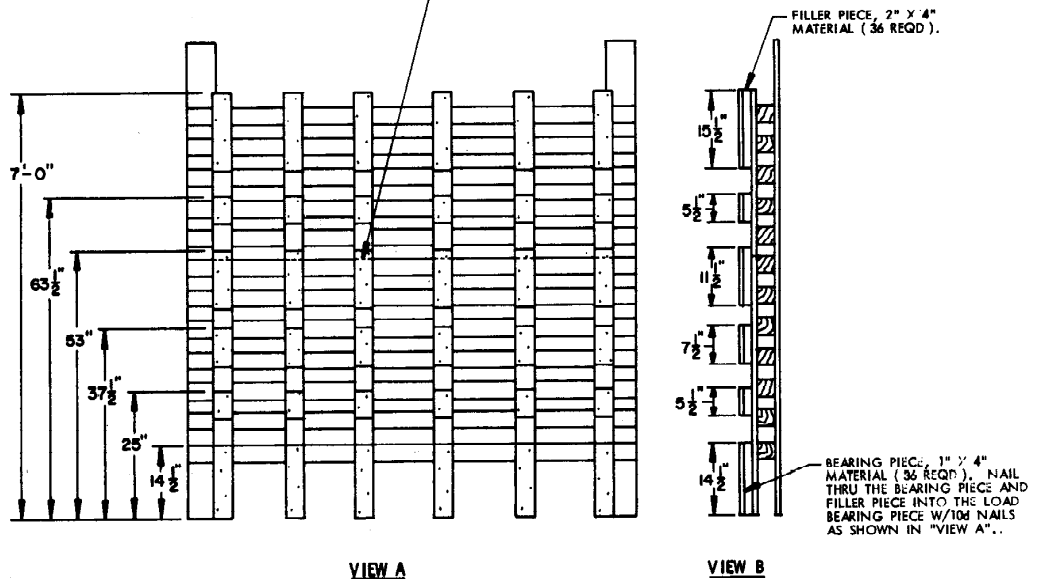


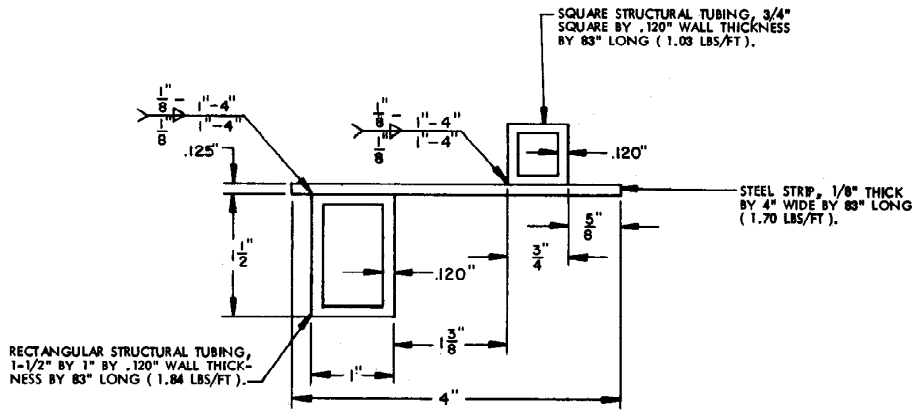
SPECIAL NOTE:

1. WHEN THE "REAR BLOCKING ASSEMBLY" DEPICTED ABOVE IS BEING USED AS PART OF THE BLOCKING IN A ONE-HIGH MISSILE CONTAINER LOAD, THE UPPER SIX BEAMS ARE TO BE OMITTED, THE LOAD BEARING PIECES ARE TO BE CUT TO A LENGTH OF 51", AND ALL BEARING AND FILLER PIECES LOCATED AT THE 53", 63-1/2", AND 7'-0" HEIGHT LOCATIONS ARE TO BE OMITTED.

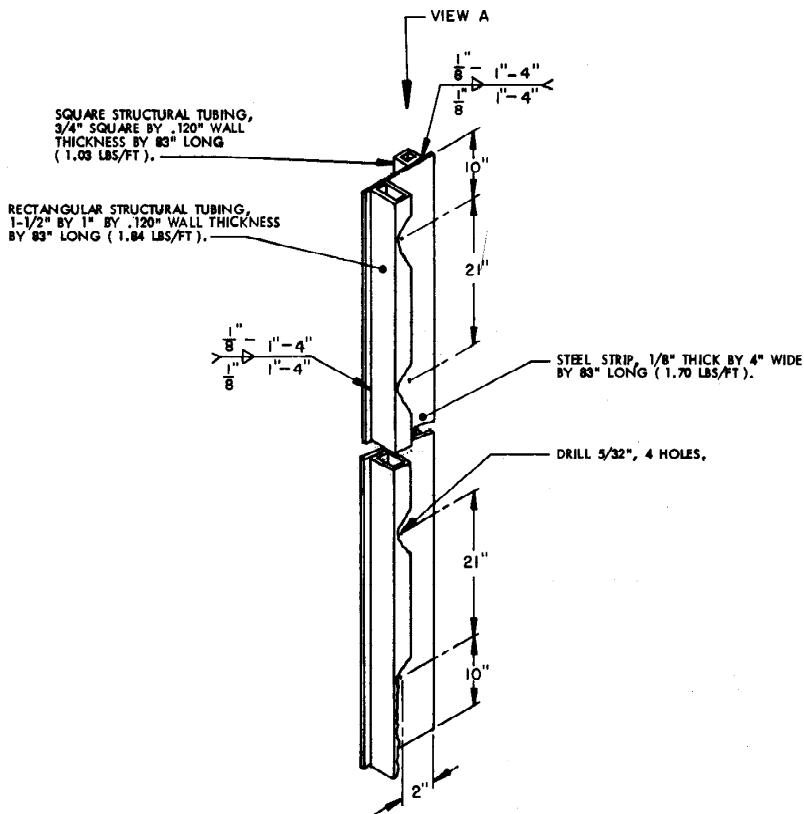
REAR BLOCKING ASSEMBLY

DUNNAGE ASSEMBLY MODIFICATION REQUIRED FOR LOADS SHOWN ON PAGES 14, 16, AND 18. SEE SPECIAL NOTE 1 ABOVE.



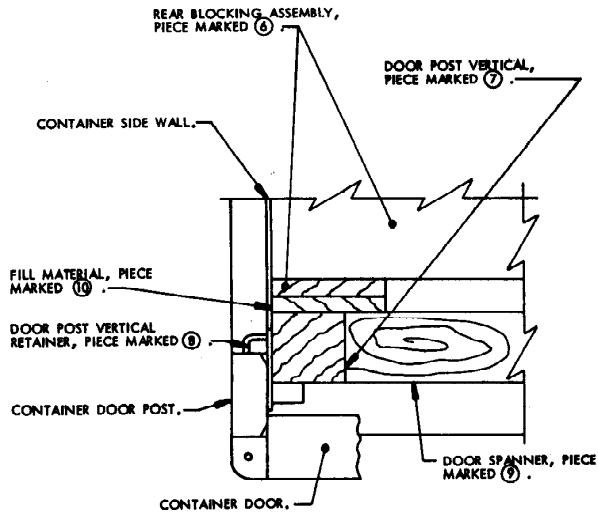


VIEW A



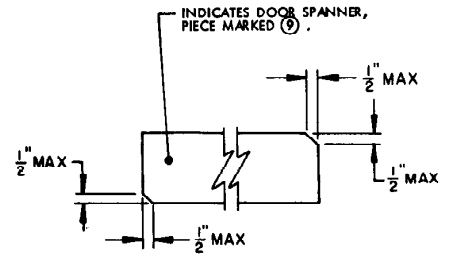
DOOR POST VERTICAL RETAINER

DETAILS



DETAIL A

A PARTIAL PLAN VIEW OF THE LEFT REAR PORTION OF THE CONTAINER IS SHOWN DEPICTING THE PROPER POSITION OF THE DOOR POST VERTICAL AND ADJACENT DUNNAGE PIECES.

