

|  |   |
|--|---|
| APPROVED BY<br>U.S. COAST GUARD<br><i>[Signature]</i><br>5/24/73 | APPROVED BY<br>BUREAU OF EXPLOSIVES<br><i>[Signature]</i><br>4/4/73 |
| REVISION NO 1<br><i>[Signature]</i><br>DATE 8/12/77              | REVISION NO 1<br><i>[Signature]</i><br>DATE 8/12/77                 |

## HAWK

# LOADING AND BRACING<sup>⊕</sup> IN MILVAN CONTAINERS<sup>⊕</sup> OF COMPLETE ROUND, PACKED IN THE M430 OR M611 CONTAINER, FOR SHIPMENT BY T/COFC CARRIER

⊙ LOADING 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 OR AIR CARRIERS. SEE GENERAL NOTE "P" ON PAGE 2.

⊕ ONLY MILVAN CONTAINERS WHICH HAVE BEEN MODIFIED TO INCLUDE A MECHANICAL LOAD-BRACING SYSTEM THAT SATISFIES THE REQUIREMENTS OF THE BUREAU OF EXPLOSIVES PAMPHLET 6C WILL BE USED FOR THE MOVEMENT OF AMMUNITION BY T/COFC SERVICE. CAUTION: OTHER REQUIREMENTS OF PAMPHLET 6C ALSO APPLY.

| <u>ITEM</u>                                     | <u>INDEX</u> | <u>PAGE(S)</u> |
|---|--------------|----------------|
| GENERAL NOTES, AND MATERIAL SPECIFICATIONS----- |              | 2              |
| UNITIZATION AND HANDLING PROCEDURES-----        |              | 3              |
| SIX-CONTAINER LOAD-----                         |              | 4, 5           |
| FIVE-CONTAINER LOAD-----                        |              | 8, 9           |
| FOUR-CONTAINER LOAD-----                        |              | 10, 11         |
| THREE-CONTAINER LOAD-----                       |              | 12, 13         |
| TWO-CONTAINER LOAD-----                         |              | 14             |
| ONE-CONTAINER LOAD-----                         |              | 15             |

| REVISIONS   |          |                    |                    | DESIGNED BY<br><i>[Signature]</i> | DRAWN BY<br><i>[Signature]</i> |
|---|----------|--------------------|--------------------|-----------------------------------|--------------------------------|
| 1   | JUL 74   | <i>[Signature]</i> | <i>[Signature]</i> | <i>[Signature]</i>                | <i>[Signature]</i>             |
|   |          |                    |                    | <i>[Signature]</i>                |                                |
|   |          |                    |                    | <i>[Signature]</i>                |                                |
| APPROVED BY CHIEF OF CENTER OF EXPLOSIVES RESEARCH<br>U. S. ARMY MATERIAL COMMAND |          |                    |                    |                                   |                                |
| <i>[Signature]</i>  |          |                    |                    |                                   |                                |
| U. S. ARMY MATERIEL COMMAND   |          |                    |                    |                                   |                                |
| JUNE 1973   |          |                    |                    |                                   |                                |
| CLASS   | DIVISION | DRAWING            | FILE               |                                   |                                |
| 19  | 48       | 5937               | GM<br>15HA3        |                                   |                                |

**DO NOT SCALE**

(GENERAL NOTES CONTINUED)

GENERAL NOTES

- A. THIS DOCUMENT HAS BEEN PREPARED AND ISSUED IN ACCORDANCE WITH AMCR 740-13, AND AUGMENTS TM 743-200-1 (CHAPTER 3).
- 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 LOADS AS SHOWN ARE BASED ON A 20' LONG BY 8' WIDE BY 8' HIGH MILVAN CONTAINER WITH INSIDE DIMENSIONS OF 19'-4" LONG BY 92" WIDE BY 87" HIGH. THE LOADS ARE DESIGNED FOR TRAILER/CONTAINER-ON-FLAT-CAR SERVICE.
- F. THE SPECIFIED OUTLOADING PROCEDURES ARE FOR CONTAINERS EQUIPPED WITH SELF-CONTAINED MECHANICAL BRACING DEVICES AS DESCRIBED WITHIN BUREAU OF EXPLOSIVES PAMPHLET 6C. CROSS MEMBER ATTACHMENT FACILITIES WITHIN THESE CONTAINERS MUST PROVIDE FOR THE INSTALLATION OF LOAD BLOCKING CROSS MEMBERS AT THE HEIGHTS SPECIFIED. THE HEIGHT DIMENSIONS SPECIFIED WITHIN THIS DRAWING FOR THE INSTALLATION OF CROSS MEMBERS CONFORM WITH BUREAU OF EXPLOSIVES PAMPHLET 6C, WITH THE EXCEPTION THAT TWO (2) ADDITIONAL BELT RAILS HAVE BEEN SHOWN; ONE AT 72" AND ONE AT 83" HEIGHT FROM THE CONTAINER FLOOR. VOIDS LENGTHWISE WITHIN THE LOAD MUST BE HELD TO A MINIMUM. CROSS MEMBERS MUST BE PLACED AGAINST THE LADING AS TIGHTLY AS THE HOLE SPACING IN THE CROSS MEMBER ATTACHMENT FACILITY PERMITS. EACH CROSS MEMBER WILL BE INSTALLED WITH THE ENDS ATTACHED AS NEARLY AS POSSIBLE IN "MATED" POSITIONS (AT EQUAL HEIGHTS AND AT EQUAL DISTANCES FROM THE END OF THE CONTAINER). CROSS MEMBERS IN EMPTY CONTAINERS AND THOSE NOT USED IN LOADED CONTAINERS MUST BE FASTENED INTO BELT RAILS FOR SHIPMENT. COMPONENTS ASSIGNED TO EACH CONTAINER MUST REMAIN THEREWITH EVEN THOUGH UNUSED DURING SOME SHIPMENTS. SEE THE "FILL DETAIL" ON PAGE 16 FOR THE DUNNAGING METHOD REQUIRED TO ELIMINATE AN EXCESSIVE LENGTHWISE VOID WITH A LOAD. THE LOAD BLOCKING COMPONENT DESIGNATED AS "CROSS MEMBER", HEREIN, IS IDENTIFIED AS "BEAM ASSEMBLY" WITHIN TM 55-8115-200-24, DATED SEPTEMBER 1972. THE BEAM ASSEMBLY IS FURTHER IDENTIFIED AS NSN 8115-00-165-6623 (FSN 8115-165-6623).
- G. VOIDS BETWEEN THE FILL ASSEMBLIES AND THE LADING MUST NOT EXCEED ONE-HALF INCH (1/2"). ADDITIONAL MATERIAL MAY BE ADDED, OR THINNER MATERIAL MAY BE USED TO ACHIEVE THE PROPER THICKNESS AS REQUIRED.
- H. IF 1-3/8" THICK DIMENSIONAL LUMBER IS NOT AVAILABLE FOR THE SPECIFIED FILL MATERIAL, PIECES CAN BE MADE BY PLANING NOMINAL 2" X 4" MATERIAL TO THE PROPER THICKNESS. ALSO, STRIPS OF PLYWOOD CAN BE USED AS FILL MATERIAL. USE PLYWOOD OF DIFFERENT THICKNESS TO ACHIEVE THE SPECIFIED 1-3/8".
- J. DUNNAGE LUMBER SPECIFIED IS OF A NOMINAL SIZE. FOR EXAMPLE, 1" X 4" MATERIAL IS ACTUALLY 3/4" THICK BY 3-1/2" OR 3-5/8" WIDE AND 2" X 6" MATERIAL IS ACTUALLY 1-1/2" THICK BY 5-1/2" WIDE OR 1-5/8" THICK BY 5-5/8" WIDE UNLESS OTHERWISE SPECIFIED.
- K. CAUTION: DO NOT NAIL DUNNAGE MATERIAL TO THE CONTAINER WALLS OR FLOOR. ALL NAILING WILL BE WITHIN THE DUNNAGE.
- L. 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.
- M. PORTIONS OF THE CONTAINER DEPICTED WITHIN THIS DRAWING, SUCH AS ONE OF THE SIDE WALLS, HAVE NOT BEEN SHOWN IN THE LOAD VIEWS FOR CLARITY PURPOSES.

(CONTINUED AT RIGHT)

MATERIAL SPECIFICATIONS

- LUMBER -----: SEE TM 743-200-1, DUNNAGE LUMBER; FED SPEC MM-L-751.
- NAILS -----: COMMON, CEMENT COATED OR CHEMICALLY ETCHED; FED SPEC FF-N-105.  
ALT: ANNULAR-RING TYPE NAIL OF THE SAME SIZE.
- WIRE -----: FED SPEC QQ-W-461.
- STRAPPING, STEEL -----: TYPE I OR IV, FINISH A OR B; FED SPEC QQ-S-781.
- SEAL, STRAP;  
STAPLE, STRAP -----: COMMERCIAL GRADE.
- ANTI-CHAFING MATERIAL: NEUTRAL BARRIER MATERIAL MIL-B-121 OR EQUAL.

- N. WHEN ANY STRAP IS SEALED AT AN END-OVER-END LAP JOINT, TWO (2) SEALS, BUTTED TOGETHER, WITH TWO (2) PAIR OF CRIMPS PER SEAL MUST BE USED TO SEAL THE JOINT. WHEN ANY STRAP IS INSTALLED AROUND A BELT RAIL WITH A LAP-BACK-ON-SELF JOINT, ONE (1) SEAL WITH TWO (2) PAIR OF CRIMPS WILL BE USED.

O. MAXIMUM LOAD WEIGHT CRITERIA:

THE ITEMIZED LOAD WEIGHTS ARE CONTROLLED BY EQUIPMENT CAPABILITY FACTORS. ALSO, THESE LISTED LOAD WEIGHTS IDENTIFY THE COMBINED WEIGHT OF AMMUNITION LADING UNITS AND DUNNAGE THAT CAN BE PLACED INTO ONE MILVAN CONTAINER WITHOUT VIOLATING ONE OR MORE OF THE "CAPABILITY FACTORS". SEE NOTES 1 AND 2.

- 39,100 LBS IN 20-FT CONTAINER (W/O CHASSIS) ABOARD CONTAINERSHIP.
- 39,100 LBS IN CONTAINER ON 20-FT CHASSIS WITH DOUBLE BOGIE. SEE NOTE 3.
- 25,300 LBS IN CONTAINER ON 20-FT CHASSIS WITH SINGLE BOGIE. SEE NOTE 4.
- 21,300 LBS IN EACH CONTAINER ON 40-FT CHASSIS (COUPLED WITH DOUBLE BOGIE). SEE NOTE 3.
- 19,300 LBS IN 20-FT CONTAINER (W/O CHASSIS) ABOARD FIXED-WING AIRCRAFT
- 39,100 LBS IN 20-FT CONTAINER (W/O CHASSIS) FOR ROTARY-WING AIRCRAFT. SEE NOTE 5.

NOTE 1: DUNNAGE INCLUDES MATERIALS, OTHER THAN COMPONENTS OF THE MECHANICAL LOAD-BRACING SYSTEM, USED TO BLOCK AND BRACE A LOAD.

NOTE 2: ALTHOUGH THE HEAVIEST MAXIMUM LOADS ARE DELINEATED IN THE LOAD VIEWS, PROVISIONS ARE INCLUDED WITHIN THIS DRAWING SO THAT THE BASIC LOADS CAN BE ADJUSTED TO SATISFY A LESSER QUANTITY OF LADING UNITS. ADDITIONAL INSTRUCTIONS ARE FURNISHED IN THE "SPECIAL NOTE (5)" SECTION FOR EACH LOAD VIEW.

