

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 CONTAINER WITH MISSILE COMPONENTS.
- C. FOR DETAILS OF THE M430 CONTAINER, SEE DRAWING NO. 9073970.
CONTAINER DIMENSIONS --- 216" LONG X 28-3/4" WIDE X 41-1/2" HIGH.
GROSS WEIGHT ----- 3,225 POUNDS (APPROX).
TARE WEIGHT ----- 1,950 POUNDS (APPROX).
FOR DETAILS OF THE M611 CONTAINER, SEE DRAWING NO. 8035841.
CONTAINER DIMENSIONS --- 216" LONG X 30" WIDE X 41-1/2" HIGH.
GROSS WEIGHT ----- 3,351 POUNDS (APPROX).
TARE WEIGHT ----- 1,950 POUNDS (APPROX).
- D. THIS PROCEDURAL DRAWING IS APPLICABLE TO GONDOLA CARS WITH WOOD, WOOD AND METAL, OR METAL FLOORS, AND WITH SIDE WALLS EQUIPPED WITH STRAP ANCHOR TIE-DOWN FACILITIES. IF CARS WITH STRAP ANCHOR TIE-DOWN FACILITIES ARE NOT READILY AVAILABLE, STRAP ANCHOR DEVICES MAY BE LOCALLY FABRICATED IN ACCORDANCE WITH THE DETAIL SHOWN ON PAGE 12. FOR LESS-THAN-CARLOAD SHIPMENTS, CARS MUST HAVE NAILABLE FLOORS.
- E. THE LOAD AS SHOWN ON PAGES 4 AND 5 IS ONLY APPLICABLE TO A SHIPMENT OF M430 CONTAINERS AND IS BASED ON A GONDOLA CAR 40'-6" LONG BY 10'-0" WIDE WITH A 48" CAR SIDE HEIGHT. THE LOAD AS SHOWN ON PAGES 6 AND 7 IS APPLICABLE TO A SHIPMENT OF M430 AND/OR M611 CONTAINERS AND IS BASED ON A GONDOLA CAR 40'-6" LONG BY 9'-2" WIDE WITH A 48" CAR SIDE HEIGHT. LARGER CARS MAY BE USED; HOWEVER, CARS LONGER THAN 41'-6" SHOULD NOT BE ORDERED FOR SHIPMENT OF THE LOADS DEPICTED HEREIN. CAUTION: CAR SIDE HEIGHT WILL BE LIMITED TO 36" MAXIMUM FOR SHIPMENT OF A ONE-CONTAINER HIGH LOAD.
- F. THIS ITEM IS A DOT CLASS "A" EXPLOSIVE. THESE PROCEDURES CAN ALSO BE UTILIZED FOR THE SHIPMENT OF THE CONTAINERS WHEN THEY ARE LOADED WITH AN ITEM WHICH IS IDENTIFIED DIFFERENTLY BY NOMENCLATURE THAN THE ITEM DESIGNATED WITHIN THE DRAWING TITLE, OR WHEN THEY ARE EMPTY. NOTE: IF THE CAR IS NOT SO EQUIPPED, 18" X 24" PLACARD BOARDS MUST BE PROVIDED FOR BOTH SIDES AND BOTH ENDS OF A LOAD AS REQUIRED BY LAW AND/OR REGULATION. CAUTION: PLACARD BOARDS AND BOARD MOUNTING BRACKETS MUST NOT BE NAILED TO THE LADING.
- G. THE SELECTION OF RAIL CARS FOR THE TRANSPORT OF THE DESIGNATED ITEMS WILL BE IN ACCORDANCE WITH HAZARDOUS MATERIALS REGULATIONS OF DOT AND AR 55-355, CHAPTER 213, FOR EXPLOSIVES AND OTHER DANGEROUS ARTICLES, IN FULL.
- H. NOTICE: A SHIPMENT WILL BE POSITIONED IN THE GONDOLA CAR IN COMPLIANCE WITH THE WEIGHT DISTRIBUTION REQUIREMENTS OF THE AAR. THE NUMBER OF UNITS MAY BE ADJUSTED TO FIT THE RAIL CAR CONCERNED OR THE QUANTITY TO BE SHIPPED; HOWEVER, THE APPROVED METHODS CONTAINED HEREIN FOR FULL OR PARTIAL CARLOADS MUST BE FOLLOWED.
- J. WHEN ANY STRAP IS SEALED, IRRESPECTIVE OF THE TYPE OF JOINT BEING MADE, A MINIMUM OF TWO (2) SEALS (BUTTED TOGETHER) WITH TWO (2) PAIR OF CRIMPS PER SEAL MUST BE USED. CAUTION: EXERCISE CARE DURING TENSIONING TO PREVENT DAMAGE TO CONTAINER.
- K. DUNNAGE MATERIAL SPECIFIED THROUGHOUT THIS PROCEDURAL DRAWING IS OF 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 4" MATERIAL IS ACTUALLY 1-1/2" THICK BY 3-1/2" WIDE OR 1-5/8" THICK BY 3-5/8" WIDE. IF THOSE MEMBERS SPECIFICALLY IDENTIFIED AS "SIRUTS" WITHIN THE KEY NUMBERS OF A DEPICTED LOAD ARE SPECIFIED TO BE DOUBLED 2" THICK MATERIAL AND LAMINATED, IT IS PERMISSIBLE TO USE 4" X 6" MATERIAL IN LIEU OF TWO LAMINATED PIECES OF 2" X 6" MATERIAL.

(CONTINUED AT RIGHT)

(GENERAL NOTES CONTINUED)

- L. NOTICE: 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 ONTO OR RIGHT BESIDE A NAIL IN A LOWER PIECE.
- M. IF THE CAPACITY OF THE MATERIALS HANDLING EQUIPMENT PERMITS, IT IS RECOMMENDED THAT CONTAINERS BE UNITIZED PRIOR TO PLACEMENT ABOARD THE CAR. SEE THE "UNITIZATION AND HANDLING PROCEDURES" ON PAGE 3.
- N. THESE PROCEDURES MAY BE USED ONLY IF THE FOUR (4) CORNER BRACKETS (STACKING PADS) OF THE CONTAINERS HAVE BEEN MODIFIED AS SHOWN IN "DETAIL C" ON PAGE 10.
- O. PORTIONS OF THE DEPICTED CARS WITHIN THIS PROCEDURAL DRAWING, SUCH AS A CAR SIDE WALL, HAVE BEEN OMITTED FOR CLARITY PURPOSES.
- P. FOR ADDITIONAL GUIDANCE, ATTENTION IS DIRECTED TO THE "UNITIZATION AND HANDLING PROCEDURES" ON PAGE 3 AND TO THE SPECIAL NOTES SECTION WHICH IS IMMEDIATELY ADJACENT TO A DEPICTED OUTLOADING METHOD.