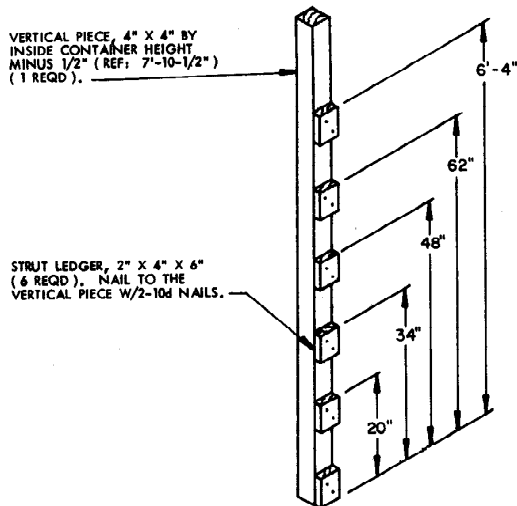


BEVEL-CUT

IF DESIRED, EACH END OF A DOOR SPANNER, PIECE MARKED ⑨, MAY BE BEVEL-CUT AS SHOWN ABOVE TO FACILITATE THE ACHIEVEMENT OF A TIGHT DOOR-POST-TO-DOOR-POST FIT.

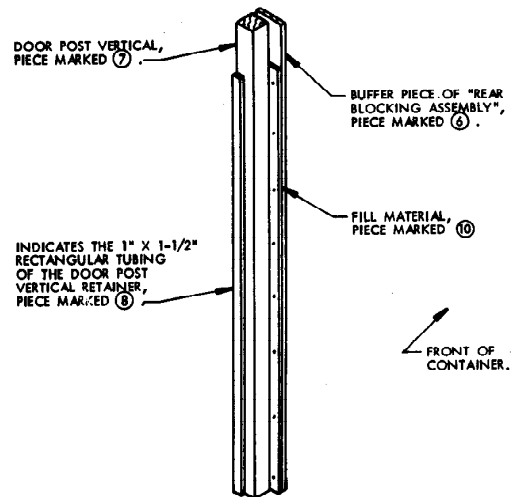
SPECIAL NOTES:

1. WHEN THE DOOR POST VERTICAL DEPICTED BELOW IS USED IN A LOAD OF ONE, TWO, OR THREE MISSILE CONTAINERS, THE STRUT LEDGERS LOCATED AT THE 48", 62", AND 6'-4" HEIGHT LOCATIONS ARE TO BE OMITTED.
2. ALTHOUGH THE PIECE NUMBERS SPECIFIED IN DETAILS "A" AND "B" ON THIS PAGE ARE ONLY APPLICABLE TO A 6-CONTAINER LOAD, THE DEPICTED POSITIONING OF THE DOOR POST VERTICAL AND ADJACENT DUNNAGE PIECES IS APPLICABLE TO ALL LOADS DELINEATED WITHIN THIS DOCUMENT.



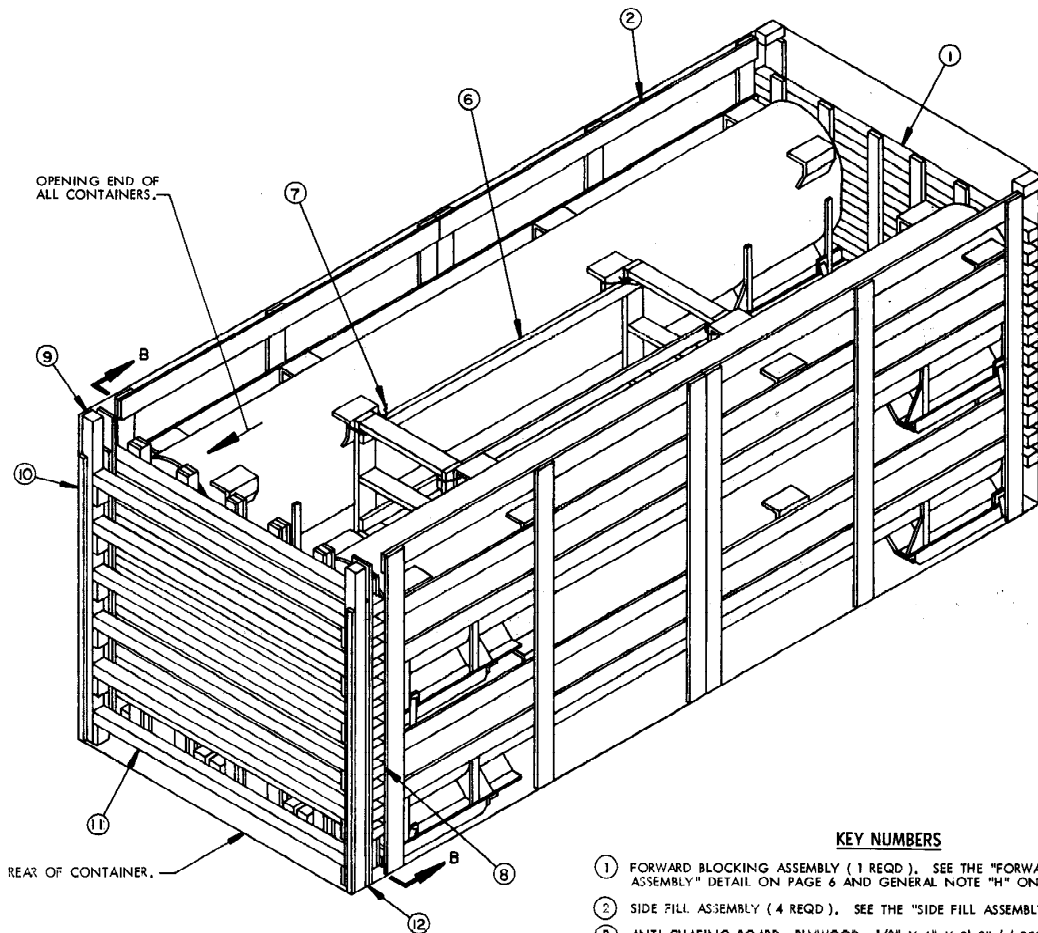
DOOR POST VERTICAL

THE STRUT LEDGERS CAN ONLY BE PRE-NAILED TO THE DOOR POST VERTICAL ON ONE SIDE OF THE CONTAINER. THE STRUT LEDGERS ON THE OTHER SIDE ARE TO BE NAILED AFTER A LOWER DOOR SPANNER IS INSTALLED.