NOTE 3: DEPENDING ON TRANSPORTATION ROUTING, IT MAY BE NECESSARY TO REDUCE THE LOAD WEIGHT TO SATISFY "WEIGHT LAWS" OF CERTAIN STATES. ALSO, IT MAY BE NECESSARY TO REDUCE THE LOAD WEIGHT TO SATISFY OTHER WEIGHT RESTRICTIONS IMPOSED ON THE MILVAN SYSTEM.

NOTE 4: BY SPECIAL AUTHORITY, IT MAY BE POSSIBLE TO MOVE HEAVIER LOADS ON SINGLE BOGIE CHASSIS WITHIN AN INSTALLATION.

NOTE 5: IT WILL BE NECESSARY TO REDUCE THE WEIGHT OF SOME LOADS TO BE MOVED BY ROTARY-WINGED AIRCRAFT, DEPENDING ON THE "LIFT" CAPABILITY OF THE SCHEDULED AIRCRAFT.

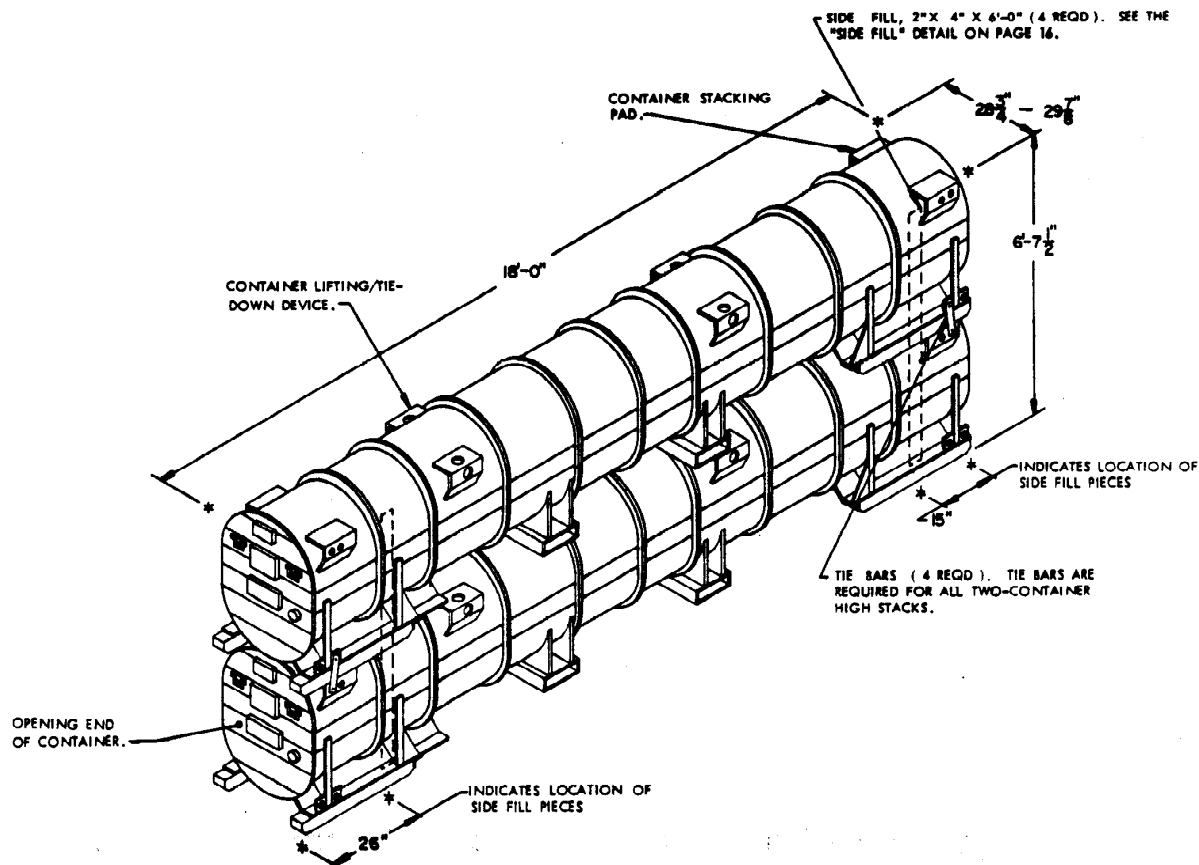
P. SPECIAL T/COFC NOTES:

- 1. CAUTION: LOADED CONTAINERS MUST BE ON CHASSIS EQUIPPED WITH TWO BOGIE ASSEMBLIES WHEN BEING MOVED IN TOFC SERVICE, REGARDLESS OF LOAD WEIGHT WITHIN THE CONTAINERS.
- 2. LOAD LIMITS OF T/COFC RAIL CARS 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.
- 3. CHASSIS/CONTAINERS COUPLED INTO A 40-FOOT TRAILER CONFIGURATION MUST BE PLACED AT THE B-END OF A TOFC RAIL CAR. THE REAR END OF THE 40-FOOT UNIT WILL OVER-HANG THE END OF THE CAR IF IT IS PLACED AT THE A-END. TWENTY-FOOT AND 40-FOOT UNITS CAN BE LOADED ON THE SAME CAR.

REVISIONS

REVISION NO. 1, DATED JULY 1974, CONSISTS OF:

- 1. ADJUSTING THE THICKNESS OF THE ANTI-CHAFING ASSEMBLIES.
- 2. UPDATING GENERAL NOTES AND SPECIAL NOTES.



### 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.

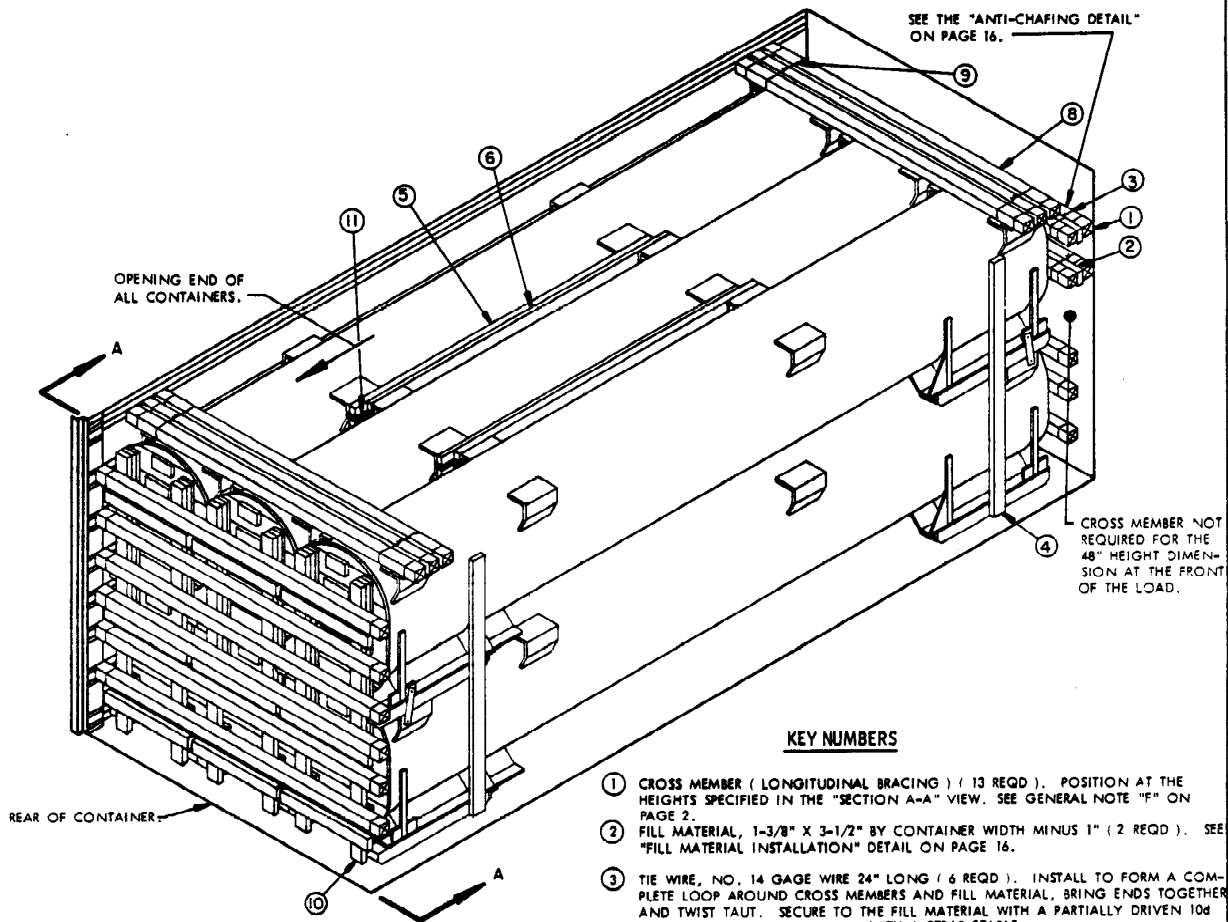
(2) PRECAUTIONARY HANDLING TECHNIQUES NORMALLY EMPLOYED OR AS SPECIFIED FOR THE TYPE OF COMMODITY INVOLVED WILL BE OBSERVED.

- 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 MILVAN 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.

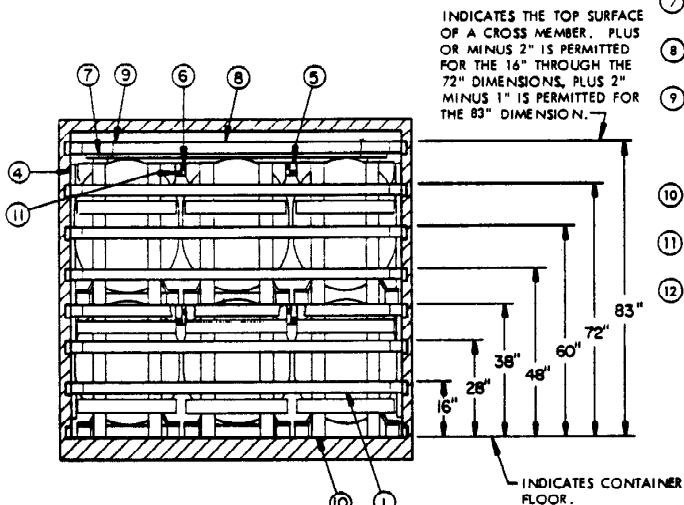
(CONTINUED AT RIGHT)