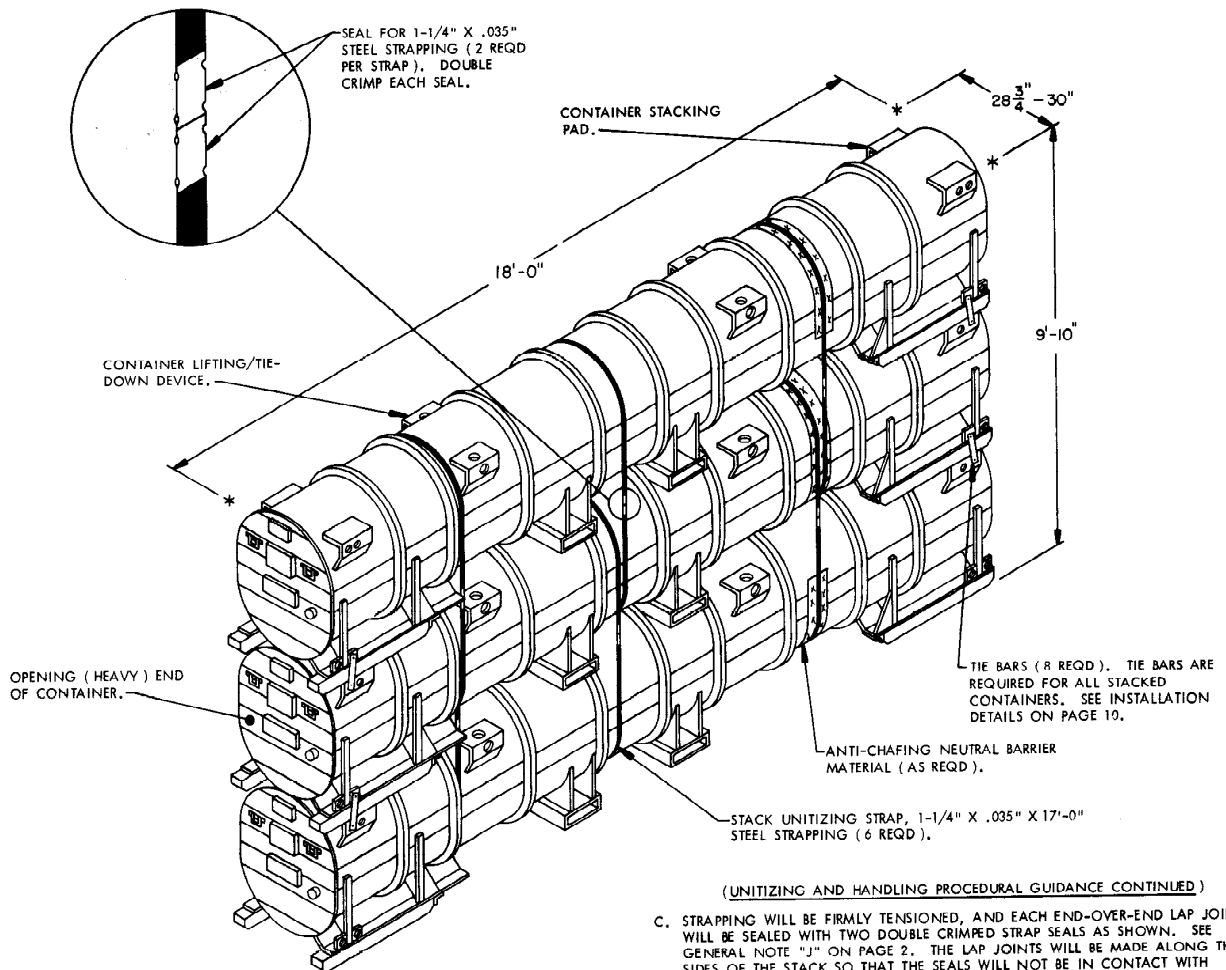
MATERIAL SPECIFICATIONS

| | | |
|--------------------------------|---|--|
| 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 SAME SIZE. |
| STRAPPING, STEEL ---- | : | TYPE I OR IV, FINISH A OR B FOR 1-1/4" STRAPPING AND FINISH A, B, OR C FOR 2" STRAPPING; REF FED SPEC QQ-5-781. |
| STRAP SEAL ----- | : | COMMERCIAL GRADE. |
| ANTI-CHAFING MATERIAL ----- | : | NEUTRAL BARRIER MATERIAL MIL-B-121 (OR EQUAL). |

REVISIONS

REVISION NO. 3, DATED FEBRUARY 1975, CONSISTS OF:

1. ADDING PROVISIONS FOR SHIPPING THE M611 CONTAINER.
2. ADDING "UNITIZATION AND HANDLING PROCEDURES" ON PAGE 3.
3. UPDATING THE GENERAL NOTES AND DRAWING FORMAT.
4. CHANGING DRAWING FILE NO. FROM GMSA75 TO GMSA7.



TYPICAL STACK DETAIL
(THE M430 CONTAINER IS SHOWN)

(UNITIZING AND HANDLING PROCEDURAL GUIDANCE CONTINUED)

- C. STRAPPING WILL BE FIRMLY TENSIONED, AND EACH END-OVER-END LAP JOINT WILL BE SEALED WITH TWO DOUBLE CRIMPED STRAP SEALS AS SHOWN. SEE GENERAL NOTE "J" ON PAGE 2. THE LAP JOINTS WILL BE MADE ALONG THE SIDES OF THE STACK SO THAT THE SEALS WILL NOT BE IN CONTACT WITH THE CONTAINERS. DURING STRAP TENSIONING, CARE SHOULD BE EXERCISED TO ENSURE THAT THE CONTAINERS ARE NOT DAMAGED. EXCESS STRAPPING (STRAP ENDS) SHOULD BE CUT OR BROKEN OFF NEAR THE JOINT SEALS.

4. 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.

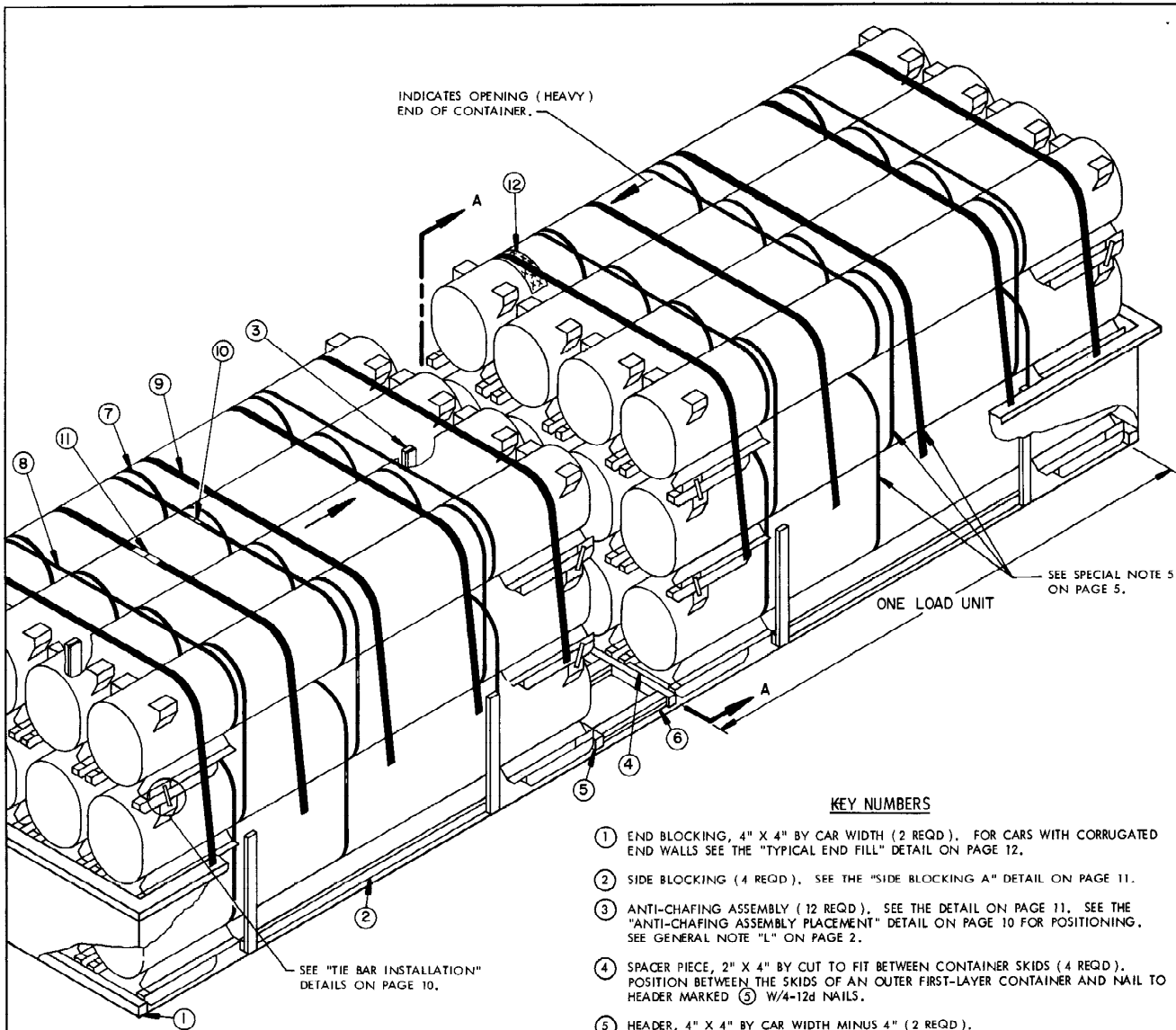
B. IF HANDLING IS ACCOMPLISHED WITH A FORKLIFT TRUCK, THE CONTAINERS SHOULD BE HANDLED FROM A SIDE POSITION AS MUCH AS POSSIBLE. CARE MUST BE EXERCISED WHEN INSERTING FORKS UNDER A CONTAINER, TO PREVENT DAMAGE TO THE CONTAINER BY THE FORK TINES OR THE FORKLIFT PACKAGE GUARD. FOR VERY SHORT "INCHING" SPEED MOVEMENTS, SUCH AS WILL BE EXPERIENCED DURING CAR LOADING, A THREE-HIGH CONTAINER STACK MAY BE HANDLED BY INSERTING THE FORKS OF A FORKLIFT TRUCK INTO THE FORK RECEPTACLES OF THE SECOND-LAYER CONTAINER.