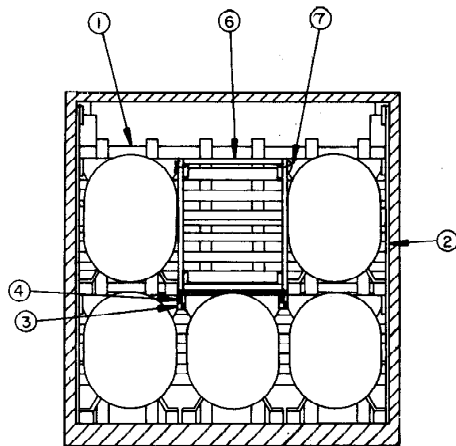


DETAIL B

DOOR SPANNERS AND STRUTS HAVE BEEN OMITTED FOR CLARITY PURPOSES.



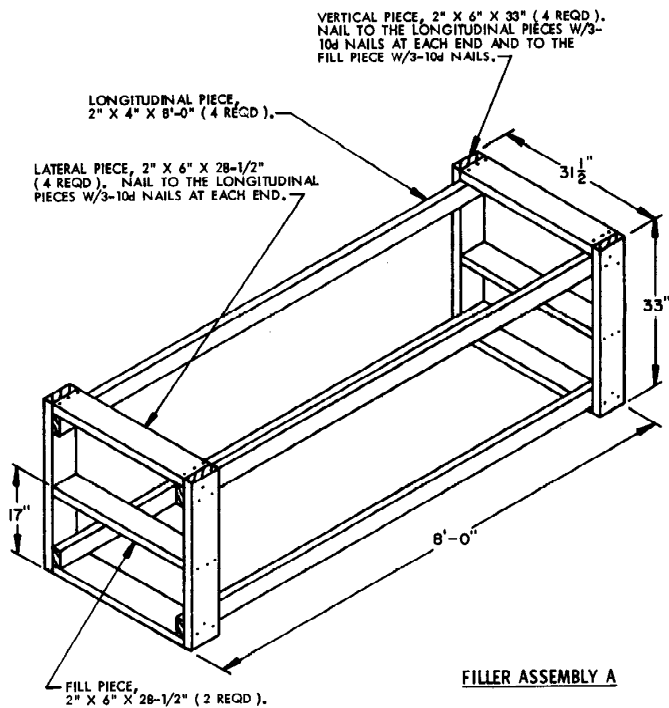
ISOMETRIC VIEW



SECTION B-B

KEY NUMBERS

- ① FORWARD BLOCKING ASSEMBLY (1 REQD). SEE THE "FORWARD BLOCKING ASSEMBLY" DETAIL ON PAGE 6 AND GENERAL NOTE "H" ON PAGE 2.
- ② SIDE FILL ASSEMBLY (4 REQD). SEE THE "SIDE FILL ASSEMBLY" DETAIL ON PAGE 6.
- ③ ANTI-CHAFING BOARD, PLYWOOD, 1/2" X 6" X 8'-0" (4 REQD). SEE THE "ANTI-CHAFING ASSEMBLY" DETAIL AND SPECIAL NOTE 4 ON PAGE 5.
- ④ RETAINER STRAP, 1-1/4" X .035" X 17'-6" LONG STEEL STRAPPING (4 REQD). SEE THE "ANTI-CHAFING ASSEMBLY" DETAIL ON PAGE 5.
- ⑤ SEAL FOR 1-1/4" STEEL STRAPPING (4 REQD). SEE THE "ANTI-CHAFING ASSEMBLY" DETAIL ON PAGE 5.
- ⑥ FILLER ASSEMBLY A (1 REQD). SEE THE "FILLER ASSEMBLY A" DETAIL ON PAGE 11.
- ⑦ TIE WIRE, NO. 14 GAGE WIRE 30" LONG (4 REQD). INSTALL THE WIRE TO FORM A COMPLETE LOOP AROUND THE LIFTING/TIE-DOWN DEVICE AND THE VERTICAL PIECE OF THE FILLER ASSEMBLY, BRING ENDS TOGETHER AND TWIST TAUT.
- ⑧ REAR BLOCKING ASSEMBLY (1 REQD). SEE THE "REAR BLOCKING ASSEMBLY" DETAIL ON PAGE 7 AND GENERAL NOTE "H" ON PAGE 2.
- ⑨ DOOR POST VERTICAL (2 REQD). SEE THE "DOOR POST VERTICAL" DETAIL, "DETAIL B" AND SPECIAL NOTE 2 ON PAGE 9.
- ⑩ DOOR POST VERTICAL RETAINER (2 REQD). SEE THE "DOOR POST VERTICAL RETAINER" DETAILS ON AC. B AND "DETAIL A" ON PAGE 9. NAIL THRU HOLES INTO DOOR POST VERTICAL W/4-10d NAILS.
- ⑪ DOOR SPANNER, 4" X 4" MATERIAL, CUT TO A LENGTH THAT WILL PROVIDE FOR A DRIVE FIT (REF. 7'-1-3/8") (6 REQD). TOBNAIL TO THE DOOR POST VERTICALS W/2-12d NAILS AT EACH END. SEE THE "BEVEL-CUT" DETAIL ON PAGE 9.
- ⑫ FILL MATERIAL, 1" X 6" X 7'-0" LONG MATERIAL (ASREQD). NAIL TO THE BUFFER PIECE OF THE REAR BLOCKING ASSEMBLY W/8 NAILS OF A SUITABLE SIZE. CAUTION: DO NOT NAIL TO THE DOOR POST VERTICALS, PIECES MARKED ⑨.



FILLER ASSEMBLY A

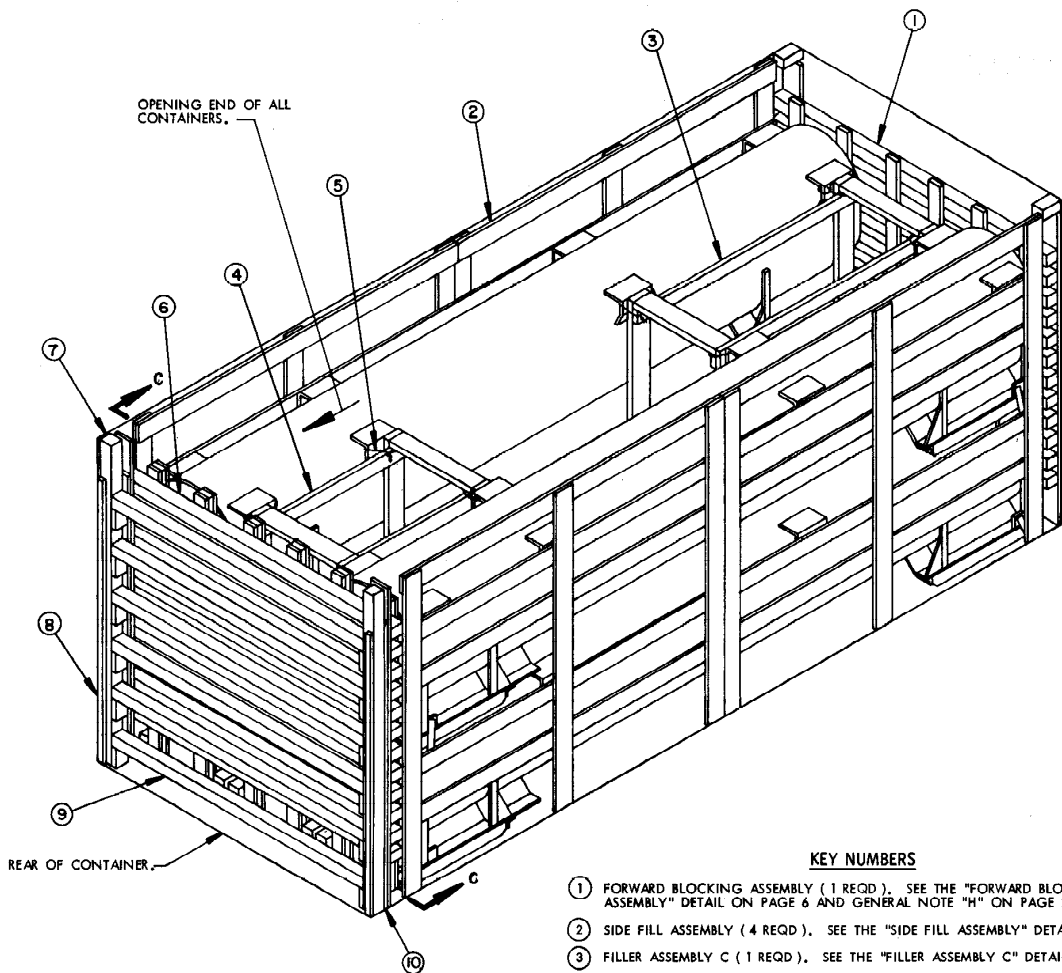
SPECIAL NOTES:

1. THE LOAD AS SHOWN ON PAGE 10 DEPICTS A FIVE-CONTAINER LOAD IN A COMMERCIAL CONTAINER.
2. PRIOR TO LOADING THE MISSILE CONTAINERS INTO THE COMMERCIAL CONTAINER, SEE THE "UNITIZATION AND HANDLING PROCEDURAL GUIDANCE" ON PAGE 3 FOR HANDLING OF THE MISSILE CONTAINER STACKS.
3. THE THICKNESS OF THE ANTI-CHAFING ASSEMBLIES, AS DETICED BETWEEN THE MISSILE CONTAINER LIFTING/TIE-DOWN DEVICES, MUST BE ADJUSTED AS REQUIRED TO COMPLY WITH THE DIMENSIONAL VARIANCE OF THE CONTAINER SKIDS, SO AS TO NOT ALLOW MORE THAN A ONE AND ONE-HALF INCH (1-1/2") VOID ACROSS THE WIDTH OF A BRACED LOAD. ADJUSTMENTS CAN BE MADE BY USING A DIFFERENT THICKNESS ANTI-CHAFING BOARD OR BY LAMINATING ADDITIONAL PIECES ON ONE OR BOTH SETS OF THE ANTI-CHAFING ASSEMBLY.

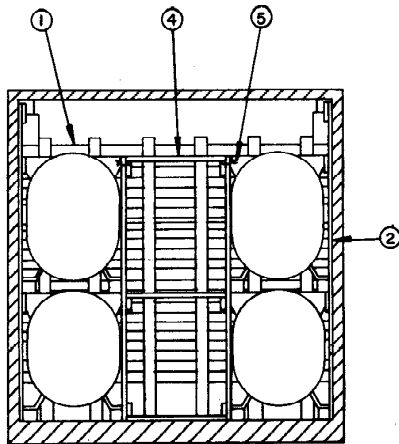
BILL OF MATERIAL		
LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	72	24
1" X 6"	319	160
2" X 4"	110	74
2" X 6"	27	27
4" X 4"	241	322
NAILS	NO. REQD	POUNDS
6d (2")	196	1-1/4
10d (3")	590	9-1/4
12d (3-1/4")	24	1/2
WIRE, NO. 14 GAGE	10' REQD	1/4 LB
STEEL STRAPPING, 1-1/4"	70' REQD	10 LBS
SEAL FOR 1-1/4" STRAPPING	4 REQD	NIL
PLYWOOD, 1/2"	16 SQ FT REQD	22 LBS
DOOR POST VERTICAL RETAINER	2 REQD	64 LBS

LOAD AS SHOWN

ITEM	QUANTITY	WEIGHT (APPROX)
M430 OR M611 CONTAINER	5	16,725 LBS
DUNNAGE		1,322 LBS
CONTAINER		4,700 LBS
TOTAL GROSS WEIGHT		22,747 LBS



ISOMETRIC VIEW



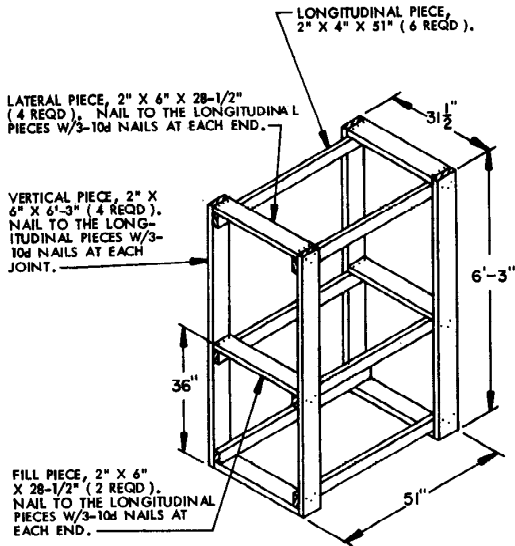
SECTION C-C

KEY NUMBERS

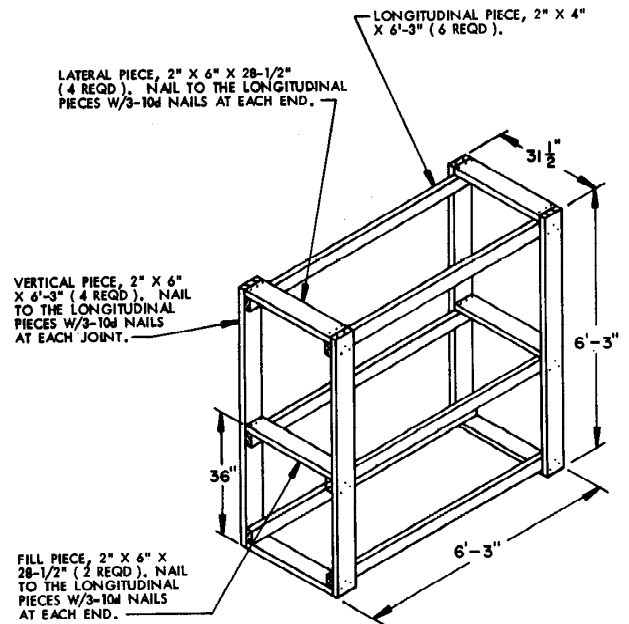
- ① FORWARD BLOCKING ASSEMBLY (1 REQD). SEE THE "FORWARD BLOCKING ASSEMBLY" DETAIL ON PAGE 6 AND GENERAL NOTE "H" ON PAGE 2.
- ② SIDE FILL ASSEMBLY (4 REQD). SEE THE "SIDE FILL ASSEMBLY" DETAIL ON PAGE 6.
- ③ FILLER ASSEMBLY C (1 REQD). SEE THE "FILLER ASSEMBLY C" DETAIL ON PAGE 13.
- ④ FILLER ASSEMBLY B (1 REQD). SEE THE "FILLER ASSEMBLY B" DETAIL ON PAGE 13.
- ⑤ TIE WIRE, NO. 14 GAGE WIRE 30" LONG (8 REQD). INSTALL THE WIRE TO FORM A COMPLETE LOOP AROUND THE LIFTING/TIE-DOWN DEVICE AND THE VERTICAL PIECE OF THE FILLER ASSEMBLY, BRING ENDS TOGETHER AND TWIST TAUT.
- ⑥ REAR BLOCKING ASSEMBLY (1 REQD). SEE THE "REAR BLOCKING ASSEMBLY" DETAIL ON PAGE 7 AND GENERAL NOTE "H" ON PAGE 2.
- ⑦ DOOR POST VERTICAL (2 REQD). SEE THE "DOOR POST VERTICAL" DETAIL, "DETAIL B" AND SPECIAL NOTE 2 ON PAGE 9.
- ⑧ DOOR POST VERTICAL RETAINER, (2 REQD). SEE THE "DOOR POST VERTICAL RETAINER" DETAILS ON PAGE 8 AND "DETAIL A" ON PAGE 9. NAIL THRU HOLES INTO DOOR POST VERTICAL w/4-10d NAILS.
- ⑨ DOOR SPANNER, 4" X 4" MATERIAL, CUT TO A LENGTH THAT WILL PROVIDE FOR A DRIVE FIT (REF: 7'-1-3/8") (6 REQD). TOENAIL TO THE DOOR POST VERTICALS w/2-12d NAILS AT EACH END. SEE THE "BEVEL-CUT" DETAIL ON PAGE 9.
- ⑩ FILL MATERIAL, 1" X 6" X 7'-0" LONG MATERIAL (AS REQD). NAIL TO THE BUFFER PIECE OF THE REAR BLOCKING ASSEMBLY w/8 NAILS OF A SUITABLE SIZE. CAUTION: DO NOT NAIL TO THE DOOR POST VERTICALS, PIECES MARKED ⑦.