#### (UNITIZING AND HANDLING PROCEDURAL GUIDANCE CONTINUED)

- D. THE DUNNAGE AND BRACING COMPONENTS AT THE FRONT AND ALONG THE SIDE WALLS OF THE MILVAN CONTAINER MUST BE PRE-POSITIONED BEFORE THE CONTAINER STACKS ARE LOADED INTO THE MILVAN CONTAINER. THE CONTAINER STACKS ADJACENT TO THE MILVAN CONTAINER SIDE WALLS MUST BE POSITIONED INTO THE MILVAN CONTAINER FIRST. AFTER THE HOLD-DOWN ASSEMBLY, FILL MATERIAL AND THE ANTI-CHAPING ASSEMBLIES HAVE BEEN INSTALLED, THE CENTER CONTAINER STACK CAN BE SLID INTO POSITION AGAINST THE FORWARD CROSS MEMBER, UNDER THE FILL ASSEMBLIES AND THE CROSS MEMBERS.
- E. ACCESS TO THE FRONT OF A MILVAN 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 CROSS MEMBER ( LONGITUDINAL BRACING ) ( 13 REQD ). POSITION AT THE HEIGHTS SPECIFIED IN THE "SECTION A-A" VIEW. SEE GENERAL NOTE "F" ON PAGE 2.
- ② FILL MATERIAL, 1-3/8" X 3-1/2" BY CONTAINER WIDTH MINUS 1" ( 2 REQD ). SEE "FILL MATERIAL INSTALLATION" DETAIL ON PAGE 16.
- ③ TIE WIRE, NO. 14 GAGE WIRE 24" LONG ( 6 REQD ). INSTALL TO FORM A COMPLETE LOOP AROUND CROSS MEMBERS AND FILL MATERIAL, BRING ENDS TOGETHER AND TWIST TAUT. SECURE TO THE FILL MATERIAL WITH A PARTIALLY DRIVEN 10d NAIL BENT OVER THE WIRE, OR WITH A STRAP STAPLE.
- ④ SIDE FILL, 2" X 4" X 6'-0" ( 4 REQD ). SEE THE "SIDE FILL" DETAIL ON PAGE 16.
- ⑤ ANTI-CHAFING BOARD, 2" X 6" X 8'-0" ( 4 REQD ). SEE THE "ANTI-CHAFING ASSEMBLY" DETAIL ON PAGE 6. SEE SPECIAL NOTE 3 ON PAGE 5.
- ⑥ ANTI-CHAFING BOARD, 1" X 6" X 8'-0" ( 4 REQD ). SEE THE "ANTI-CHAFING ASSEMBLY" DETAIL ON PAGE 6.
- ⑦ FILL ASSEMBLY ( 2 REQD ). SEE THE "FILL ASSEMBLY A" DETAIL ON PAGE 7. SEE GENERAL NOTE "G" ON PAGE 2.
- ⑧ CROSS MEMBER ( HOLD-DOWN ) ( 6 REQD ). POSITION AT THE HEIGHT SPECIFIED IN THE "SECTION A-A" VIEW.
- ⑨ TIE WIRE, NO. 14 GAGE WIRE 30" LONG ( 4 REQD ). INSTALL TO FORM A COMPLETE LOOP AROUND THE FILL ASSEMBLY AND THE HOLD-DOWN CROSS MEMBERS, BRING THE ENDS TOGETHER AND TWIST TAUT. SECURE TO THE FILL ASSEMBLY WITH A PARTIALLY DRIVEN 10d NAIL BENT OVER THE WIRE, OR WITH A STRAP STAPLE.
- ⑩ LOAD BEARING GATE ( 3 REQD ). SEE THE "LOAD BEARING GATE" DETAIL ON PAGE 7.
- ⑪ RETAINER STRAP, 1-1/4" X .035" X 17'-6" LONG STEEL STRAPPING ( 8 REQD ). SEE THE "ANTI-CHAFING ASSEMBLY" DETAIL ON PAGE 6.
- ⑫ SEAL FOR 1-1/4" STEEL STRAP ( 8 REQD ). SEE GENERAL NOTE "N" ON PAGE 2 AND "ANTI-CHAFING ASSEMBLY" DETAIL ON PAGE 6.

SIX-CONTAINER LOAD

**SPECIAL NOTES:**

1. THE LOAD AS SHOWN ON PAGE 4 DEPICTS A SIX-CONTAINER LOAD IN A MILVAN CONTAINER.
2. PRIOR TO LOADING THE MISSILE CONTAINERS INTO THE MILVAN CONTAINER, SEE THE "UNITIZATION AND HANDLING PROCEDURAL GUIDANCE" ON PAGE 3 FOR HANDLING 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 PICES ON ONE OR BOTH SETS OF THE ANTI-CHAFING ASSEMBLY. SEE SPECIAL NOTE 4.
4. IF DESIRED, THE "ALTERNATIVE ANTI-CHAFING ASSEMBLY" DETAIL SHOWN ON PAGE 6 MAY BE USED IN LIEU OF THE "ANTI-CHAFING ASSEMBLY", ALSO DEPICTED ON PAGE 6. EASE OF HANDLING, LOADING, AND UNLOADING THE MISSILE CONTAINERS MUST BE CONSIDERED WHEN SELECTING A PROCEDURE.

**BILL OF MATERIAL**

| LUMBER                    | LINEAR FEET | BOARD FEET |
|---------------------------|-------------|------------|
| 1" X 4"                   | 56          | 19         |
| 1" X 6"                   | 32          | 16         |
| * 1-3/8" X 3-1/2"         | 15          | 10         |
| 2" X 4"                   | 110         | 73         |
| 2" X 6"                   | 32          | 32         |
| NAILS                     | NO. REQD    | POUNDS     |
| 6d (2")                   | 120         | 3/4        |
| 10d (3")                  | 156         | 2-1/2      |
| WIRE, NO. 14 GAGE         | 34' REQD    | 1/2 LB     |
| ANTI-CHAFING MATERIAL     | AS REQD     | NIL        |
| STEEL STRAPPING, 1-1/4"   | 140' REQD   | 20 LBS     |
| SEAL FOR 1-1/4" STRAPPING | 8 REQD      | NIL        |
| CROSS MEMBER              | 19 REQD     |            |

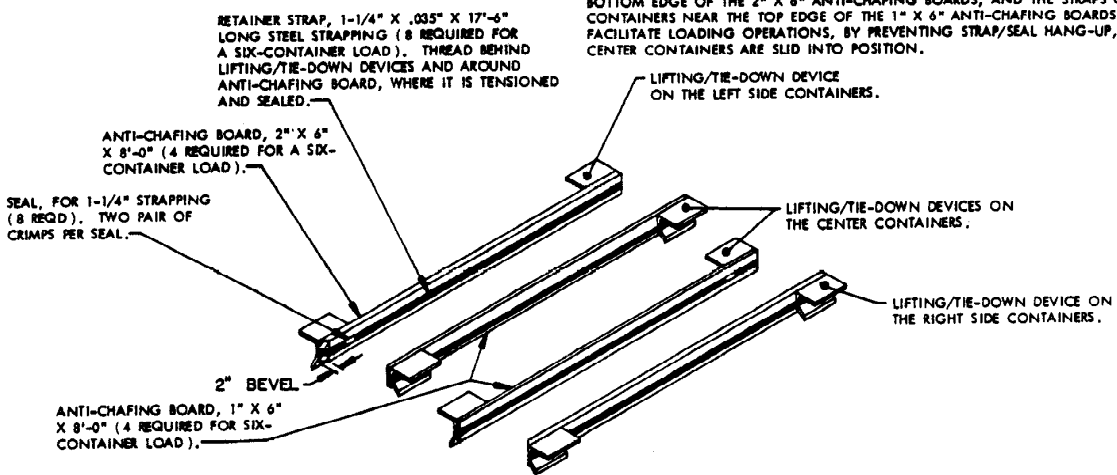
\* SEE GENERAL NOTE "H" ON PAGE 2.

**LOAD AS SHOWN**

| ITEM                      | QUANTITY | WEIGHT (APPROX)   |
|---------------------------|----------|-------------------|
| M436 OR M611 CONTAINER    | 6        | 20,070 LBS        |
| DUNNAGE CONTAINER         |          | 399 LBS           |
|                           |          | 3,700 LBS         |
| <b>TOTAL GROSS WEIGHT</b> |          | <b>26,169 LBS</b> |

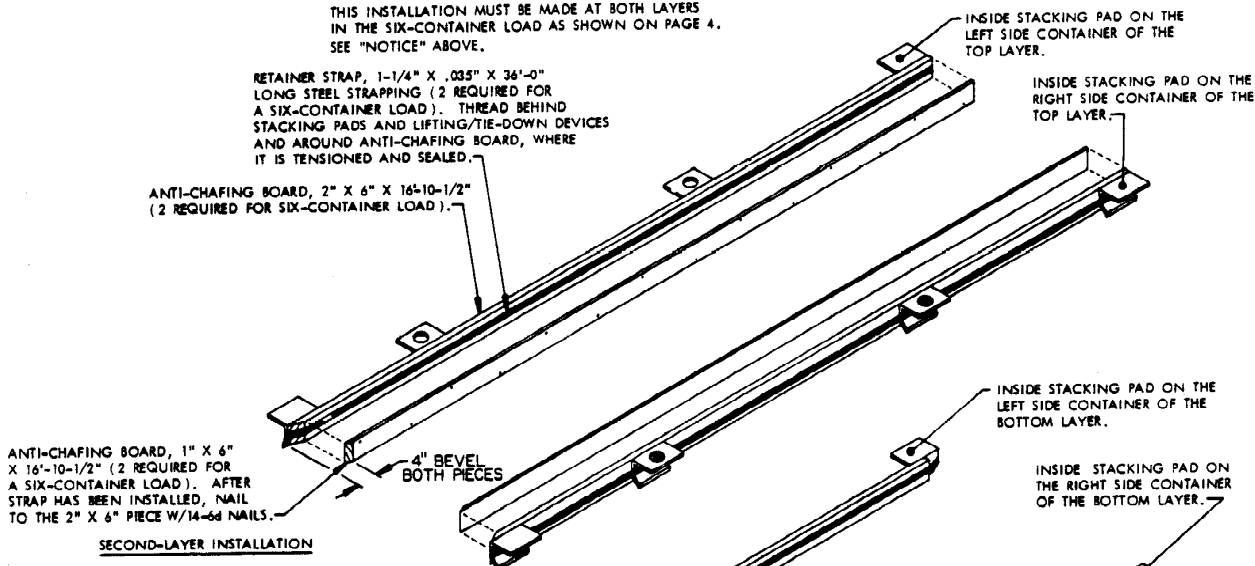
**NOTICE:**

WHEN ANTI-CHAFING ASSEMBLIES ARE INSTALLED ON LATERALLY ADJACENT CONTAINERS, THE RETAINER STRAPS MUST BE LOCATED SO THAT THE STRAPS ON THE OUTSIDE CONTAINERS DO NOT CONTACT THE STRAPS ON THE CENTER CONTAINERS. THIS CAN BE ACCOMPLISHED BY INSTALLING THE STRAPS ON THE OUTSIDE CONTAINERS NEAR THE BOTTOM EDGE OF THE 2" X 6" ANTI-CHAFING BOARDS, AND THE STRAPS ON THE CENTER CONTAINERS NEAR THE TOP EDGE OF THE 1" X 6" ANTI-CHAFING BOARDS. THIS WILL FACILITATE LOADING OPERATIONS, BY PREVENTING STRAP/SEAL HANG-UP, WHEN THE CENTER CONTAINERS ARE SLID INTO POSITION.



**ANTI-CHAFING ASSEMBLY**

THIS INSTALLATION MUST BE MADE AT BOTH LAYERS IN THE SIX-CONTAINER LOAD AS SHOWN ON PAGE 4. SEE "NOTICE" ABOVE.



RETAINER STRAP, 1-1/4" X .035" X 36'-0" LONG STEEL STRAPPING (2 REQUIRED FOR A SIX-CONTAINER LOAD). THREAD BEHIND THE CONTAINER STACKING PADS AND LIFTING/TIE-DOWN DEVICES AND AROUND ANTI-CHAFING BOARD, WHERE IT IS TENSIONED AND SEALED.

ANTI-CHAFING BOARD, 2" X 6" X 16'-0" (2 REQUIRED FOR A SIX-CONTAINER LOAD).

SEAL, FOR 1-1/4" STRAPPING (4 REQD.). TWO PAIR OF CRIMPS PER SEAL.