C. SLINGING OF A CONTAINER STACK WILL BE ACCOMPLISHED IN ACCORDANCE WITH APPROVED PROCEDURES.

**UNITIZING AND HANDLING
PROCEDURAL GUIDANCE**

1. STACKING CONTAINERS FOR UNITIZING.
 - A. AN UPPER CONTAINER SHOULD BE PLACED AS CLOSELY AS POSSIBLE IN VERTICAL ALIGNMENT WITH A LOWER CONTAINER.
 - B. POSITION THE OPENING END OF AN UPPER CONTAINER ABOVE THE OPENING END OF A LOWER CONTAINER.
 - C. THE SKIDS OF AN UPPER CONTAINER SHOULD BE FULLY SEATED UPON THE STACKING PADS OF A LOWER CONTAINER.
2. APPLICATION OF CONTAINER TIE BARS.
 - A. TIE BARS ARE LOCATED ON THE SIDE OF THE CONTAINER.
 - B. INSTALL EIGHT TIE BARS, FOUR ON EACH SIDE OF A THREE-CONTAINER HIGH STACK. SEE INSTALLATION DETAILS ON PAGE 10.
3. INSTALLATION OF 1-1/4" X .035" UNITIZING STEEL STRAPPING.
 - A. EACH OF THE THREE SETS OF UNITIZING STRAPS SHOULD BE POSITIONED AROUND THE CONTAINERS AS SHOWN. PLACE STRAPPING SO THAT IT LAYS FLAT AND STRAIGHT WITH THE CONTOUR OF THE CONTAINERS; I.E., VERTICAL ALONG THE SIDES AND STRAIGHT ACROSS THE TOP AND BOTTOM OF THE CONTAINER.
 - B. PLACE ANTI-CHAFING NEUTRAL BARRIER MATERIAL UNDER THE STRAPPING AT ALL POINTS OF CONTACT WITH CONTAINERS AND SECURE TO PREVENT DISLODGE MENT DURING AND AFTER STRAP APPLICATION. STRIPS OF ANTI-CHAFING MATERIAL MAY BE TAPED OR STRING-TIED TO THE CONTAINER OR STRAPPING, OR IT CAN BE FORMED INTO STRAP ENCIRCLING TUBES BY WINDING THE MATERIAL AROUND THE STRAPPING TO FORM A SELF-HOLDING UNIT.

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ISOMETRIC VIEW

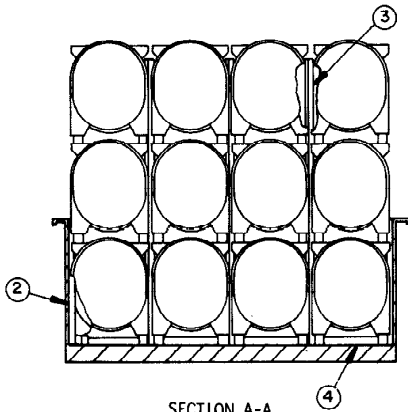
A LOAD OF M430 CONTAINERS IS SHOWN. SEE SPECIAL NOTE 2 ON PAGE 5.

SEE "TIE BAR INSTALLATION" DETAILS ON PAGE 10.

SEE SPECIAL NOTE 5 ON PAGE 5.

KEY NUMBERS

- ① END BLOCKING, 4" X 4" BY CAR WIDTH (2 REQD.). FOR CARS WITH CORRUGATED END WALLS SEE THE "TYPICAL END FILL" DETAIL ON PAGE 12.
- ② SIDE BLOCKING (4 REQD.). SEE THE "SIDE BLOCKING A" DETAIL ON PAGE 11.
- ③ ANTI-CHAFING ASSEMBLY (12 REQD.). SEE THE DETAIL ON PAGE 11. SEE THE "ANTI-CHAFING ASSEMBLY PLACEMENT" DETAIL ON PAGE 10 FOR POSITIONING. SEE GENERAL NOTE "L" ON PAGE 2.
- ④ SPACER PIECE, 2" X 4" BY CUT TO FIT BETWEEN CONTAINER SKIDS (4 REQD.). POSITION BETWEEN THE SKIDS OF AN OUTER FIRST-LAYER CONTAINER AND NAIL TO HEADER MARKED ⑤ W/4-12d NAILS.
- ⑤ HEADER, 4" X 4" BY CAR WIDTH MINUS 4" (2 REQD.).
- ⑥ STRUT, 2" X 6" BY CUT TO FIT (DOUBLED) (5 REQD.). POSITION AS SHOWN. LAMINATE W/1-10d NAIL EVERY 6". TOENAIL TO PIECES MARKED ⑤ W/2-16d NAILS AT EACH END. SEE THE "STRUT HOLD-DOWN" DETAIL ON PAGE 12.
- ⑦ STACK UNITIZING STRAP, 1-1/4" X .035" X 17'-0" LONG STEEL STRAPPING (48 REQD.). SEE THE "UNITIZATION AND HANDLING PROCEDURES" ON PAGE 3.
- ⑧ BUNDLING STRAP, 1-1/4" X .035" X 29'-0" LONG STEEL STRAPPING (6 REQD.). INSTALL TO ENCIRCLE THE LATERALLY ADJACENT TOP LAYER CONTAINERS AS SHOWN. SEE SPECIAL NOTE 4 ON PAGE 5.
- ⑨ HOLD-DOWN STRAP, 2" X .050" X 30'-0" LONG STEEL STRAPPING (10 REQD.). INSTALL EACH STRAP FROM TWO 15'-0" LONG PIECES. SEE GENERAL NOTE "J" ON PAGE 2 AND THE "HOLD-DOWN STRAP INSTALLATION AT STRAP ANCHOR DEVICE" DETAIL ON PAGE 12.
- ⑩ SEAL FOR 1-1/4" STEEL STRAPPING (108 REQD., 2 PER STRAP). DOUBLE CRIMP EACH SEAL. SEE GENERAL NOTE "J" ON PAGE 2.
- ⑪ SEAL FOR 2" STEEL STRAPPING (60 REQD., 6 PER STRAP). DOUBLE CRIMP EACH SEAL.
- ⑫ ANTI-CHAFING NEUTRAL BARRIER MATERIAL (AS REQD.). POSITION UNDER ALL STRAPS AT POINTS OF CONTACT WITH CONTAINER.



SECTION A-A

STRAPPING OMITTED FOR CLARITY.