SPECIAL NOTES:

1. THE LOAD AS SHOWN ON PAGE 12 DEPICTS A FOUR-CONTAINER LOAD, IN A COMMERCIAL CONTAINER.
2. PRIOR TO LOADING THE MISSILE CONTAINERS INTO THE COMMERCIAL CONTAINER, SEE THE "UNITIZATION AND HANDLING PROCEDURAL GUIDANCE" ON PAGE 3 FOR HANDLING THE MISSILE CONTAINERS.



FILLER ASSEMBLY B

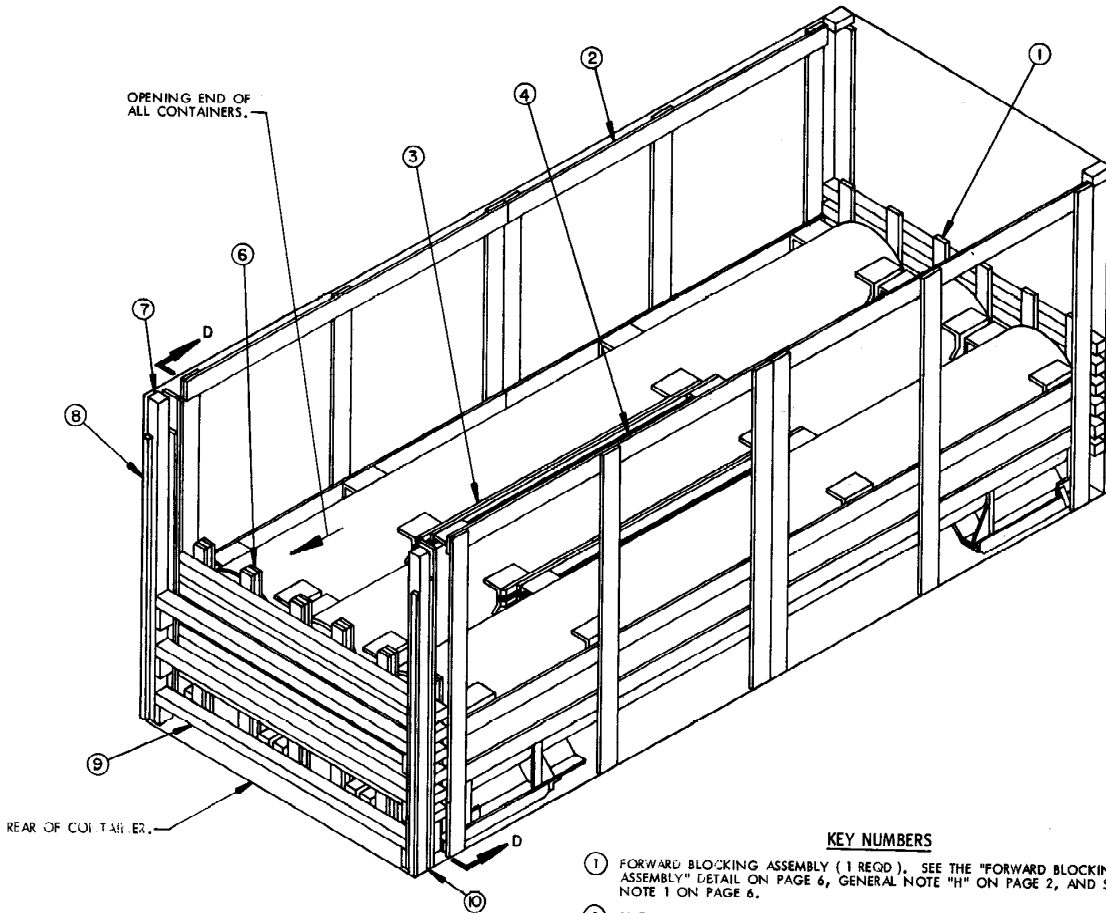


FILLER ASSEMBLY C

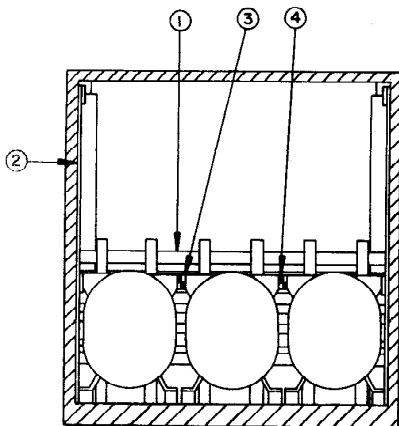
BILL OF MATERIAL		
LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	72	24
1" X 6"	319	160
2" X 4"	141	94
2" X 6"	79	79
4" X 4"	241	322
NAILS	NO. REQD	POUNDS
6d (2")	196	1-1/4
10d (3")	674	10-1/2
12d (3-1/4")	24	1/2
WIRE NO. 14 GAGE	20" REQD	1/2 LB
DOOR POST VERTICAL RETAINER	2 REQD	64 LBS

LOAD AS SHOWN

ITEM	QUANTITY	WEIGHT (APPROX)
M430 OR M411 CONTAINER	4	13,380 LBS
DUNNAGE		1,433 LBS
CONTAINER		4,700 LBS
TOTAL GROSS WEIGHT		19,515 LBS