2" BEVEL BOTH PIECES

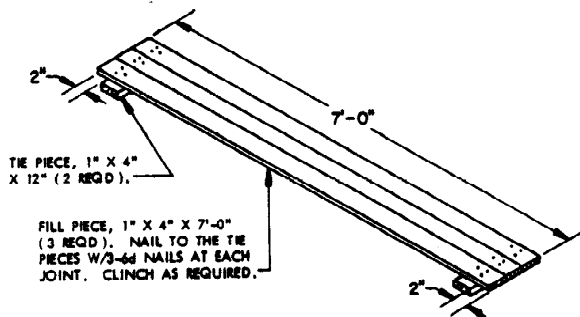
OUTSIDE CONTAINER LIFTING/TIE-DOWN DEVICES.

**FIRST LAYER INSTALLATION**

**ALTERNATIVE ANTI-CHAFING ASSEMBLY**

THIS INSTALLATION WILL BE MADE ON THE OUTSIDE CONTAINERS ONLY, THE CENTER CONTAINER WILL NOT HAVE DUNNAGE ATTACHED AS SHOWN IN THE SIX-CONTAINER LOAD SHOWN ON PAGE 4.

**DETAILS**

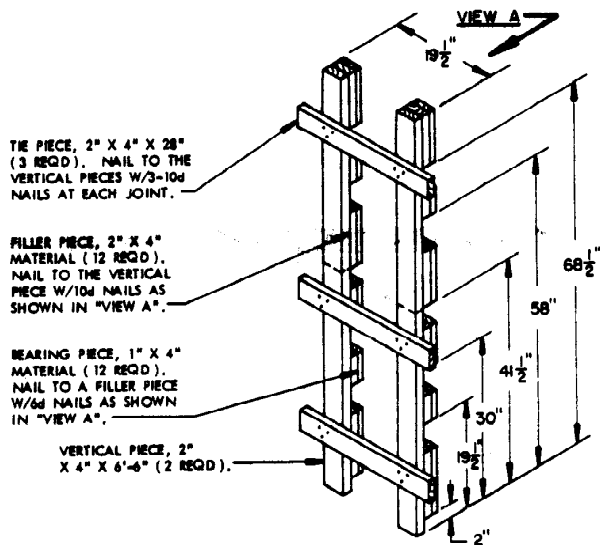


TIE PIECE, 1" X 4" X 12" (2 REQD).

FILL PIECE, 1" X 4" X 7'-0" (3 REQD). NAIL TO THE TIE PIECES W/3-6d NAILS AT EACH JOINT. CLINCH AS REQUIRED.

**FILL ASSEMBLY A**

SEE GENERAL NOTE "G" ON PAGE 2.



TIE PIECE, 2" X 4" X 28" (3 REQD). NAIL TO THE VERTICAL PIECES W/3-10d NAILS AT EACH JOINT.

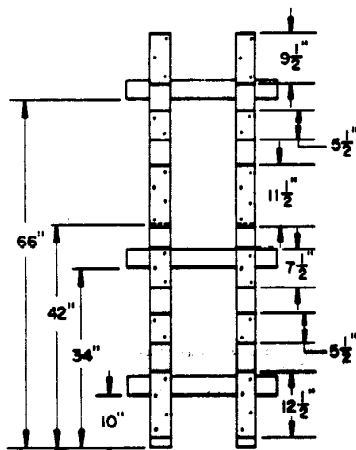
FILLER PIECE, 2" X 4" MATERIAL (12 REQD). NAIL TO THE VERTICAL PIECE W/10d NAILS AS SHOWN IN "VIEW A".

BEARING PIECE, 1" X 4" MATERIAL (12 REQD). NAIL TO A FILLER PIECE W/6d NAILS AS SHOWN IN "VIEW A".

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

**LOAD BEARING GATE**

TO CONFORM WITH THE CRITERIA OF GENERAL NOTE "F" ON PAGE 2, ADDITIONAL VERTICAL PIECES OF A THICKNESS TO SUIT MAY BE ADDED TO THE VERTICAL PIECES, PRIOR TO INSTALLING THE TIE PIECES. LAMINATE THE ADDITIONAL PIECES WITH SEVEN (7) PROPERLY SIZED NAILS EACH.

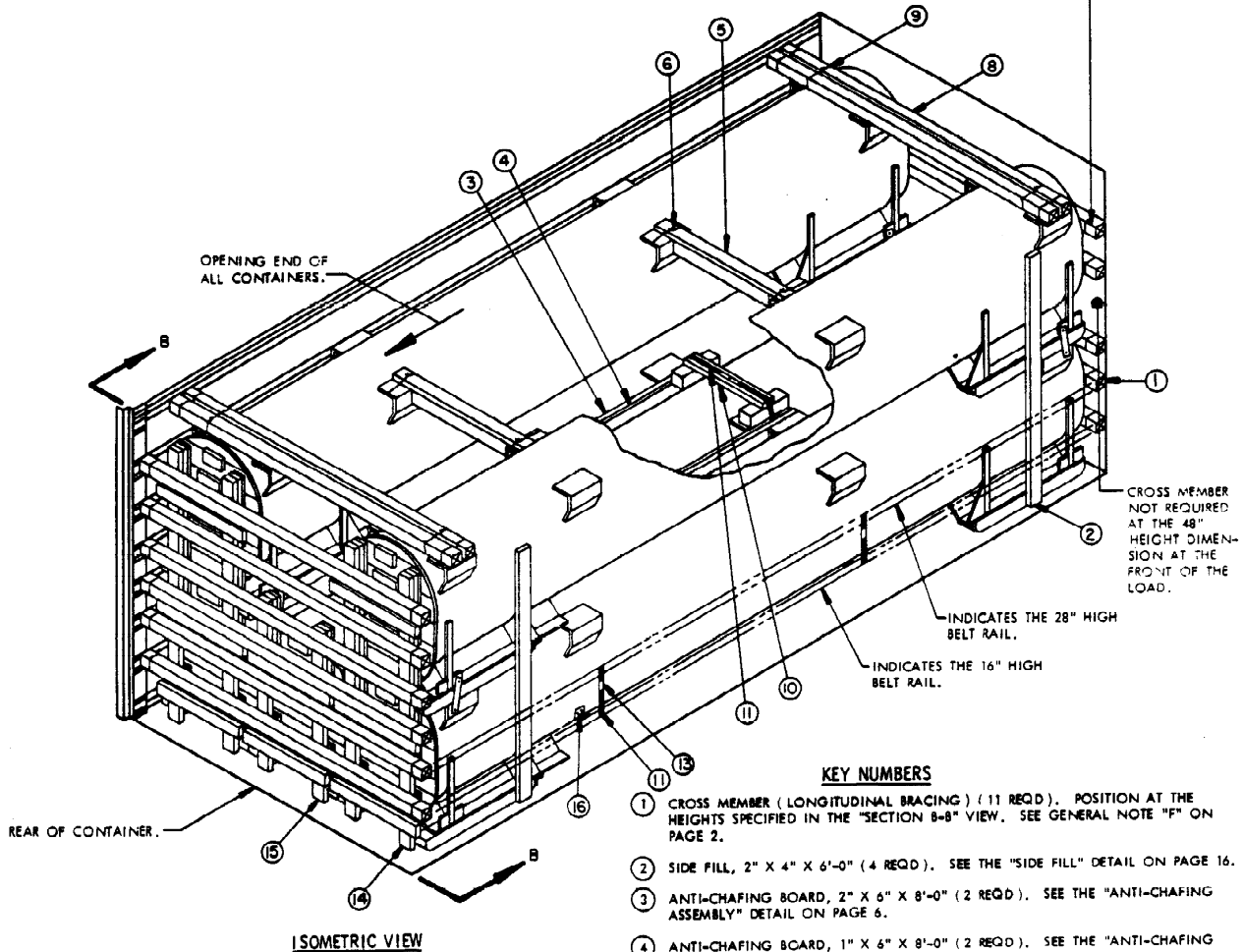


**VIEW A**

INDICATES HEIGHT FOR A ONE-CONTAINER HIGH STACK.

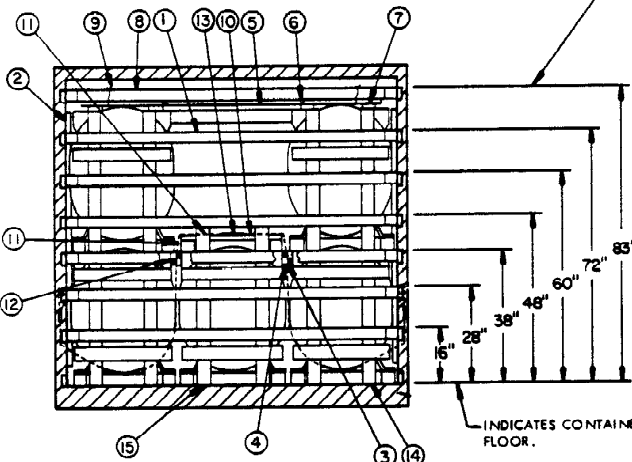
**DETAILS**

SEE THE "ANTI-CHAFING DETAIL"  
ON PAGE 16.



**ISOMETRIC VIEW**

INDICATES THE TOP SURFACE OF A CROSS MEMBER. PLUS OR MINUS 2" IS PERMITTED FOR THE 16" THROUGH THE 72" DIMENSIONS, PLUS 2" MINUS 1" IS PERMITTED FOR THE 83" DIMENSION.



**SECTION B-B**

**KEY NUMBERS**

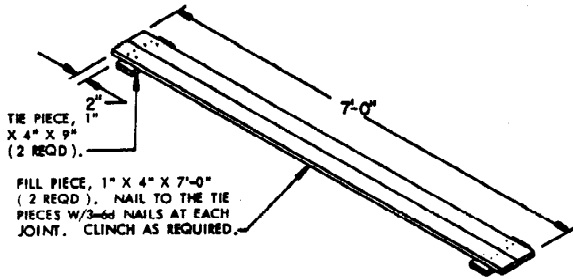
- 1 CROSS MEMBER (LONGITUDINAL BRACING) (11 REQD.). POSITION AT THE HEIGHTS SPECIFIED IN THE "SECTION B-B" VIEW. SEE GENERAL NOTE "F" ON PAGE 2.
- 2 SIDE FILL, 2" X 4" X 6'-0" (4 REQD.). SEE THE "SIDE FILL" DETAIL ON PAGE 16.
- 3 ANTI-CHAFING BOARD, 2" X 6" X 8'-0" (2 REQD.). SEE THE "ANTI-CHAFING ASSEMBLY" DETAIL ON PAGE 6.
- 4 ANTI-CHAFING BOARD, 1" X 6" X 8'-0" (2 REQD.). SEE THE "ANTI-CHAFING ASSEMBLY" DETAIL ON PAGE 6.
- 5 SPACER ASSEMBLY (2 REQD.). SEE THE "SPACER ASSEMBLY A" DETAIL ON PAGE 9.
- 6 THE WIRE, NO. 14 GAGE WIRE 30" LONG (4 REQD.). INSTALL TO FORM A COMPLETE LOOP THROUGH CONTAINER LIFTING/TIE-DOWN DEVICE AND OVER SPACER ASSEMBLY, BRING THE ENDS TOGETHER AND TWIST TAUT. SECURE TO THE SPACER ASSEMBLY WITH A PARTIALLY DRIVEN 10d NAIL BENT OVER THE WIRE, OR WITH A STRAP STAPLE.
- 7 FILL ASSEMBLY (2 REQD.). SEE THE "FILL ASSEMBLY B" DETAIL ON PAGE 9.
- 8 CROSS MEMBER (HOLD DOWN) (4 REQD.). POSITION AT THE HEIGHT SPECIFIED IN THE "SECTION B-B" VIEW.
- 9 THE WIRE, NO. 14 GAGE WIRE 24" LONG (4 REQD.). INSTALL TO FORM A COMPLETE LOOP AROUND THE FILL ASSEMBLY AND THE CROSS MEMBERS, BRING THE ENDS TOGETHER AND TWIST TAUT. SECURE TO THE FILL ASSEMBLY WITH A PARTIALLY DRIVEN 10d NAIL BENT OVER THE WIRE, OR WITH A STRAP STAPLE.
- 10 STRAPPING BOARD (2 REQD.). SEE THE "STRAPPING BOARD DETAIL" ON PAGE 9.
- 11 HOLD-DOWN STRAP, 1-1/4" X .035" BY LENGTH TO SUIT STEEL STRAPPING (2 REQD.). INSTALL EACH STRAP FROM TWO PIECES. ATTACH ONE END OF EACH STRAP TO THE 28" HIGH BELT RAIL AT EACH SIDE OF THE CONTAINER, THREAD STRAP DOWN BEHIND THE 16" HIGH BELT RAIL, PASS UNDER THE FIRST LAYER MISSILE CONTAINER AND UP AND OVER THE STRAPPING BOARD, WHERE THE STRAP ENDS ARE TENSIONED AND SEALED WITH TWO SEALS. STAPLE TO THE STRAPPING BOARD W/2-1-3/8" X 3/4" STAPLES.
- 12 RETAINER STRAP, 1-1/4" X .035" X 17'-6" LONG STEEL STRAPPING (4 REQD.). SEE THE "ANTI-CHAFING ASSEMBLY" DETAIL ON PAGE 6.
- 13 SEAL FOR 1-1/4" STEEL STRAPPING (12 REQD.). SEE GENERAL NOTE "N" ON PAGE 2.
- 14 LOAD BEARING GATE (2 REQD FOR A TWO-CONTAINER HIGH STACK). SEE THE "LOAD BEARING GATE" DETAIL ON PAGE 7.
- 15 LOAD BEARING GATE (1 REQD FOR A ONE-CONTAINER HIGH STACK). SEE THE "LOAD BEARING GATE" DETAIL ON PAGE 7.
- 16 ANTI-CHAFING, NEUTRAL BARRIER MATERIAL (AS REQD.). POSITION UNDER ALL STRAPS AT POINTS OF CONTACT WITH CONTAINER.