SPECIAL NOTES:

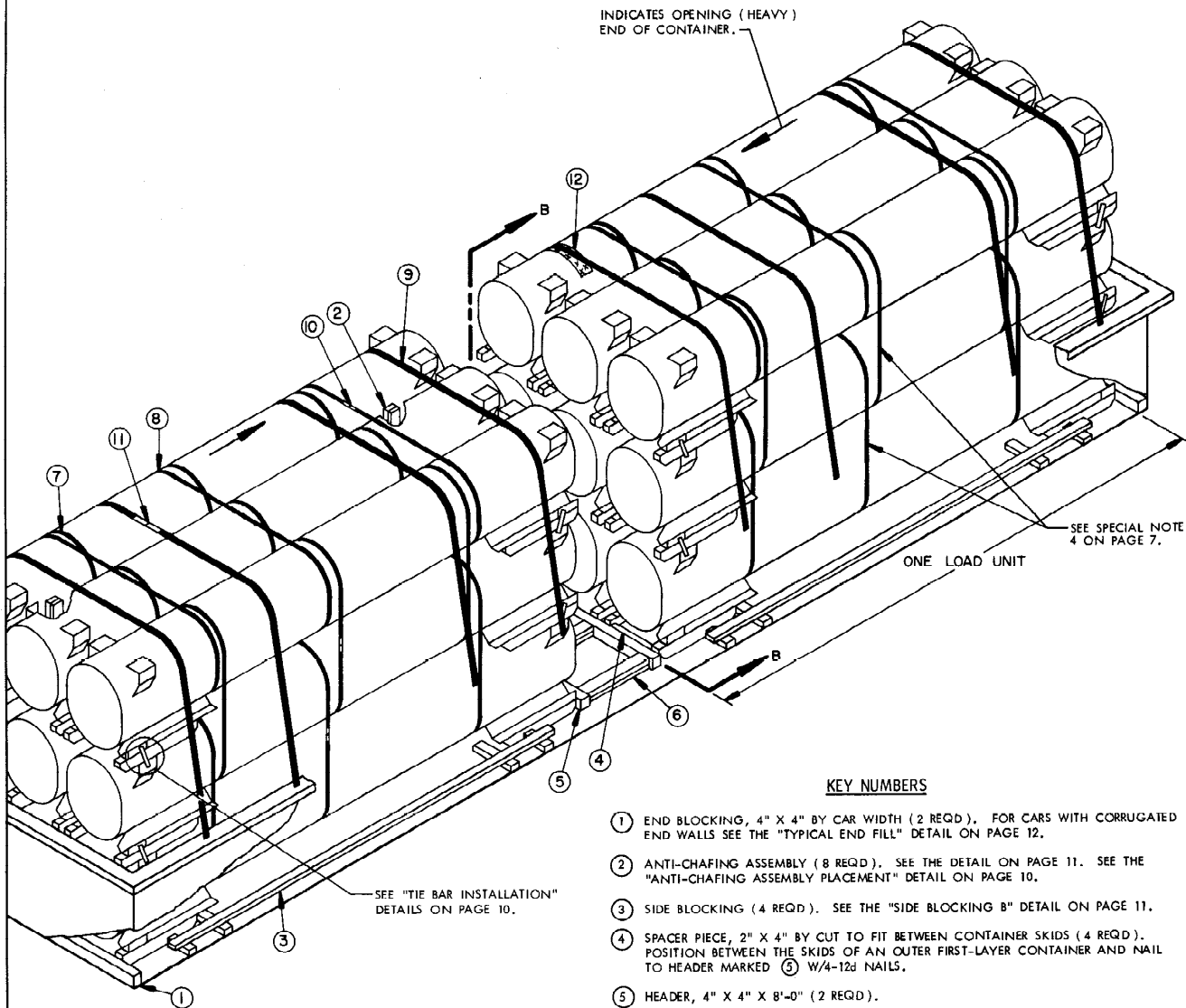
1. A 24-UNIT LOAD OF M430 CONTAINERS IS SHOWN IN A 40'-6" LONG BY 10'-0" WIDE (INSIDE DIMENSION) GONDOLA CAR HAVING A 48" CAR SIDE HEIGHT. A LONGER CAR MAY BE USED, HOWEVER A CAR LONGER THAN 41'-6" SHOULD NOT BE ORDERED FOR THE SHIPMENT OF A TWENTY-FOUR UNIT LOAD.
2. NOTE: DUE TO THE WIDTH OF THE M611 CONTAINER, A 4-CONTAINER WIDE, 24-UNIT LOAD, AS DEPICTED ON PAGE 4, CANNOT BE SHIPPED IN A GONDOLA CAR. SEE PAGES 6 AND 7 FOR PROCEDURES WHICH MUST BE USED.
3. THE DEPICTED LOAD CONFIGURATION MAY BE ADJUSTED TO SATISFY THE SHIPMENT OF A LESS-THAN-FULL-LOAD QUANTITY BY APPLYING THE "PROCEDURES FOR OMITTED CONTAINER" AS SPECIFIED ON PAGE 8. ALSO, AN ENTIRE TOP LAYER OF CONTAINERS MAY BE OMITTED FROM ONE OR BOTH LOAD UNITS.
4. CAUTION: ALL STRAPS, PIECES MARKED (7), (8) AND (9) MUST BE INSTALLED WITH CARE SO AS TO NOT HAVE AN EDGE-TO-EDGE CONTACT WITH ANOTHER STRAP.
5. FOR THE SHIPMENT OF EMPTY CONTAINERS, ELIMINATE THE TWO MIDDLE UNITIZING STRAPS, PIECES MARKED (7), FROM EACH CONTAINER STACK. ALSO ELIMINATE THE MIDDLE HOLD-DOWN STRAP, PIECE MARKED (9), FROM EACH LOAD UNIT OF TWELVE (12) CONTAINERS.

BILL OF MATERIAL

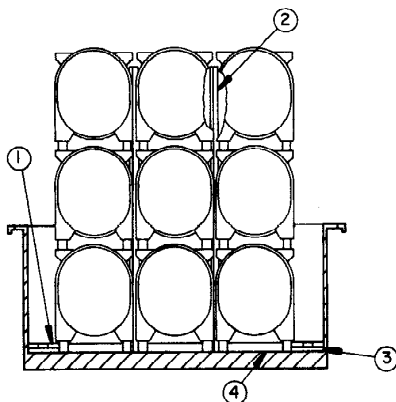
| LUMBER | LINEAR FEET | BOARD FEET |
|--|-----------------|------------|
| 1" X 4" | 108 | 36 |
| 2" X 4" | 195 | 130 |
| 2" X 6" | 34 | 34 |
| 4" X 4" | 40 | 54 |
| NAILS | NO. REQD | POUNDS |
| 6d (2") | 108 | 3/4 |
| 10d (3") | 59 | 1 |
| 12d (3-1/4") | 16 | 1/4 |
| 16d (3-1/2") | 20 | 1/2 |
| STRAPPING, STEEL, 1-1/4" X .035" ----- | 990' REQD ----- | 142 LBS |
| STRAPPING, STEEL, 2" X .050" ----- | 300' REQD ----- | 100 LBS |
| SEAL FOR 1-1/4" STRAPPING----- | 108 REQD ----- | 6 LBS |
| SEAL FOR 2" STRAPPING ----- | 60 REQD ----- | 12 LBS |
| ANTI-CHAFING MATERIAL ----- | AS REQD ----- | NIL |

LOAD AS SHOWN

| ITEM | QUANTITY | WEIGHT (APPROX) |
|----------------------|----------|-----------------|
| M430 CONTAINER ----- | 24 ----- | 77,400 LBS |
| DUNNAGE ----- | ----- | 898 LBS |
| TOTAL WEIGHT ----- | ----- | 78,298 LBS |



ISOMETRIC VIEW



SECTION B-B

STRAPPING OMITTED FOR CLARITY.