ISOMETRIC VIEW



SECTION D-D

KEY NUMBERS

- ① FORWARD BLOCKING ASSEMBLY (1 REQD). SEE THE "FORWARD BLOCKING ASSEMBLY" DETAIL ON PAGE 6, GENERAL NOTE "H" ON PAGE 2, AND SPECIAL NOTE 1 ON PAGE 6.
- ② SIDE FILL ASSEMBLY (4 REQD). SEE THE "SIDE FILL ASSEMBLY" DETAIL AND SPECIAL NOTE 2 ON PAGE 6.
- ③ ANTI-CHAFING BOARD, PLYWOOD, 1/2" X 6" X 8'-0" (4 REQD). SEE THE "ANTI-CHAFING ASSEMBLY" DETAIL AND SPECIAL NOTE 4 ON PAGE 5.
- ④ RETAINER STRAP, 1-1/4" X .035 X 17'-6" LONG STEEL STRAPPING (4 REQD). SEE THE "ANTI-CHAFING ASSEMBLY" DETAIL ON PAGE 5.
- ⑤ SEAL FOR 1-1/4" STEEL STRAPPING (4 REQD). SEE THE "ANTI-CHAFING ASSEMBLY" DETAIL ON PAGE 5.
- ⑥ REAR BLOCKING ASSEMBLY (1 REQD). SEE THE "REAR BLOCKING ASSEMBLY" DETAIL ON PAGE 7, GENERAL NOTE "H" ON PAGE 2, AND SPECIAL NOTE 1 ON PAGE 7.
- ⑦ DOOR POST VERTICAL (2 REQD). SEE THE "DOOR POST VERTICAL" DETAIL, "DETAIL B" AND SPECIAL NOTES 1 AND 2 ON PAGE 9.
- ⑧ DOOR POST VERTICAL RETAINER (2 REQD). SEE THE "DOOR POST VERTICAL RETAINER" DETAILS ON PAGE 8 AND "DETAIL A" ON PAGE 9. NAIL THRU HOLES INTO DOOR POST VERTICAL W/4-10d NAILS.
- ⑨ DOOR SPANNER, 4" X 4" MATERIAL, CUT TO A LENGTH THAT WILL PROVIDE FOR A DRIVE FIT (REF: 7'-1-3/8") (3 REQD). TOENAIL TO THE DOOR POST VERTICALS W/2-12d NAILS AT EACH END. SEE THE "BEVEL-CUT" DETAIL ON PAGE 9.
- ⑩ FILL MATERIAL, 1" X 6" X 7'-0" LONG MATERIAL (AS REQD). NAIL TO THE BUFFER PIECE OF THE REAR BLOCKING ASSEMBLY W/8 NAILS OF A SUITABLE SIZE. CAUTION: DO NOT NAIL TO THE DOOR POST VERTICALS, PIECES MARKED ⑦.

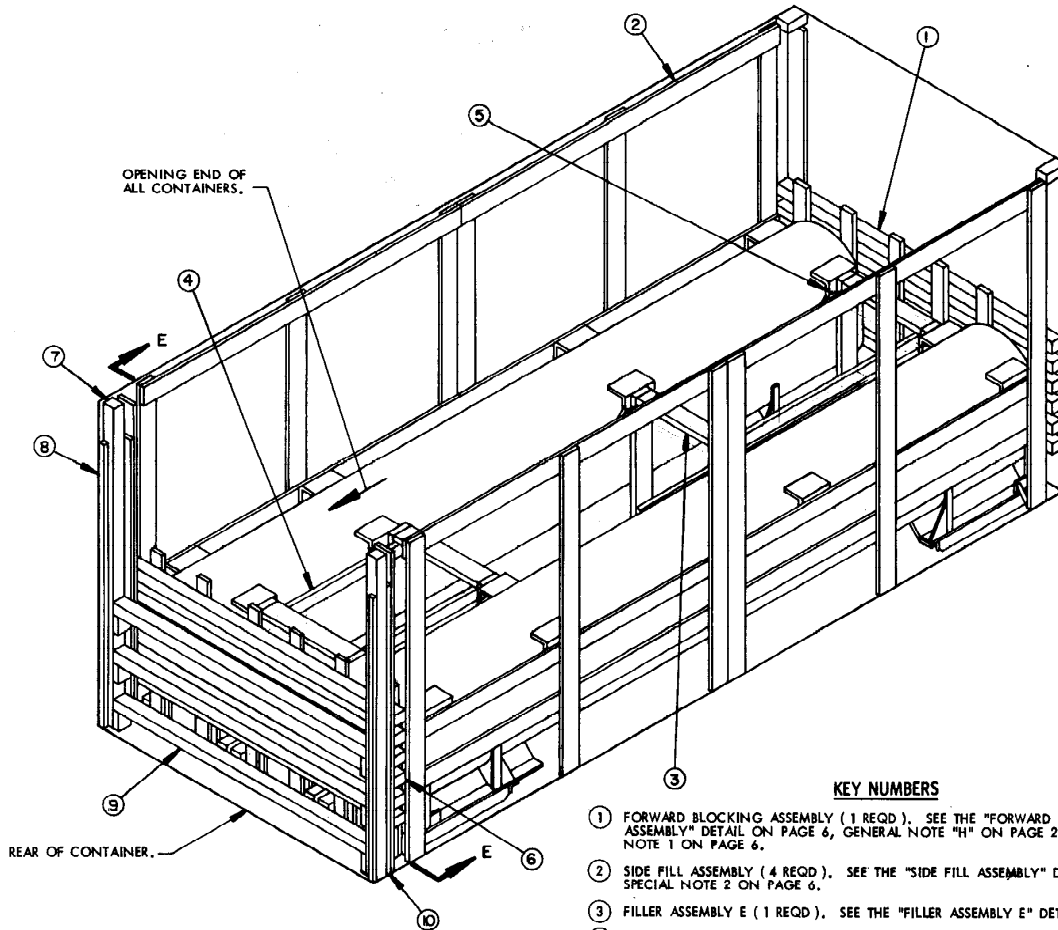
SPECIAL NOTES:

1. THE LOAD AS SHOWN ON PAGE 14 DEPICTS A THREE-CONTAINER LOAD IN A COMMERCIAL CONTAINER.
2. PRIOR TO LOADING THE MISSILE CONTAINERS INTO THE COMMERCIAL CONTAINER, SEE THE "UNITIZATION AND HANDLING PROCEDURAL GUIDANCE" ON PAGE 3 FOR HANDLING OF THE MISSILE CONTAINERS.
3. THE THICKNESS OF THE ANTI-CHAFING ASSEMBLIES, AS DEPICTED BETWEEN THE MISSILE CONTAINER LIFTING/TIE-DOWN DEVICES, MUST BE ADJUSTED AS REQUIRED TO COMPLY WITH THE DIMENSIONAL VARIANCE OF THE CONTAINER SKIDS, SO AS TO NOT ALLOW MORE THAN ONE AND ONE-HALF INCH (1-1/2") VOID ACROSS THE WIDTH OF A BRACED LOAD. ADJUSTMENTS CAN BE MADE BY USING A DIFFERENT THICKNESS ANTI-CHAFING BOARD OR BY LAMINATING ADDITIONAL PIECES ON ONE OR BOTH SETS OF THE ANTI-CHAFING ASSEMBLY.