**FIVE-CONTAINER LOAD**



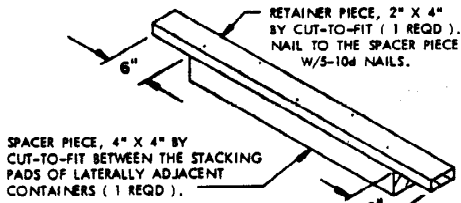
**SPECIAL NOTES:**

1. THE LOAD AS SHOWN ON PAGE 8 DEPICTS A 5-CONTAINER LOAD IN A MILVAN CONTAINER.
2. PRIOR TO LOADING M400 OR M411 CONTAINERS INTO THE MILVAN CONTAINER SEE THE "UNITIZATION AND HANDLING PROCEDURES" ON PAGE 3 FOR HANDLING THE CONTAINER STACK.



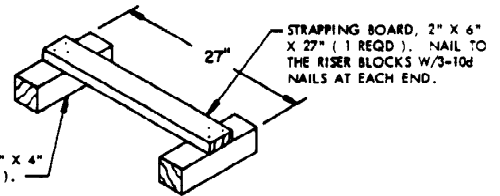
**FILL ASSEMBLY B**

SEE GENERAL NOTE "G" ON PAGE 2.



**SPACER ASSEMBLY A**

| BILL OF MATERIAL                |             |            |
|---------------------------------|-------------|------------|
| LUMBER                          | LINEAR FEET | BOARD FEET |
| 1" X 4"                         | 47          | 16         |
| 1" X 6"                         | 16          | 8          |
| 2" X 4"                         | 95          | 64         |
| 2" X 6"                         | 21          | 21         |
| 4" X 4"                         | 10          | 14         |
| NAILS                           | NO. REQD    | POUNDS     |
| 6d (2")                         | 94          | 1/2        |
| 10d (3")                        | 182         | 3          |
| STEEL STRAPPING, 1-1/4" X .035" | 150' REQD   | 20 LBS     |
| SEAL FOR 1-1/4" STRAPPING       | 12 REQD     | NIL        |
| WIRE, NO. 14 GAGE               | 30' REQD    | 1/2 LB     |
| STRAP STAPLE, 1-3/8" X 3/4"     | 4 REQD      | NIL        |
| ANTI-CHAFING MATERIAL           | AS REQD     | NIL        |
| CROSS MEMBERS                   | 15 REQD     |            |

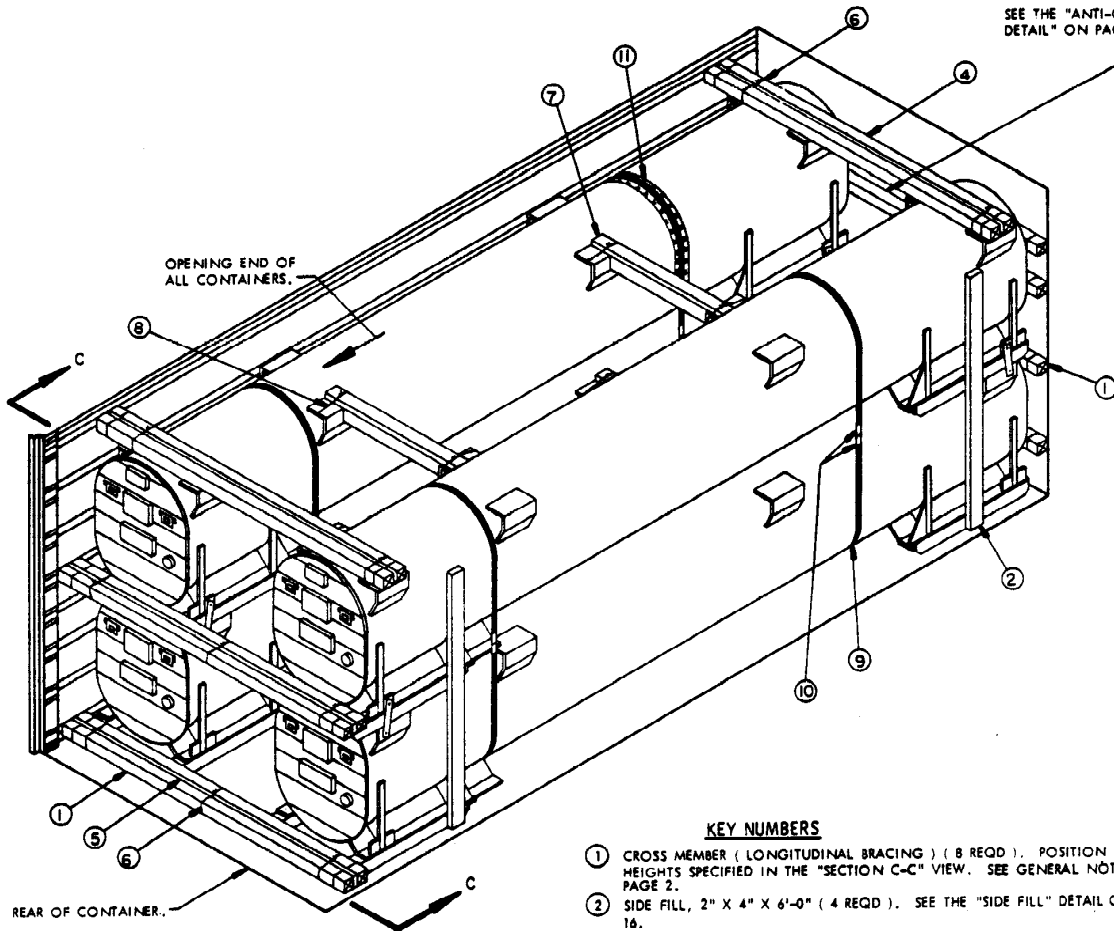


**STRAPPING BOARD**

**LOAD AS SHOWN**

| ITEM                      | QUANTITY | WEIGHT (APPROX)   |
|---------------------------|----------|-------------------|
| M400 OR M411 CONTAINER    | 5        | 16,725 LBS        |
| DUNNAGE                   |          | 376 LBS           |
| CONTAINERS                |          | 5,700 LBS         |
| <b>TOTAL GROSS WEIGHT</b> |          | <b>22,741 LBS</b> |

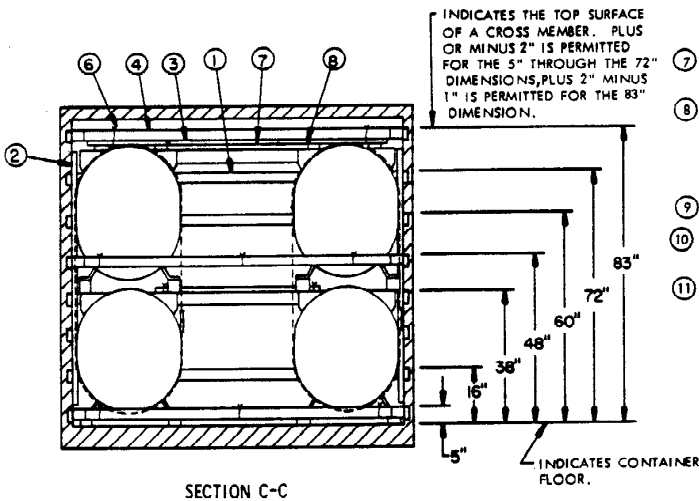
SEE THE "ANTI-CHAFING  
DETAIL" ON PAGE 16.



ISOMETRIC VIEW

KEY NUMBERS

- ① CROSS MEMBER ( LONGITUDINAL BRACING ) ( 8 REQ'D ). POSITION AT THE HEIGHTS SPECIFIED IN THE "SECTION C-C" VIEW. SEE GENERAL NOTE "F" ON PAGE 2.
- ② SIDE FILL, 2" X 4" X 6'-0" ( 4 REQ'D ). SEE THE "SIDE FILL" DETAIL ON PAGE 16.
- ③ FILL ASSEMBLY ( 2 REQ'D ). SEE THE "FILL ASSEMBLY B" DETAIL ON PAGE 9.
- ④ CROSS MEMBER ( HOLD DOWN ) ( 4 REQ'D ). POSITION AT THE HEIGHT SPECIFIED IN THE "SECTION C-C" VIEW.
- ⑤ FILL MATERIAL, 1-3/8" X 3-1/2" BY CONTAINER WIDTH MINUS 1" ( 2 REQ'D ). SEE "FILL MATERIAL INSTALLATION" DETAIL ON PAGE 16.
- ⑥ TIE WIRE, NO. 14 GAGE WIRE 24" LONG ( 10 REQ'D ). INSTALL TO FORM A COMPLETE LOOP AROUND CROSS MEMBER, FILL MATERIAL, AND FILL ASSEMBLY WHEN USED ON THE HOLD-DOWN CROSS MEMBER, BRING ENDS TOGETHER AND TWIST TAUT. SECURE TO THE FILL MATERIAL WITH A PARTIALLY DRIVEN 10d NAIL BENT OVER THE WIRE, OR WITH A STRAP STAPLE.
- ⑦ SPACER ASSEMBLY ( 4 REQ'D ). SEE THE "SPACER ASSEMBLY A" DETAIL ON PAGE 9.
- ⑧ TIE WIRE, NO. 14 GAGE WIRE 30" LONG ( 8 REQ'D ). INSTALL TO FORM A COMPLETE LOOP THROUGH CONTAINER LIFTING/TIE-DOWN DEVICE AND OVER "SPACER ASSEMBLY A", BRING THE ENDS TOGETHER AND TWIST TAUT. SECURE TO THE SPACER ASSEMBLY WITH A PARTIALLY DRIVEN 10d NAIL BENT OVER THE WIRE, OR WITH A STRAP STAPLE.
- ⑨ UNITIZING STRAP, 1-1/4" X .035" X 17'-0" LONG STEEL STRAPPING ( 4 REQ'D ).
- ⑩ SEAL FOR 1-1/4" STEEL STRAPPING ( 8 REQ'D ). SEE GENERAL NOTE "N" ON PAGE 2.
- ⑪ ANTI-CHAFING, NEUTRAL BARRIER MATERIAL ( AS REQ'D ). POSITION UNDER ALL STRAPS AT POINTS OF CONTACT WITH CONTAINER.