KEY NUMBERS

- ① END BLOCKING, 4" X 4" BY CAR WIDTH (2 REQD). FOR CARS WITH CORRUGATED END WALLS SEE THE "TYPICAL END FILL" DETAIL ON PAGE 12.
- ② ANTI-CHAFING ASSEMBLY (8 REQD). SEE THE DETAIL ON PAGE 11. SEE THE "ANTI-CHAFING ASSEMBLY PLACEMENT" DETAIL ON PAGE 10.
- ③ SIDE BLOCKING (4 REQD). SEE THE "SIDE BLOCKING B" DETAIL ON PAGE 11.
- ④ SPACER PIECE, 2" X 4" BY CUT TO FIT BETWEEN CONTAINER SKIDS (4 REQD). POSITION BETWEEN THE SKIDS OF AN OUTER FIRST-LAYER CONTAINER AND NAIL TO HEADER MARKED ⑤ W/4-12d NAILS.
- ⑤ HEADER, 4" X 4" X 8'-0" (2 REQD).
- ⑥ STRUT, 2" X 6" BY CUT TO FIT (DOUBLED) (4 REQD). POSITION AS SHOWN. LAMINATE W/1-10d NAIL EVERY 6". TOENAIL TO PIECES MARKED ⑤ W/2-16d NAILS AT EACH END. SEE THE "STRUT HOLD-DOWN" DETAIL ON PAGE 12.
- ⑦ STACK UNITIZING STRAP, 1-1/4" X .035" X 17'-0" LONG STEEL STRAPPING (36 REQD). SEE THE "UNITIZATION AND HANDLING PROCEDURES" ON PAGE 3.
- ⑧ BUNDLING STRAP, 1-1/4" X .035" X 24'-0" LONG STEEL STRAPPING (6 REQD). INSTALL TO ENCIRCLE THE LATERALLY ADJACENT TOP LAYER CONTAINERS AS SHOWN. SEE SPECIAL NOTE 3 ON PAGE 7.
- ⑨ HOLD-DOWN STRAP, 2" X .050" X 26'-0" STEEL STRAPPING (8 REQD). INSTALL EACH STRAP FROM TWO (2) 13'-0" LONG PIECES. SEE GENERAL NOTE "J" ON PAGE 2 AND THE "HOLD-DOWN STRAP INSTALLATION AT STRAP ANCHOR DEVICE" DETAIL ON PAGE 12.
- ⑩ SEAL FOR 1-1/4" STEEL STRAPPING (84 REQD, 2 PER STRAP). DOUBLE CRIMP EACH SEAL. SEE GENERAL NOTE "J" ON PAGE 2.
- ⑪ SEAL FOR 2" STEEL STRAPPING (48 REQD, 6 PER STRAP). DOUBLE CRIMP EACH SEAL.
- ⑫ ANTI-CHAFING NEUTRAL BARRIER MATERIAL (AS REQD). POSITION UNDER ALL STRAPS AT POINTS OF CONTACT WITH CONTAINER.

SPECIAL NOTES:

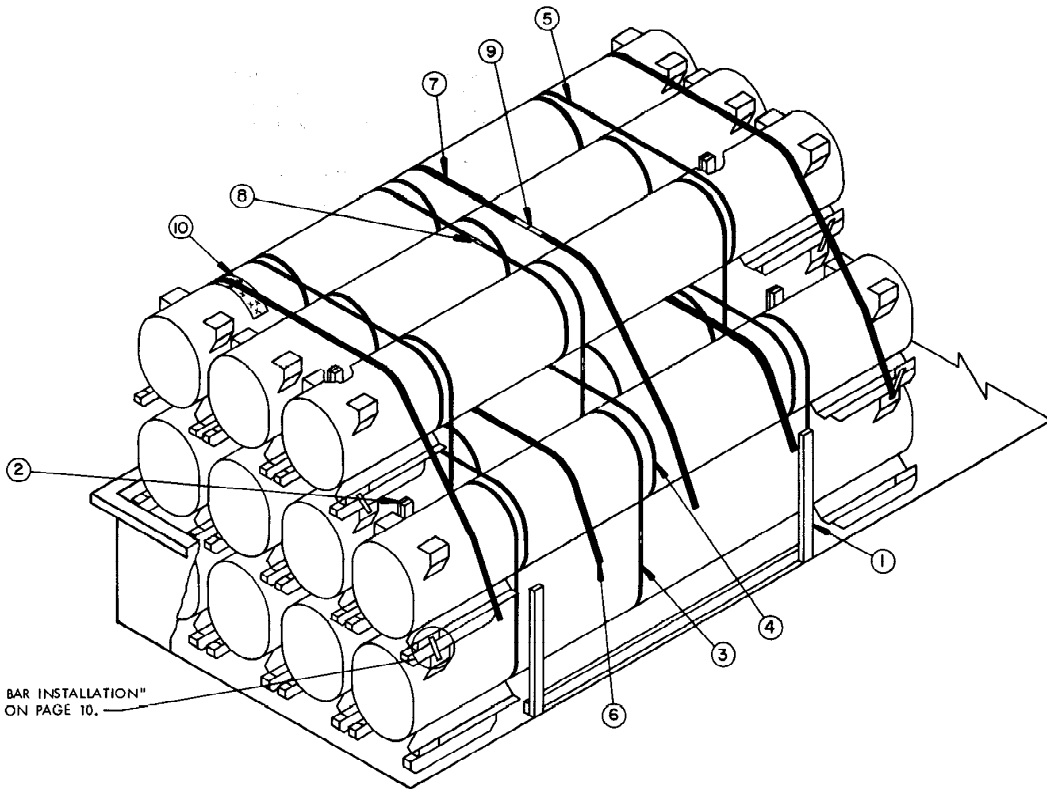
1. AN 18-UNIT LOAD OF M430 OR M611 CONTAINERS IS SHOWN IN A 40'-6" LONG BY 9'-2" WIDE (INSIDE DIMENSION) GONDOLA CAR HAVING A 48" CAR SIDE HEIGHT. A LONGER OR WIDER CAR MAY BE USED, HOWEVER A CAR LONGER THAN 41'-6" SHOULD NOT BE ORDERED FOR THE SHIPMENT OF AN EIGHTEEN UNIT LOAD.
2. THE DEPICTED LOAD CONFIGURATION MAY BE ADJUSTED TO SATISFY THE SHIPMENT OF A LESS-THAN-FULL-LOAD QUANTITY BY APPLYING THE GUIDANCE OF THE "PROCEDURES FOR OMITTED CONTAINER" AS SPECIFIED ON PAGE 8. ALSO, AN ENTIRE TOP LAYER OF CONTAINERS MAY BE OMITTED FROM ONE OR BOTH LOAD UNITS.
3. CAUTION: ALL STRAPS, PIECES MARKED ⑦, ⑧ AND ⑨ MUST BE INSTALLED WITH CARE SO AS TO NOT HAVE AN EDGE-TO-EDGE CONTACT WITH ANOTHER STRAP.
4. FOR THE SHIPMENT OF EMPTY CONTAINERS, ELIMINATE THE TWO MIDDLE UNITIZING STRAPS, PIECES MARKED ⑦, FROM EACH CONTAINER STACK.

| BILL OF MATERIAL | | |
|--|-----------------|------------|
| LUMBER | LINEAR FEET | BOARD FEET |
| 1" X 4" | 72 | 24 |
| 2" X 4" | 170 | 113 |
| 2" X 6" | 27 | 27 |
| 4" X 4" | 35 | 47 |
| NAILS | NO. REQD | POUNDS |
| 6d (2") | 72 | 1/2 |
| 10d (3") | 76 | 1-1/4 |
| 12d (3-1/4") | 16 | 1/4 |
| 16d (3-1/2") | 16 | 1/2 |
| STRAPPING, STEEL, 1-1/4" X .035" ----- | 756' REQD ----- | 108 LBS |
| STRAPPING, STEEL, 2" X .050" ----- | 208' REQD ----- | 70 LBS |
| SEAL FOR 1-1/4" STRAPPING ----- | 84 REQD ----- | 4 LBS |
| SEAL FOR 2" STRAPPING ----- | 48 REQD ----- | 10 LBS |
| ANTI-CHAFING MATERIAL ----- | AS REQD ----- | NIL |