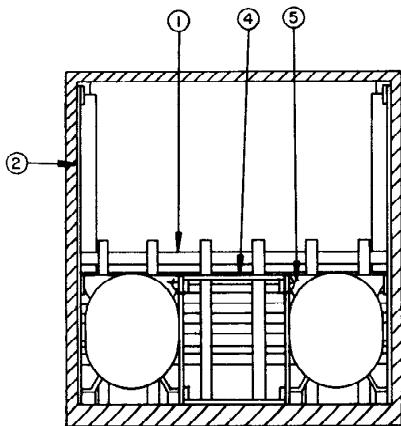
BILL OF MATERIAL		
LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	40	14
1" X 6"	247	124
2" X 4"	43	29
4" X 4"	125	172
NAILS	NO. REQD	POUNDS
6d (2")	124	3/4
10d (3")	266	4-1/4
12d (3-1/4")	12	1/4
STEEL STRAPPING, 1-1/4" -----	70' REQD -----	10 LBS
SEAL FOR 1-1/4" STRAPPING -----	4 REQD -----	NIL
PLYWOOD, 1/2" -----	16 SQ FT REQD -----	22 LBS
DOOR POST VERTICAL RETAINER --	2 REQD -----	64 LBS

LOAD AS SHOWN

ITEM	QUANTITY	WEIGHT (APPROX)
M430 OR M611 CONTAINER -----	3 -----	10,035 LBS
DUNNAGE -----		780 LBS
CONTAINER -----		4,700 LBS
TOTAL GROSS WEIGHT --		15,515 LBS



ISOMETRIC VIEW



SECTION E-E

KEY NUMBERS

- ① FORWARD BLOCKING ASSEMBLY (1 REQD). SEE THE "FORWARD BLOCKING ASSEMBLY" DETAIL ON PAGE 6, GENERAL NOTE "H" ON PAGE 2, AND SPECIAL NOTE 1 ON PAGE 6.
- ② SIDE FILL ASSEMBLY (4 REQD). SEE THE "SIDE FILL ASSEMBLY" DETAIL AND SPECIAL NOTE 2 ON PAGE 6.
- ③ FILLER ASSEMBLY E (1 REQD). SEE THE "FILLER ASSEMBLY E" DETAIL ON PAGE 19.
- ④ FILLER ASSEMBLY D (1 REQD). SEE THE "FILLER ASSEMBLY D" DETAIL ON PAGE 19.
- ⑤ TIE WIRE, NO. 14 GAGE WIRE 30" LONG (8 REQD). INSTALL THE WIRE TO FORM A COMPLETE LOOP AROUND THE LIFTING/TIE-DOWN DEVICE AND THE VERTICAL PIECE OF THE FILLER ASSEMBLY, BRING ENDS TOGETHER AND TWIST TAUT.
- ⑥ REAR BLOCKING ASSEMBLY (1 REQD). SEE THE "REAR BLOCKING ASSEMBLY" DETAIL ON PAGE 7, GENERAL NOTE "H" ON PAGE 2, AND SPECIAL NOTE 1 ON PAGE 7.
- ⑦ DOOR POST VERTICAL (2 REQD). SEE THE "DOOR POST VERTICAL" DETAIL, "DETAIL B" AND SPECIAL NOTES 1 AND 2 ON PAGE 9.
- ⑧ DOOR POST VERTICAL RETAINER, (2 REQD). SEE THE "DOOR POST VERTICAL RETAINER" DETAILS ON PAGE 8 AND "DETAIL A" ON PAGE 9. NAIL THRU HOLES INTO DOOR POST VERTICAL W/4-10d NAILS.
- ⑨ DOOR SPANNER, 4" X 4" MATERIAL, CUT TO A LENGTH THAT WILL PROVIDE FOR A DRIVE FIT (REF: 7"-1-3/8") (3 REQD). TOENAIL TO THE DOOR POST VERTICALS W/2-12d NAILS AT EACH END, SEE THE "BEVEL-CUT" DETAIL ON PAGE 9.
- ⑩ FILL MATERIAL, 1" X 6" X 7'-0" LONG MATERIAL (AS REQD). NAIL TO THE REAR BLOCKING ASSEMBLY W/8 NAILS OF A SUITABLE SIZE. **CAUTION:** DO NOT NAIL TO THE DOOR POST VERTICALS, PIECES MARKED ⑦.

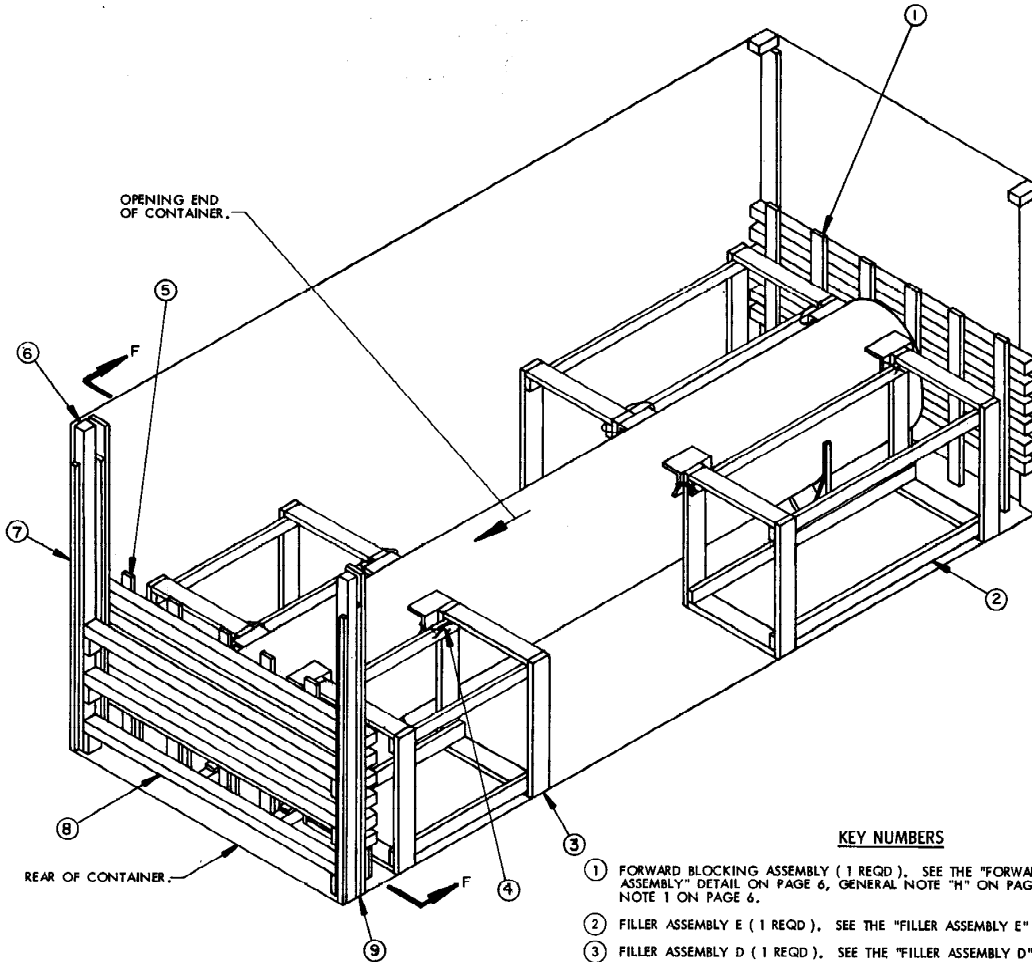
SPECIAL NOTES:

1. THE LOAD AS SHOWN ON PAGE 16 DEPICTS A TWO-CONTAINER LOAD IN A COMMERCIAL CONTAINER.
2. PRIOR TO LOADING THE MISSILE CONTAINERS INTO THE COMMERCIAL CONTAINER, SEE THE "UNITIZATION AND HANDLING PROCEDURAL GUIDANCE" ON PAGE 3 FOR HANDLING OF THE MISSILE CONTAINERS.