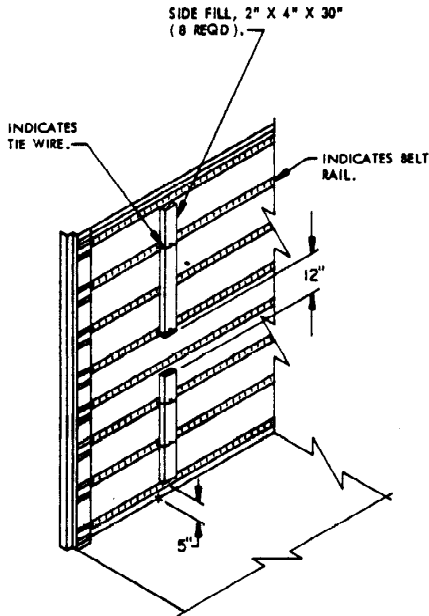


SECTION C-C

FOUR-CONTAINER LOAD

**SPECIAL NOTES:**

1. THE LOAD AS SHOWN ON PAGE 10 DEPICTS A 4-CONTAINER LOAD IN A MILVAN CONTAINER.
2. PRIOR TO LOADING M439 OR M611 CONTAINERS INTO THE MILVAN CONTAINER, SEE THE "UNITIZATION AND HANDLING PROCEDURES" ON PAGE 3 FOR HANDLING THE CONTAINER STACK.



**ALTERNATIVE SIDE FILL INSTALLATION**

THE DETAIL ABOVE DEPICTS AN ALTERNATIVE METHOD OF INSTALLING THE SIDE FILL DUNNAGE. SEE THE "SIDE FILL" DETAIL ON PAGE 16 FOR ADDITIONAL GUIDANCE.

**BILL OF MATERIAL**

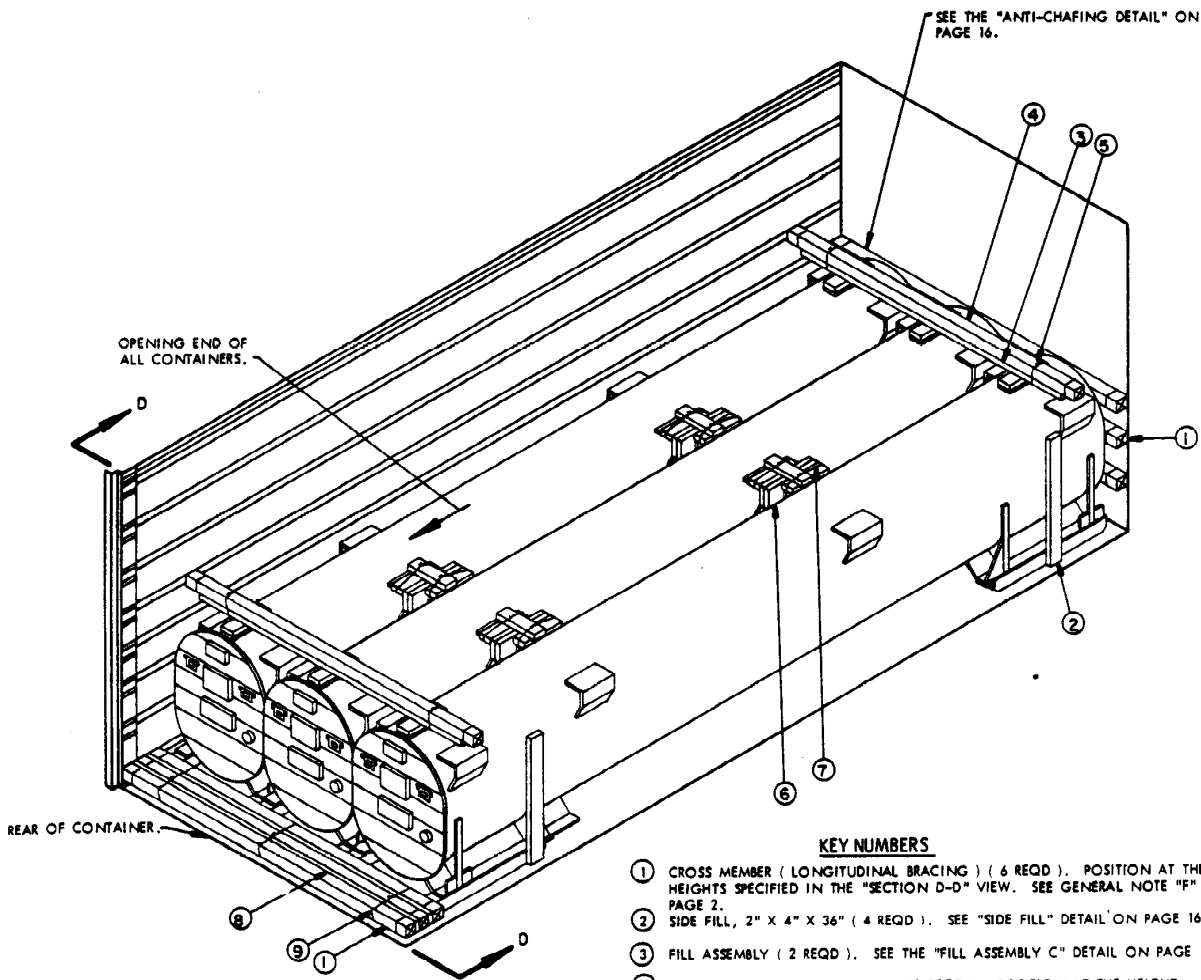
| LUMBER                          | LINEAR FEET | BOARD FEET |
|---------------------------------|-------------|------------|
| 1" X 4"                         | 31          | 10         |
| 1-3/8" X 3-1/2"                 | 15          | 10         |
| 2" X 4"                         | 40          | 26         |
| 4" X 4"                         | 12          | 16         |
| NAILS                           | NO. REQD    | POUNDS     |
| 6d (2")                         | 24          | 1/4        |
| 10d (3")                        | 42          | 1/2        |
| STEEL STRAPPING, 1-1/4" X .035" | 48' REQD    | 10 LBS     |
| SEAL FOR 1-1/4" STRAPPING       | 8 REQD      | NIL        |
| WIRE, NO. 14 GAGE               | 46' REQD    | 1 LB       |
| ANTI-CHAFING MATERIAL           | AS REQD     | NIL        |
| CROSS MEMBER                    | 12 REQD     |            |

★ SEE GENERAL NOTE "H" ON PAGE 2.

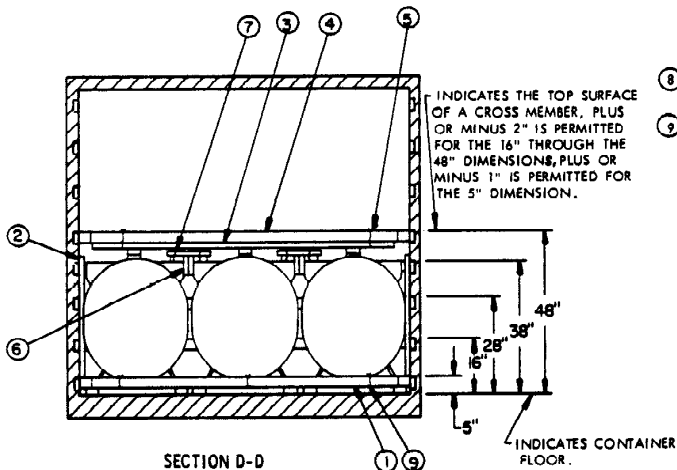
**LOAD AS SHOWN**

| ITEM                   | QUANTITY | WEIGHT (APPROX) |
|------------------------|----------|-----------------|
| M439 OR M611 CONTAINER | 4        | 13,380 LBS      |
| DUNNAGE                |          | 167 LBS         |
| CONTAINER              |          | 5,700 LBS       |

TOTAL GROSS WEIGHT --- 19,247 LBS



ISOMETRIC VIEW



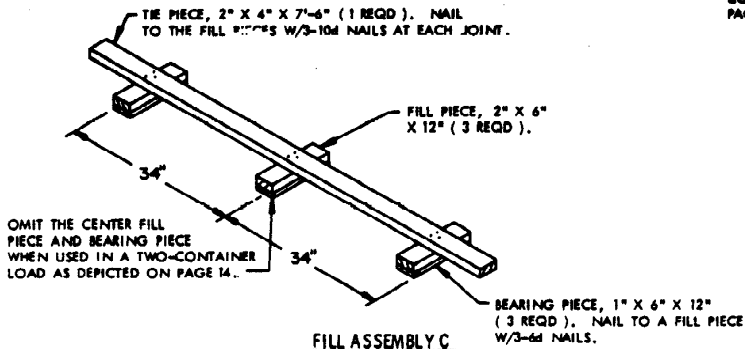
SECTION D-D

**KEY NUMBERS**

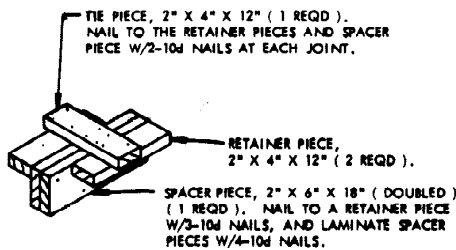
- ① CROSS MEMBER ( LONGITUDINAL BRACING ) ( 6 REQD ). POSITION AT THE HEIGHTS SPECIFIED IN THE "SECTION D-D" VIEW. SEE GENERAL NOTE "F" ON PAGE 2.
- ② SIDE FILL, 2" X 4" X 36" ( 4 REQD ). SEE "SIDE FILL" DETAIL ON PAGE 16.
- ③ FILL ASSEMBLY ( 2 REQD ). SEE THE "FILL ASSEMBLY C" DETAIL ON PAGE 13.
- ④ CROSS MEMBER ( HOLD DOWN ) ( 2 REQD ). POSITION AT THE HEIGHT SPECIFIED IN THE "SECTION D-D" VIEW.
- ⑤ TIE WIRE, NO. 14 GAGE WIRE 18" LONG ( 4 REQD ). INSTALL TO FORM A COMPLETE LOOP AROUND CROSS MEMBER AND FILL ASSEMBLY, BRING THE ENDS TOGETHER AND TWIST TAUT. SECURE TO THE FILL ASSEMBLY WITH A PARTIALLY DRIVEN 10d NAIL BENT OVER THE WIRE, OR WITH A STRAP STAPLE.
- ⑥ SPACER ASSEMBLY ( 4 REQD ). SEE THE "SPACER ASSEMBLY B" DETAIL ON PAGE 13.
- ⑦ TIE WIRE, NO. 14 GAGE WIRE 30" LONG ( 8 REQD ). INSTALL TO FORM A COMPLETE LOOP THROUGH THE CONTAINER LIFTING/TIE-DOWN DEVICE AND OVER THE SPACER ASSEMBLY, BRING THE ENDS TOGETHER AND TWIST TAUT. SECURE TO THE SPACER ASSEMBLY WITH A PARTIALLY DRIVEN 10d NAIL BENT OVER THE WIRE, OR WITH A STRAP STAPLE.
- ⑧ FILL MATERIAL, 1-3/8" X 3-1/2" BY CONTAINER WIDTH MINUS 1" ( 2 REQD ). SEE "FILL MATERIAL INSTALLATION" DETAIL ON PAGE 16.
- ⑨ TIE WIRE, NO. 14 GAGE WIRE 30" LONG ( 3 REQD ). INSTALL TO FORM A COMPLETE LOOP AROUND CROSS MEMBERS AND FILL MATERIAL, BRING ENDS TOGETHER AND TWIST TAUT. SECURE TO THE FILL MATERIAL WITH A PARTIALLY DRIVEN 10d NAIL BENT OVER THE WIRE, OR WITH A STRAP STAPLE.