LOAD AS SHOWN

| ITEM | QUANTITY | WEIGHT (APPROX) |
|----------------------|----------|-----------------|
| M430 CONTAINER ----- | 18 ----- | 58,050 LBS |
| DUNNAGE ----- | | 723 LBS |
| TOTAL WEIGHT ----- | | 58,773 LBS |

| ITEM | QUANTITY | WEIGHT (APPROX) |
|----------------------|----------|-----------------|
| M611 CONTAINER ----- | 18 ----- | 60,318 LBS |
| DUNNAGE ----- | | 723 LBS |
| TOTAL WEIGHT ----- | | 61,041 LBS |



ISOMETRIC VIEW

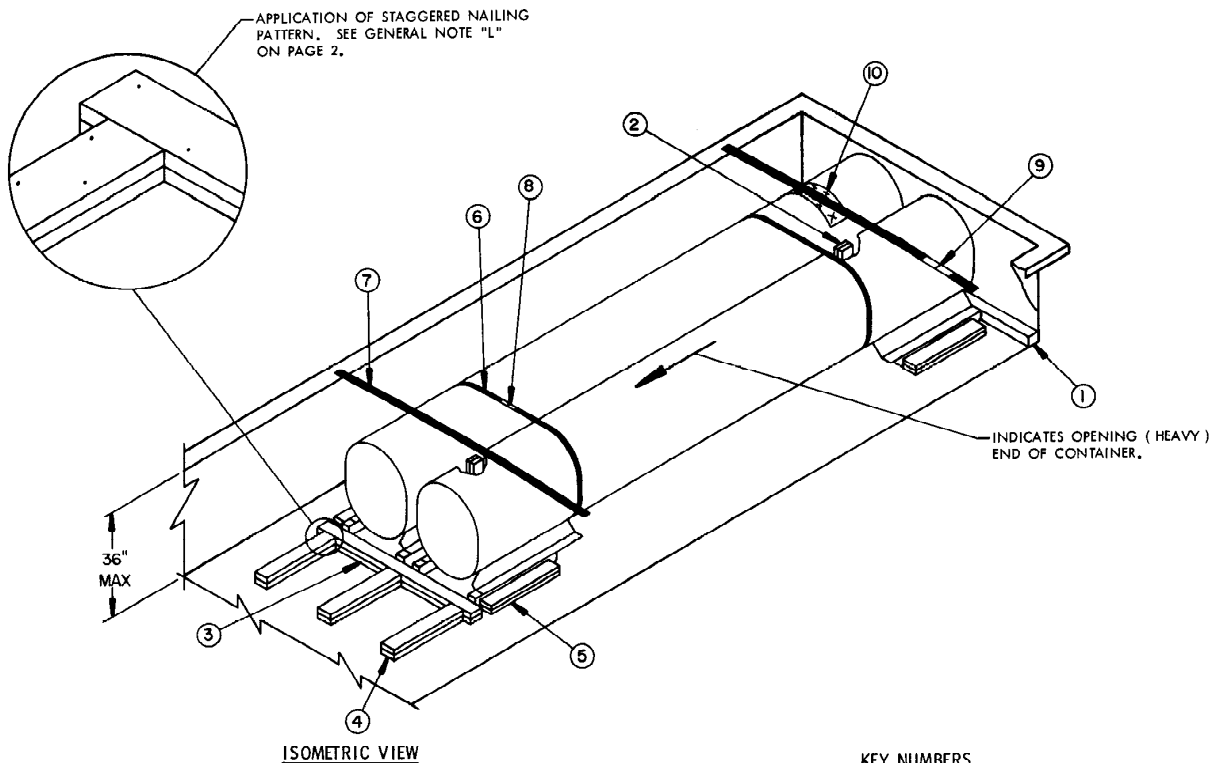
SEE SPECIAL NOTE 3 BELOW.

SPECIAL NOTES:

1. AN 11-CONTAINER LOAD UNIT OF M430 CONTAINERS IS SHOWN IN A 10'-0" WIDE (INSIDE DIMENSION) GONDOLA CAR. THIS LOAD UNIT MAY BE SUBSTITUTED FOR ANY 12-CONTAINER LOAD UNIT DEPICTED ON PAGES 4 AND 5, TO PROVIDE FOR THE SHIPMENT OF A LESS-THAN-FULL-LOAD QUANTITY. FOR A 10-CONTAINER LOAD UNIT, OMIT THE THIRD-LAYER CONTAINER FROM THE OPPOSITE OUTER STACK.
2. THE STRAPPING PROCEDURES SPECIFIED IN THE ISOMETRIC VIEW ABOVE ARE ALSO APPLICABLE FOR OMITTING ONE TOP-LAYER CONTAINER OF AN OUTER STACK TO PROVIDE AN 8-CONTAINER LOAD UNIT OF M430 OR M611 CONTAINERS IN THE 3-CONTAINER WIDE LOAD DEPICTED ON PAGES 6 AND 7. NOTE THAT ONLY ONE CONTAINER CAN BE OMITTED FROM THE TOP LAYER OF A 3-CONTAINER WIDE LOAD UNIT, THEREFORE, IF A LOAD IS TO BE REDUCED BY TWO (2) CONTAINERS, IT WILL BE NECESSARY TO OMIT ONE CONTAINER FROM EACH OF THE TWO LOAD UNITS.
3. END BLOCKING, SIDE BLOCKING, SPACERS, HEADERS, STRUTS AND OTHER DUNNAGE WILL BE INSTALLED AS SPECIFIED FOR THE APPLICABLE BASIC LOAD ON PAGE 4 OR 6.
4. **CAUTION:** ALL STRAPS, PIECES MARKED (3) THROUGH (7) MUST BE INSTALLED WITH CARE SO AS TO NOT HAVE AN EDGE-TO-EDGE CONTACT WITH ANOTHER STRAP.

KEY NUMBERS

- (1) SIDE BLOCKING (2 REQD). SEE THE "SIDE BLOCKING A" DETAIL ON PAGE 11.
- (2) ANTI-CHAFING ASSEMBLY (6 REQD; 4 FOR A THREE-HIGH STACK AND 2 FOR A TWO-HIGH STACK). SEE THE DETAIL ON PAGE 11. SEE THE "ANTI-CHAFING ASSEMBLY PLACEMENT" DETAIL ON PAGE 10 FOR POSITIONING.
- (3) STACK UNITIZING STRAP, 1-1/4" X .035" X 17'-0" LONG STEEL STRAPPING (21 REQD). SEE THE "UNITIZATION AND HANDLING PROCEDURES" ON PAGE 3 AND GENERAL NOTE "J" ON PAGE 2.
- (4) BUNDLING STRAP, 1-1/4" X .035" X 29'-0" LONG STEEL STRAPPING (3 REQD). INSTALL TO ENCIRCLE THE LATERALLY ADJACENT SECOND-LAYER CONTAINERS. SEE SPECIAL NOTE 4 AT LEFT.
- (5) BUNDLING STRAP, 1-1/4" X .035" X 24'-0" LONG STEEL STRAPPING (3 REQD). INSTALL TO ENCIRCLE THE LATERALLY ADJACENT TOP-LAYER CONTAINERS. SEE SPECIAL NOTE 4 AT LEFT.
- (6) HOLD-DOWN STRAP, 2" X .050" X 24'-0" LONG STEEL STRAPPING (2 REQD). INSTALL EACH STRAP FROM ONE PIECE OF STRAPPING; ANCHOR IT TO A STRAP ANCHOR DEVICE ON ONE SIDE OF THE CAR, RUN IT OVER THE SECOND-LAYER CONTAINERS, PASS IT THROUGH A STRAP ANCHOR DEVICE ON THE OTHER SIDE OF THE CAR, AND BRING IT BACK UP ABOVE THE ANCHOR DEVICE WHERE IT CAN BE TENSIONED AND SEALED. SEE GENERAL NOTE "J" ON PAGE 2 AND THE "HOLD-DOWN STRAP INSTALLATION AT STRAP ANCHOR DEVICE" DETAIL ON PAGE 12.
- (7) HOLD-DOWN STRAP, 2" X .050" X 30'-0" LONG STEEL STRAPPING (3 REQD). INSTALL EACH STRAP FROM TWO 15'-0" LONG PIECES.
- (8) SEAL FOR 1-1/4" STEEL STRAPPING (54 REQD, 2 PER STRAP). DOUBLE CRIMP EACH SEAL.
- (9) SEAL FOR 2" STEEL STRAPPING (26 REQD, 4 PER STRAP MARKED (6) AND 6 PER STRAP MARKED (7)). DOUBLE CRIMP EACH SEAL.
- (10) ANTI-CHAFING NEUTRAL BARRIER MATERIAL (AS REQD). POSITION UNDER ALL STRAPS AT POINTS OF CONTACT WITH CONTAINER.