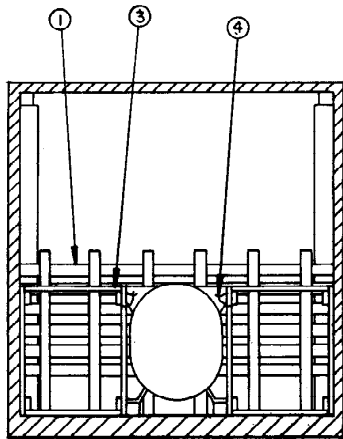
BILL OF MATERIAL		
LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	40	14
1" X 6"	247	124
2" X 4"	85	57
2" X 6"	45	45
4" X 4"	129	172
NAILS	NO. REQD	POUNDS
6d (2")	124	3/4
10d (3")	322	5-3/4
12d (3-1/4")	12	1/4
WIRE NO. 14 GAGE	20' REQD	1/2 LB
DOOR POST VERTICAL RETAINER	2 REQD	64 LBS

LOAD AS SHOWN

ITEM	QUANTITY	WEIGHT (APPROX)
M430 OR M411 CONTAINER	2	6,690 LBS
DAMAGE		386 LBS
CONTAINER		4,700 LBS
TOTAL GROSS WEIGHT		12,286 LBS



ISOMETRIC VIEW



SECTION F-F

KEY NUMBERS

- ① FORWARD BLOCKING ASSEMBLY (1 REQD). SEE THE "FORWARD BLOCKING ASSEMBLY" DETAIL ON PAGE 6, GENERAL NOTE "H" ON PAGE 2, AND SPECIAL NOTE 1 ON PAGE 6.
- ② FILLER ASSEMBLY E (1 REQD). SEE THE "FILLER ASSEMBLY E" DETAIL ON PAGE 19.
- ③ FILLER ASSEMBLY D (1 REQD). SEE THE "FILLER ASSEMBLY D" DETAIL ON PAGE 19.
- ④ TIE WIRE, NO. 14 GAGE WIRE 30" LONG (8 REQD). INSTALL TO FORM A COMPLETE LOOP AROUND THE LIFTING/TIE-DOWN DEVICE AND THE VERTICAL PIECE OF THE FILLER ASSEMBLY, BRING ENDS TOGETHER AND TWIST TAUT.
- ⑤ REAR BLOCKING ASSEMBLY (1 REQD). SEE THE "REAR BLOCKING ASSEMBLY" DETAIL AND SPECIAL NOTE 1 ON PAGE 7 AND GENERAL NOTE "H" ON PAGE 2.
- ⑥ DOOR POST VERTICAL (2 REQD). SEE THE "DOOR POST VERTICAL" DETAIL, "DETAIL B" AND SPECIAL NOTES 1 AND 2 ON PAGE 9.
- ⑦ DOOR POST VERTICAL RETAINER (2 REQD). SEE THE "DOOR POST VERTICAL RETAINER" DETAILS ON PAGE 8 AND "DETAIL A" ON PAGE 9. NAIL THRU HOLES INTO DOOR POST VERTICAL W/4-10d NAILS.
- ⑧ DOOR SPANNER, 4" X 4" MATERIAL, CUT TO A LENGTH THAT WILL PROVIDE FOR A DRIVE FIT (REF: 7'-1-3/8") (3 REQD). TOENAIL TO THE DOOR POST VERTICALS W/2-12d NAILS AT EACH END. SEE THE "BEVEL-CUT" DETAIL ON PAGE 9.
- ⑨ FILL MATERIAL, 1" X 6" X 7'-0" LONG MATERIAL (AS REQD). NAIL TO THE REAR BLOCKING ASSEMBLY W/8 NAILS OF A SUITABLE SIZE. CAUTION: DO NOT NAIL TO THE DOOR POST VERTICALS, PIECES MARKED ⑥.

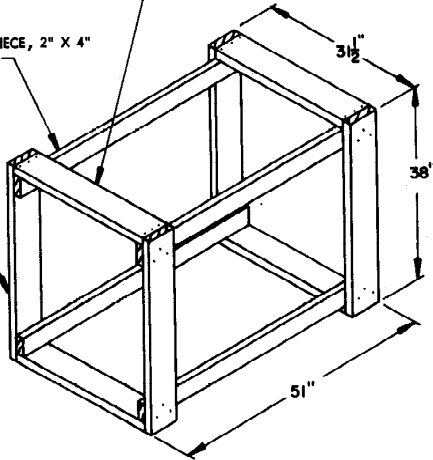
SPECIAL NOTES:

1. THE LOAD AS SHOWN ON PAGE 18 DEPICTS A ONE-CONTAINER LOAD IN A COMMERCIAL CONTAINER.
2. PRIOR TO LOADING THE MISSILE CONTAINER INTO THE COMMERCIAL CONTAINER, SEE THE "UNITIZATION AND HANDLING PROCEDURAL GUIDANCE" ON PAGE 3 FOR HANDLING OF THE MISSILE CONTAINER.

LATERAL PIECE, 2" X 6" X 28-1/2"
(4 REQD). NAIL TO THE LONGITUDINAL
PIECES W/3-10d NAILS AT EACH END.

LONGITUDINAL PIECE, 2" X 4"
X 51" (4 REQD).

VERTICAL PIECE,
2" X 6" X 38"
(4 REQD). NAIL
TO THE LONGI-
TUDINAL PIECES
W/3-10d NAILS
AT EACH END.

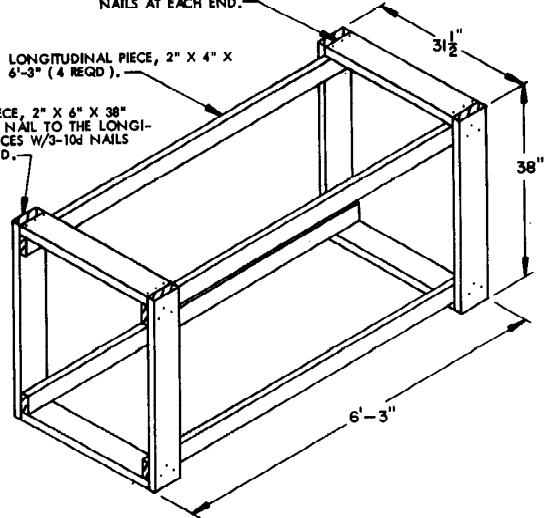


FILLER ASSEMBLY D

LATERAL PIECE, 2" X 6" X 28-1/2" (4 REQD).
NAIL TO THE LONGITUDINAL PIECES W/3-10d
NAILS AT EACH END.

LONGITUDINAL PIECE, 2" X 4" X
6'-3" (4 REQD).

VERTICAL PIECE, 2" X 6" X 38"
(4 REQD). NAIL TO THE LONGI-
TUDINAL PIECES W/3-10d NAILS
AT EACH END.



FILLER ASSEMBLY E

BILL OF MATERIAL

LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	40	14
1" X 6"	45	23
2" X 4"	127	85
2" X 6"	89	89
4" X 4"	129	172
NAILS	NO. REQD	POUNDS
6d (2")	16	1/4
10d (3")	458	7-1/4
12d (3-1/4")	12	1/4
WIRE, NO. 14 GAGE	20' REQD	1/2 LB
DOOR POST VERTICAL RETAINER	2 REQD	64 LBS

LOAD AS SHOWN

ITEM	QUANTITY	WEIGHT (APPROX)
M430 OR M611 CONTAINER	1	3,345 LBS
DUNNAGE		839 LBS
CONTAINER		4,700 LBS
TOTAL GROSS WEIGHT		8,884 LBS