**SPECIAL NOTES:**

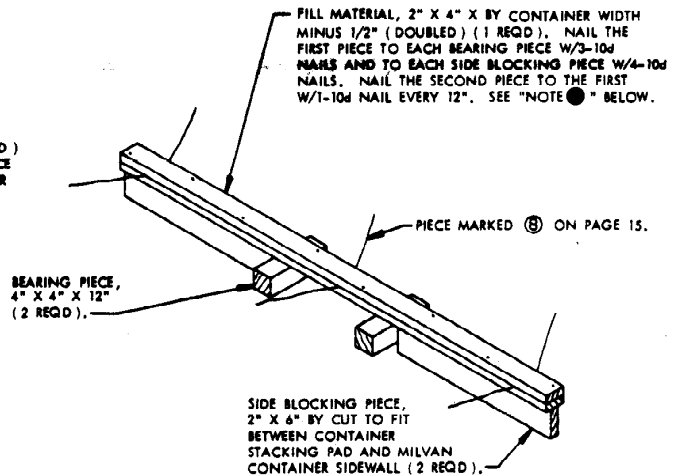
1. THE LOAD AS SHOWN ON PAGE 12 DEPICTS A 3-CONTAINER LOAD IN A MILVAN CONTAINER.
2. PRIOR TO LOADING M430 OR M411 CONTAINERS INTO THE MILVAN CONTAINER, SEE THE "UNITIZATION AND HANDLING PROCEDURES" ON PAGE 3 FOR HANDLING THE CONTAINERS.



**FILL ASSEMBLY C**  
SEE GENERAL NOTE "G" ON PAGE 2.



**SPACER ASSEMBLY B**



**HOLD-DOWN ASSEMBLY**

**NOTE 8:**

THE WIRE, PIECE MARKED ⑧ ON PAGE 15, SHOULD BE INSTALLED BETWEEN THE DOUBLED FILL MATERIAL DURING FABRICATION OF THE ASSEMBLY. THE THICKNESS OF THE TOP PIECE OF THE FILL MATERIAL AS SHOWN, MAY BE INCREASED OR DECREASED AS REQUIRED, TO COMPENSATE FOR A DIFFERENT HEIGHT BELT RAIL. THE HOLD-DOWN ASSEMBLY IS TO BE ADJUSTED AS REQUIRED TO ACHIEVE PROPER HOLD-DOWN BLOCKING. THE BLOCKING IS TO BE INSTALLED SO AS TO NOT ALLOW MORE THAN 1/2" (ONE-HALF INCH) VERTICAL VOID BETWEEN THE MISSILE CONTAINER AND THE CROSS MEMBER.

| BILL OF MATERIAL           |             |            |
|----------------------------|-------------|------------|
| LUMBER                     | LINEAR FEET | BOARD FEET |
| 1" X 6"                    | 6           | 3          |
| # 1-3/8" X 3-1/2"          | 15          | 10         |
| 2" X 4"                    | 39          | 26         |
| 2" X 6"                    | 18          | 18         |
| NAILS                      | NO. REQD    | POUNDS     |
| 6d (2")                    | 18          | NIL        |
| 10d (3")                   | 113         | 1-1/2      |
| WIRE, NO. 14 GAGE-----     | 46' REQD    | 1 LB       |
| ANTI-CHAFING MATERIAL----- | AS REQD     | NIL        |
| CROSS MEMBER-----          | 8 REQD      | "          |

SEE GENERAL NOTE "H" ON PAGE 2.

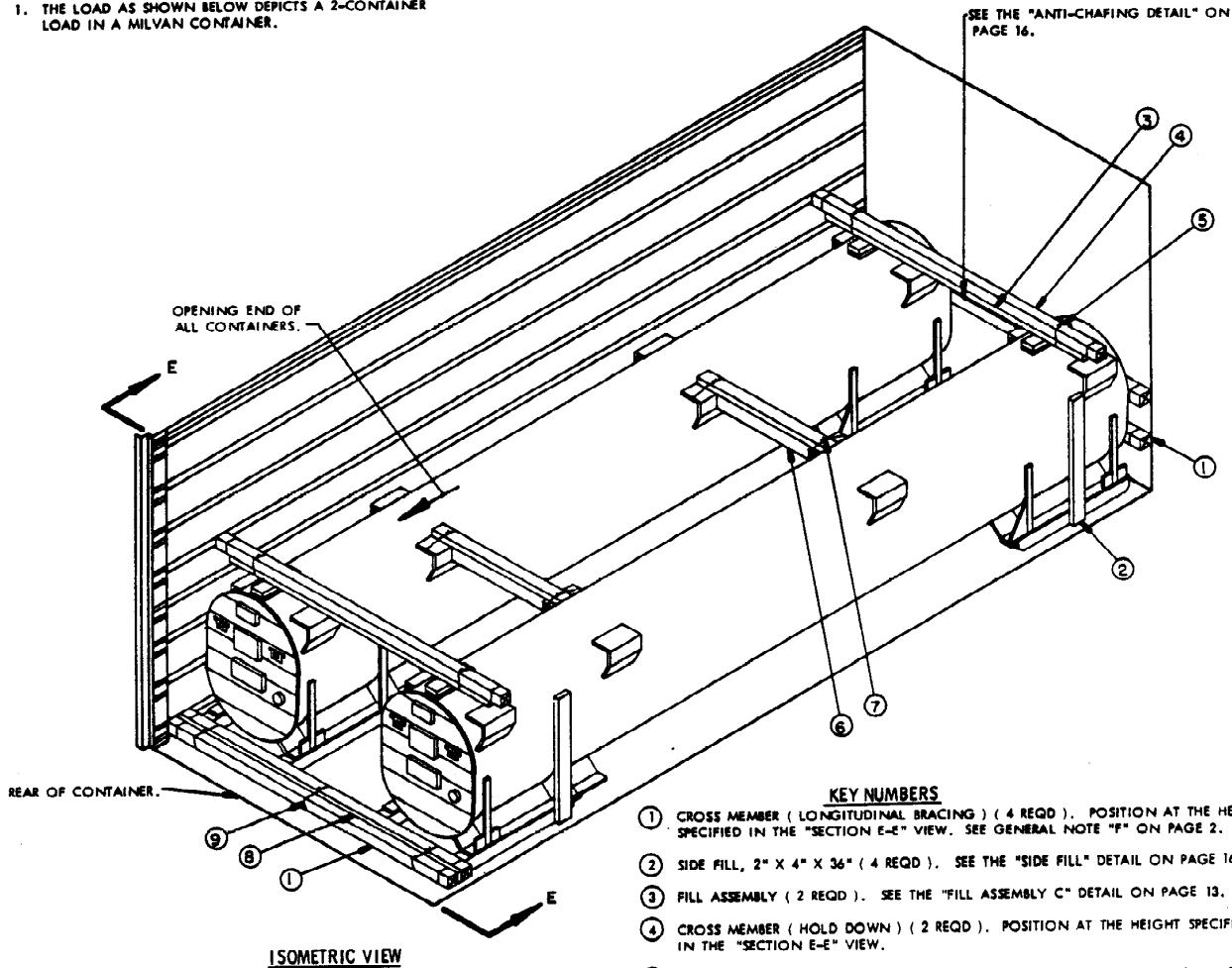
**LOAD AS SHOWN**

| ITEM                   | QUANTITY | WEIGHT ( APPROX ) |
|------------------------|----------|-------------------|
| M430 OR M411 CONTAINER | 3        | 10,025 LBS        |
| DUNNAGE                |          | 148 LBS           |
| CONTAINER              |          | 5,700 LBS         |

TOTAL GROSS WEIGHT--15,880 LBS

**SPECIAL NOTE:**

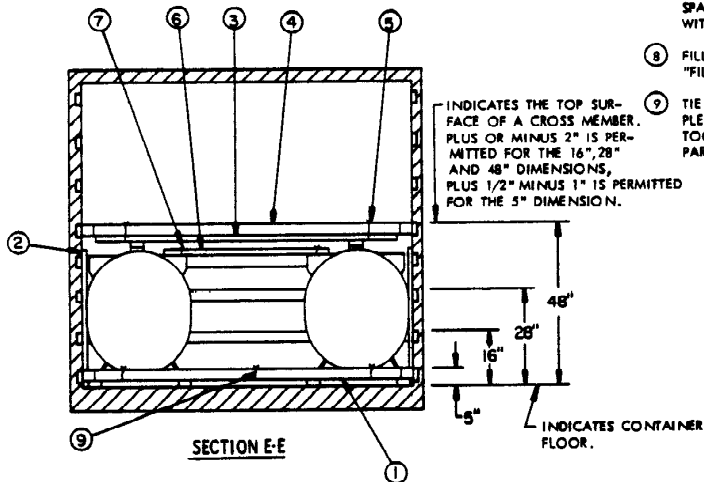
1. THE LOAD AS SHOWN BELOW DEPICTS A 2-CONTAINER LOAD IN A MILVAN CONTAINER.



**ISOMETRIC VIEW**

**KEY NUMBERS**

- ① CROSS MEMBER ( LONGITUDINAL BRACING ) ( 4 REQD ). POSITION AT THE HEIGHTS SPECIFIED IN THE "SECTION E-E" VIEW. SEE GENERAL NOTE "F" ON PAGE 2.
- ② SIDE FILL, 2" X 4" X 36" ( 4 REQD ). SEE THE "SIDE FILL" DETAIL ON PAGE 16.
- ③ FILL ASSEMBLY ( 2 REQD ). SEE THE "FILL ASSEMBLY C" DETAIL ON PAGE 13.
- ④ CROSS MEMBER ( HOLD DOWN ) ( 2 REQD ). POSITION AT THE HEIGHT SPECIFIED IN THE "SECTION E-E" VIEW.
- ⑤ TIE WIRE, NO. 14 GAGE WIRE, 18" LONG ( 4 REQD ). INSTALL TO FORM A COMPLETE LOOP AROUND THE CROSS MEMBER AND THE FILL ASSEMBLY, BRING THE ENDS TOGETHER AND TWIST TAUT. SECURE TO THE SPACER ASSEMBLY WITH A PARTIALLY DRIVEN 10d NAIL BENT OVER THE WIRE, OR WITH A STRAP STAPLE.
- ⑥ SPACER ASSEMBLY ( 2 REQD ). SEE THE "SPACER ASSEMBLY A" DETAIL ON PAGE 9.
- ⑦ TIE WIRE, NO. 14 GAGE WIRE 30" LONG ( 4 REQD ). INSTALL TO FORM A COMPLETE LOOP THROUGH CONTAINER LIFTING/TIE-DOWN DEVICE AND OVER "SPACER ASSEMBLY A". BRING THE ENDS TOGETHER AND TWIST TAUT. SECURE TO THE SPACER ASSEMBLY WITH A PARTIALLY DRIVEN 10d NAIL BENT OVER THE WIRE, OR WITH A STRAP STAPLE.
- ⑧ FILL MATERIAL, 1-3/8" X 3-1/2" BY CONTAINER WIDTH MINUS 1" ( 1 REQD ). SEE "FILL MATERIAL INSTALLATION" DETAIL ON PAGE 16.
- ⑨ TIE WIRE, NO. 14 GAGE WIRE 24" LONG ( 3 REQD ). INSTALL TO FORM A COMPLETE LOOP AROUND CROSS MEMBERS AND FILL MATERIAL, BRING THE ENDS TOGETHER AND TWIST TAUT. SECURE THE WIRE TO THE FILL MATERIAL WITH A PARTIALLY DRIVEN 10d NAIL BENT OVER THE WIRE, OR WITH A STRAP STAPLE.