APPLICATION OF STAGGERED NAILING PATTERN. SEE GENERAL NOTE "L" ON PAGE 2.

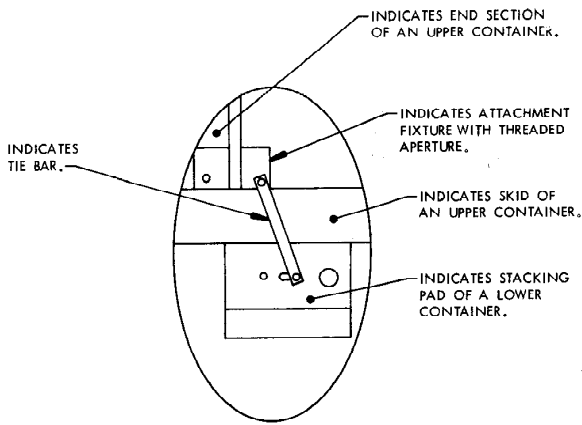
INDICATES OPENING (HEAVY) END OF CONTAINER.

SPECIAL NOTES:

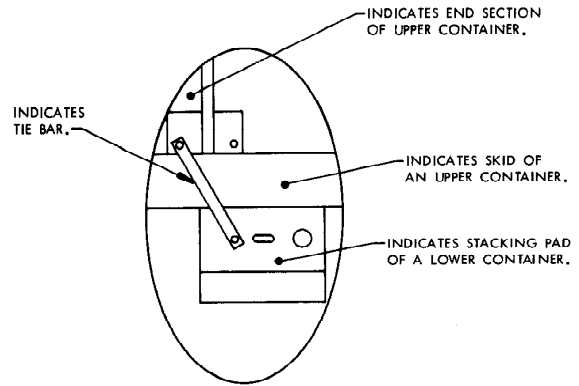
1. A 2-UNIT LOAD OF M430 OR M611 CONTAINERS IS SHOWN IN AN 8'-6" WIDE (INSIDE DIMENSION) GONDOLA CAR WITH A 36" MAXIMUM CAR SIDE HEIGHT AND HAVING A WOOD OR NAILABLE METAL FLOOR.
2. THREE (3) BACK-UP CLEATS, SHOWN AS PIECE MARKED (4), ARE ADEQUATE FOR RETAINING A MAXIMUM LCL LOAD OF FOUR (4) CONTAINERS.
3. IF A 1-UNIT LOAD SHIPMENT IS DESIRED, THE FOLLOWING ADJUSTMENTS TO THE DEPICTED LOAD WILL BE REQUIRED. OMIT PIECES MARKED (2), (6) AND (8) AND ONE OF PIECE MARKED (4). ALSO, REDUCE THE LENGTH OF PIECE MARKED (3) TO 36" AND PIECES MARKED (5) TO 24".

KEY NUMBERS

- (1) END BLOCKING, 4" X 4" BY CAR WIDTH (1 REQD). SEE THE "TYPICAL END FILL" DETAIL ON PAGE 12.
- (2) ANTI-CHAFING ASSEMBLY (2 REQD). SEE THE DETAIL ON PAGE 11. SEE THE "ANTI-CHAFING ASSEMBLY PLACEMENT" DETAIL ON PAGE 10.
- (3) HEADER, 2" X 6" X 66" (DOUBLED) (1 REQD). NAIL THE FIRST PIECE TO THE CAR FLOOR W/1-16d NAIL EVERY 8". NAIL THE SECOND PIECE TO THE FIRST W/1-40d NAIL EVERY 8". SEE GENERAL NOTE "L" ON PAGE 2.
- (4) BACK-UP CLEAT, 2" X 6" X 30" (DOUBLED) (3 REQD). ALIGN WITH CONTAINER SKIDS AND NAIL THE FIRST PIECE TO THE CAR FLOOR W/6-16d NAILS, NAIL THE SECOND PIECE TO THE FIRST W/6-40d NAILS.
- (5) SIDE BLOCKING, 2" X 6" X 30" (DOUBLED) (4 REQD). NAIL THE FIRST PIECE TO THE CAR FLOOR W/7-16d NAILS. NAIL THE SECOND PIECE TO THE FIRST IN A LIKE MANNER.
- (6) BUNDLING STRAP, 1-1/4" X .035" X 19'-0" LONG STEEL STRAPPING (2 REQD). INSTALL TO ENCIRCLE THE LATERALLY ADJACENT CONTAINERS AS SHOWN.
- (7) HOLD-DOWN STRAP, 2" X .050" X 15'-0" LONG STEEL STRAPPING (2 REQD). INSTALL EACH STRAP FROM ONE PIECE OF STRAPPING; ANCHOR IT TO A STRAP ANCHOR DEVICE ON ONE SIDE OF THE CAR, RUN IT OVER THE LOAD, PASS IT THROUGH A STRAP ANCHOR DEVICE ON THE OPPOSITE SIDE OF THE CAR, AND BRING IT BACK UP ABOVE THE STRAP ANCHOR DEVICE WHERE IT CAN BE TENSIONED AND SEALED. SEE GENERAL NOTE "J" ON PAGE 2.
- (8) SEAL FOR 1-1/4" STEEL STRAPPING (4 REQD, 2 PER STRAP). DOUBLE CRIMP EACH SEAL. SEE GENERAL NOTE "J" ON PAGE 2.
- (9) SEAL FOR 2" STEEL STRAPPING (8 REQD, 4 PER STRAP). DOUBLE CRIMP EACH SEAL.
- (10) ANTI-CHAFING NEUTRAL BARRIER MATERIAL (AS REQD). POSITION UNDER ALL STRAPS AT POINTS OF CONTACT WITH CONTAINER.



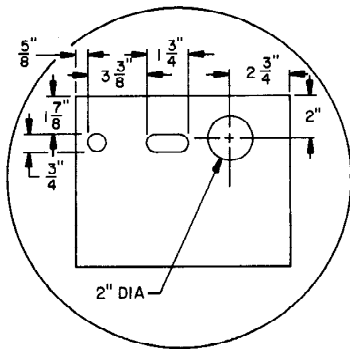
PREFERRED METHOD



ALTERNATE METHOD

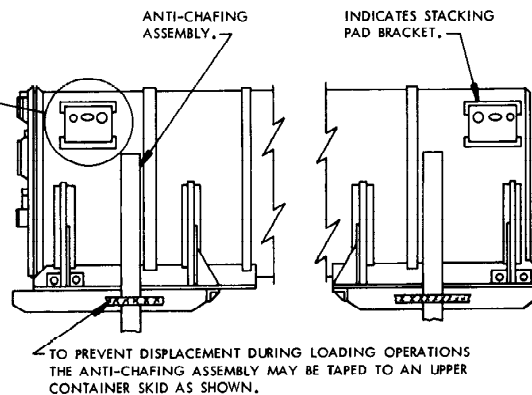
TIE BAR INSTALLATION

NOTE: AT THE OTHER END OF A STACK, THE TIE BAR WILL ANGLE UPWARD IN A DIRECTION OPPOSITE TO THAT SHOWN ABOVE AND TOWARD THE ADJACENT END SECTION OF THE UPPER CONTAINER.