**SECTION E-E**

**LOAD AS SHOWN**

| ITEM                      | QUANTITY | WEIGHT (APPROX)   |
|---------------------------|----------|-------------------|
| M430 OR M411 CONTAINER    | 2        | 6,490 LBS         |
| DUNNAGE                   |          | 112 LBS           |
| CONTAINER                 |          | 5,700 LBS         |
| <b>TOTAL GROSS WEIGHT</b> |          | <b>12,302 LBS</b> |

**SPECIAL NOTE:**

1. LONGITUDINAL ADJUSTMENT OF THE HOLD-DOWN CROSS MEMBERS MAY BE NECESSARY TO AVOID HAVING THE "HOLD-DOWN ASSEMBLY" IN ALIGNMENT WITH ANY VOIDS CAUSED BY THE CORRUGATIONS OF THE CONTAINER SIDEWALLS.

TIE PIECE, 2" X 4" X 7'-7" (1 REQD).  
NAIL TO EACH SPACER BLOCK W/4-10d NAILS.

SPACER BLOCK, 4" X 4" BY CUT TO FIT (2 REQD).

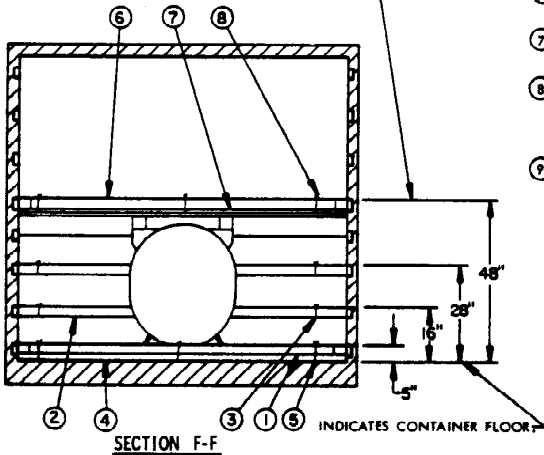
**SPACER ASSEMBLY C**

OPENING END OF CONTAINER.

REAR OF CONTAINER.

**ISOMETRIC VIEW**

INDICATES THE TOP SURFACE OF A CROSS MEMBER. PLUS OR MINUS 2" IS PERMITTED FOR THE 16" AND 28" DIMENSIONS, PLUS 1/2" MINUS 1" IS PERMITTED FOR THE 5" AND 48" DIMENSIONS.



**SECTION F-F**

**KEY NUMBERS**

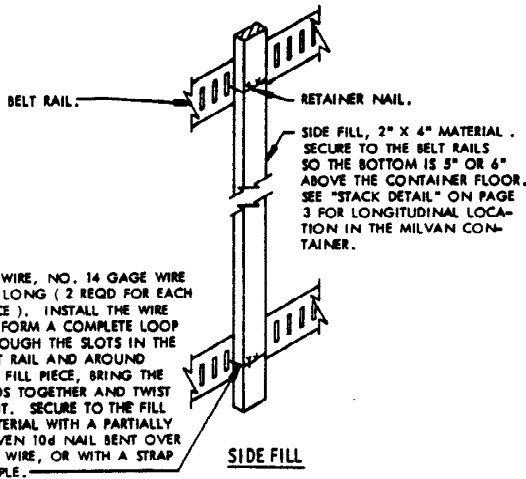
- 1 CROSS MEMBER (LONGITUDINAL BRACING) (5 REQD). POSITION AT THE HEIGHTS SPECIFIED IN THE "SECTION F-F" VIEW. SEE GENERAL NOTE "F" ON PAGE 2.
- 2 FILL MATERIAL, 2" X 4" BY CONTAINER WIDTH MINUS 1" (2 REQD). SEE THE "FILL DETAIL" ON PAGE 16.
- 3 TIE WIRE, NO. 14 GAGE WIRE 18" LONG (6 REQD). INSTALL TO FORM A COMPLETE LOOP AROUND THE CROSS MEMBER AND THE FILL MATERIAL, BRING THE ENDS TOGETHER AND TWIST TAUT. SECURE TO THE FILL MATERIAL WITH A PARTIALLY DRIVEN 10d NAIL BENT OVER THE WIRE, OR WITH A STRAP STAPLE.
- 4 SPACER ASSEMBLY (2 REQD). SEE THE "SPACER ASSEMBLY C" DETAIL ABOVE.
- 5 TIE WIRE, NO. 14 GAGE WIRE 30" LONG (6 REQD). INSTALL TO FORM A COMPLETE LOOP AROUND THE CROSS MEMBER AND THE SPACER ASSEMBLY, BRING THE ENDS TOGETHER AND TWIST TAUT. SECURE TO THE SPACER ASSEMBLY WITH A PARTIALLY DRIVEN 10d NAIL BENT OVER THE WIRE, OR WITH A STRAP STAPLE.
- 6 CROSS MEMBER (HOLD DOWN) (2 REQD). POSITION AT THE HEIGHT SPECIFIED IN THE "SECTION F-F" VIEW. SEE SPECIAL NOTE 1 ABOVE.
- 7 HOLD-DOWN ASSEMBLY (2 REQD). SEE THE "HOLD-DOWN ASSEMBLY" DETAIL ON PAGE 13.
- 8 TIE WIRE, NO. 14 GAGE WIRE 18" LONG (6 REQD). INSTALL TO FORM A COMPLETE LOOP AROUND THE CROSS MEMBER AND THE TOP BOARD OF THE HOLD-DOWN ASSEMBLY, BRING THE ENDS TOGETHER AND TWIST TAUT. SEE THE "HOLD-DOWN ASSEMBLY" DETAIL ON PAGE 13.
- 9 FILL MATERIAL, 1-3/8" X 3-1/2" BY CONTAINER WIDTH MINUS 1" (1 REQD). SEE THE "FILL MATERIAL INSTALLATION" DETAIL ON PAGE 16.

**LOAD AS SHOWN**

| ITEM                      | QUANTITY | WEIGHT (APPROX)  |
|---------------------------|----------|------------------|
| M430 OR M411 CONTAINER    | 1        | 3,345 LBS        |
| DUNNAGE                   |          | 194 LBS          |
| CONTAINER                 |          | 5,700 LBS        |
| <b>TOTAL GROSS WEIGHT</b> |          | <b>9,239 LBS</b> |

ONE-CONTAINER LOAD

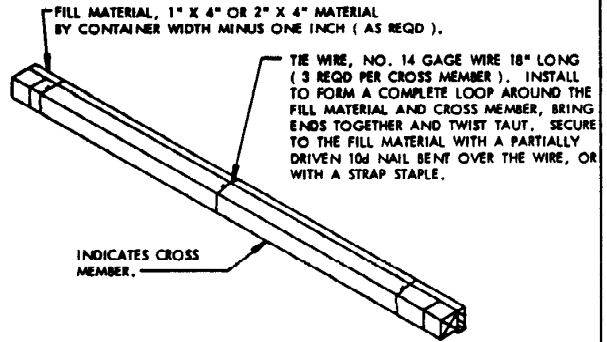
PAGE 15



TIE WIRE, NO. 14 GAGE WIRE 18" LONG ( 2 REQD FOR EACH PIECE ). INSTALL THE WIRE TO FORM A COMPLETE LOOP THROUGH THE SLOTS IN THE BELT RAIL AND AROUND THE FILL PIECE, BRING THE ENDS TOGETHER AND TWIST TAUT. SECURE TO THE FILL MATERIAL WITH A PARTIALLY DRIVEN 10d NAIL BENT OVER THE WIRE, OR WITH A STRAP STAPLE.

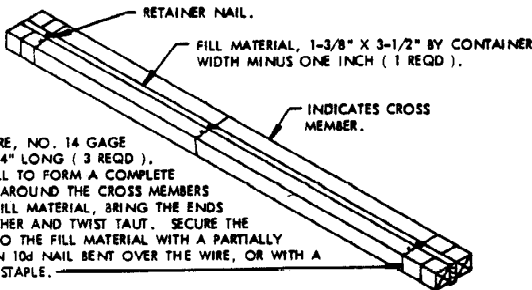
**SIDE FILL**

THE FLAT SURFACE OF THE MISSILE CONTAINER MUST BEAR AGAINST THE SIDE FILL MATERIAL. IF THE SKIDS CONTACT THE SIDE FILL MATERIAL BEFORE THE FLAT SURFACE OF THE CONTAINER, SUCH AS THE CASE WILL BE WITH THE M611 CONTAINER, THE METHOD SPECIFIED BY THE "ALTERNATIVE SIDE FILL INSTALLATION" DETAIL DEPICTED ON PAGE 11 MUST BE USED.



**FILL DETAIL**

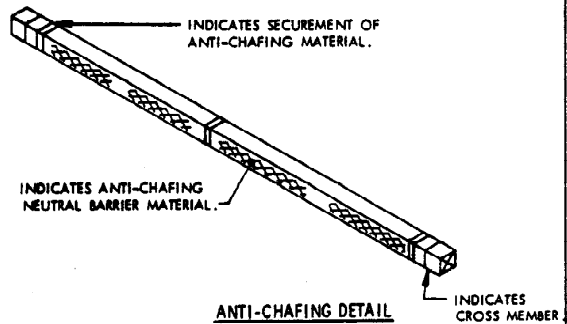
THIS DETAIL DEPICTS THE METHOD OF POSITIONING FILL MATERIAL BETWEEN THE CROSS MEMBER AND LADING WHEN THE VOID BETWEEN THE TWO IS GREATER THAN ONE INCH ( 1" ) FOR LONGITUDINAL BRACING.



TIE WIRE, NO. 14 GAGE WIRE 24" LONG ( 3 REQD ). INSTALL TO FORM A COMPLETE LOOP AROUND THE CROSS MEMBERS AND FILL MATERIAL, BRING THE ENDS TOGETHER AND TWIST TAUT. SECURE THE WIRE TO THE FILL MATERIAL WITH A PARTIALLY DRIVEN 10d NAIL BENT OVER THE WIRE, OR WITH A STRAP STAPLE.

**FILL MATERIAL INSTALLATION**

SEE GENERAL NOTE "H" ON PAGE 2.



**ANTI-CHAFING DETAIL**

ALL CROSS MEMBERS WHICH CONTACT A METAL PART OF A MISSILE CONTAINER, MUST BE COVERED WITH ANTI-CHAFING MATERIAL, SUCH AS TAPE, PAPER, CARDBOARD, OR CLOTH. THIS MATERIAL MUST BE SECURED TO THE CROSS MEMBER WITH TAPE, WIRE, OR SOME SECUREMENT, SO AS TO PREVENT DISLODGEEMENT OF THE MATERIAL DURING LOADING AND SHIPPING OPERATIONS.