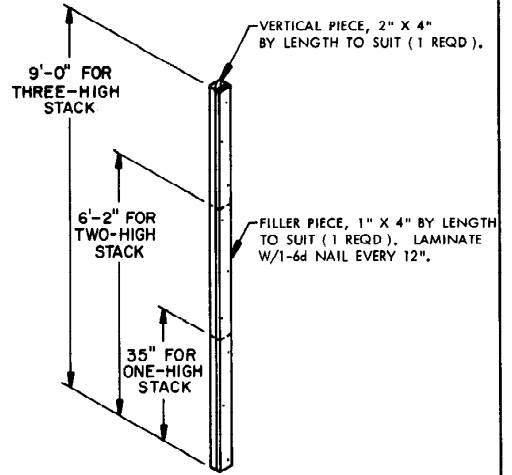
DETAIL C

BRACKET AT OTHER END OF CONTAINER IS OPPOSITE HAND, SEE GENERAL NOTE "N" ON PAGE 2.

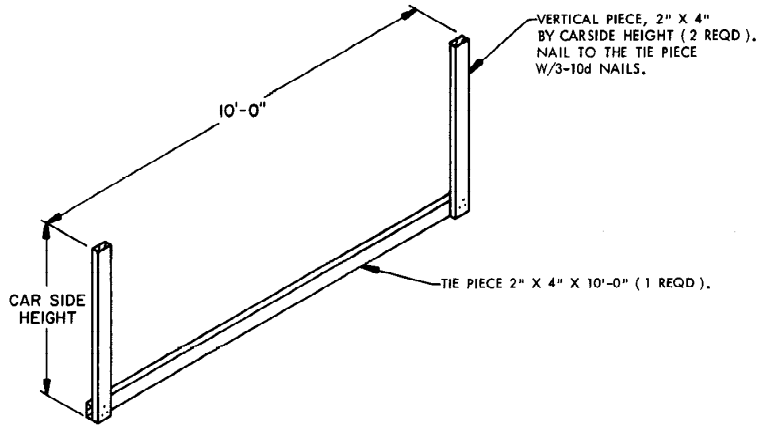


ANTI-CHAFING ASSEMBLY PLACEMENT

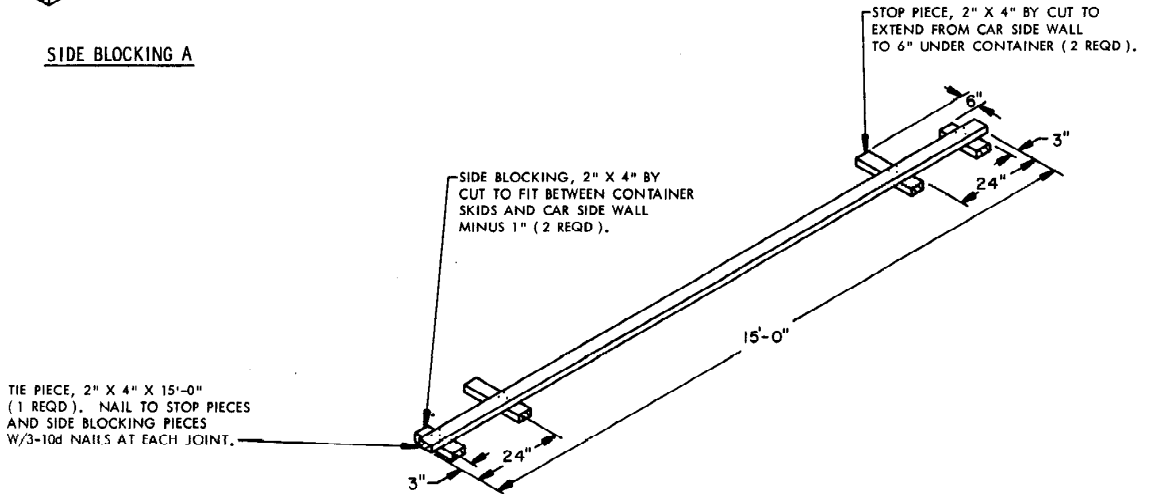
THE ANTI-CHAFING ASSEMBLY WILL BE PLACED AS SHOWN WHEN LOADING THE M430 CONTAINER. WHEN LOADING THE M611 CONTAINER, WHICH HAS THE WIDER SKIDS, THE ANTI-CHAFING ASSEMBLY WILL BE MOVED INBOARD, SO AS TO BE CAPTURED BEHIND THE INBOARD END OF THE SKID. THE ASSEMBLY MAY BE TAPED TO THE CONTAINER TO PREVENT DISPLACEMENT DURING LOADING OPERATIONS.



ANTI-CHAFING ASSEMBLY

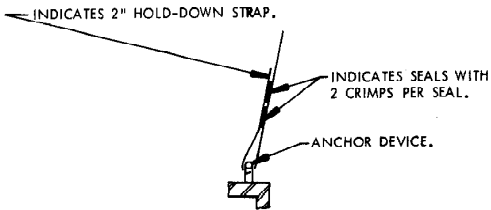


SIDE BLOCKING A

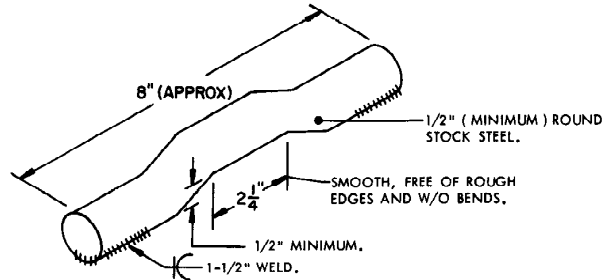


SIDE BLOCKING B

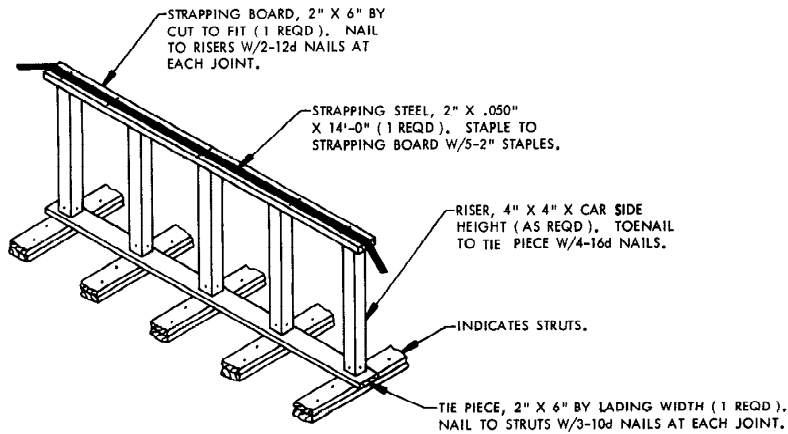
DETAILS



**HOLD-DOWN STRAP INSTALLATION
AT STRAP ANCHOR DEVICE**

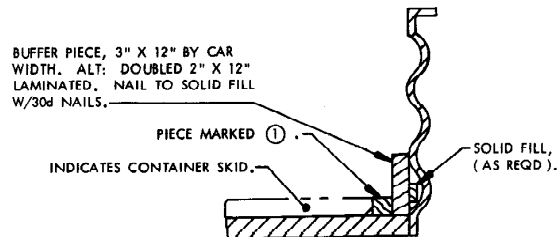


STRAP ANCHOR DEVICE DETAIL
SEE GENERAL NOTE "D" ON PAGE 2.



STRUT HOLD-DOWN

FOR STRUTS GREATER THAN 48" IN LENGTH.



TYPICAL END FILL

FOR CARS WITH CORRUGATED
END WALLS.