MLRS AND GMLRS

LOADING AND BRACING (CL & LCL) IN KOREAN GONDOLA CARS OF ROCKET POD/ CONTAINERS (RP/C) FOR MULTIPLE LAUNCH ROCKET SYSTEM AND GUIDED MULTIPLE LAUNCH ROCKET SYSTEM

INDEX

U.S. ARMY MATERIEL COMMAND DRAWING

APPROVED, U.S. ARMY
AVIATION AND MISSILE COMMAND

Joseph Fisher

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

U.S. ARMY DEFENSE AMMUNITION CENTER

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DO NOT SCALE			JUNE 1987
ENGINEER OR TECHNICIAN	BASIC	RALPH ARNOLD	
	REV.	MELVIN SIX	REVISION NO. 2 — JANUARY 2005
TRANSPORTATION ENGINEERING DIVISION	G. L. Willis		SEE THE REVISION LISTING ON PAGE 3
VALIDATION ENGINEERING DIVISION	TESTED		
ENGINEERING DIRECTORATE			

CLASS	DIVISION	DRAWING	FILE
19	48	5541	GM5RS3

PROJECT GM 808-86

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 SHOWN HEREIN ARE APPLICABLE FOR SHIPMENTS IN KOREAN GONDOLA CARS WHICH ARE 42'-9" (13,030MM) LONG BY 9'-5" (2,870MM) WIDE BY 52" (1,336MM) HIGH (INSIDE DIMENSIONS). THE PROCEDURES MAY BE ADJUSTED TO SUIT CARS OF OTHER SIZES.

C. THE OUTLOADING PROCEDURES CONTAINED HEREIN ARE APPLICABLE TO THE MULTIPLE LAUNCH ROCKET SYSTEM (MLRS) AND GUIDED MULTIPLE LAUNCH SYSTEM (GMLRS) ROCKET/POD CONTAINER (RP/C). SUBSEQUENT REFERENCE TO CONTAINER HEREIN MEANS THE RP/C WITH ROCKET COMPONENTS.

D. FOR DETAILS OF THE ROCKET POD/CONTAINER, SEE US ARMY MISSILE COMMAND DRAWING NO. 13027900 AND DETAILS ON PAGE 3.

E. THE ROCKET IS AN EXPLOSIVE ITEM. THE OUTLOADING PROCEDURES SPECIFIED HEREIN 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.

F. THE SELECTION OF RAILCARS FOR THE TRANSPORT OF THE DESIGNATED ITEM IS THE RESPONSIBILITY OF THE ORIGINATING CARRIER AND THE SHIPPER. ONLY CARS WHICH HAVE "SOUND" FLOORS AND ARE IN OTHERWISE PROPER CONDITION, IN ACCORDANCE WITH THE REQUIREMENTS OF THE APPLICABLE REGULATORY DOCUMENT, WILL BE SELECTED.

G. THE NUMBER OF CONTAINERS MAY BE ADJUSTED TO FIT THE SIZE OF THE GONDOLA CAR BEING LOADED OR THE QUANTITY TO BE SHIPPED; HOWEVER, THE APPROVED METHODS CONTAINED HEREIN MUST BE FOLLOWED AS CLOSELY AS POSSIBLE FOR BLOCKING, BRACING, AND STAYING OF THE CONTAINERS. NOTICE: A SHIPMENT WILL BE POSITIONED IN THE RAILCAR IN COMPLIANCE WITH WEIGHT DISTRIBUTION REQUIREMENTS.

H. OTHER TYPES OF LADING ITEMS MAY BE LOADED IN A CAR WHICH IS PARTIALLY LOADED WITH THE DESIGNATED ITEMS, PROVIDING THE TOTAL LOAD IS COMPATIBLE, EXISTING DIRECTIVES ARE NOT VIOLATED, AND THE OTHER LADING ITEMS ARE BLOCKED AND BRACED TO EQUAL THE BLOCKING AND BRACING CRITERIA SPECIFIED HEREIN.

J. DUNNAGE LUMBER SPECIFIED THROUGHOUT THIS PROCEDURAL DRAWING IS OF A NOMINAL SIZE, UNLESS OTHERWISE SPECIFIED. FOR EXAMPLE, 1" X 6" MATERIAL IS ACTUALLY 3/4" THICK BY 5-1/2" WIDE AND 2" X 4" MATERIAL IS ACTUALLY 1-1/2" THICK BY 3-1/2" WIDE.

K. NOTICE: A STAGGERED NAILING PATTERN WILL BE USED WHENEVER POSSIBLE WHEN NAILS ARE DRIVEN INTO JOINTS OF DUNNAGE ASSEMBLIES. ALSO, A STAGGERED NAILING PATTERN WILL BE USED WHEN LAMINATING DUNNAGE. 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 INTO OR RIGHT BESIDE A NAIL IN A LOWER PIECE.

(CONTINUED AT RIGHT)

(GENERAL NOTES CONTINUED)

L. WHEN STEEL STRAPPING IS SEALED IN AN END-OVER-END LAP JOINT, A MINIMUM OF ONE SEAL WITH TWO PAIR OF NOTCHES WILL BE USED TO SEAL THE JOINT WHEN A NOTCH-TYPE SEALER IS BEING USED. A MINIMUM OF TWO SEALS, BUTTED TOGETHER, WITH TWO PAIR OF CRIMPS PER SEAL WILL BE USED TO SEAL THE JOINT WHEN A CRIMP-TYPE SEALER IS USED. REFER TO THE "STRAP JOINT A" AND "STRAP JOINT B" DETAILS ON PAGE 13.

M. PORTIONS OF THE GONDOLA CARS DEPICTED WITHIN THIS PROCEDURAL DRAWING, SUCH AS SIDEWALLS AND ENDWALLS HAVE NOT BEEN SHOWN IN THE LOAD VIEWS FOR CLARITY PURPOSES.

N. THE PROCEDURES DEPICTED WITHIN THIS DRAWING ARE BASED ON THE USE OF DIMENSIONAL SIZED LUMBER. IN MOST CASES, THE METRIC EQUIVALENT IS GIVEN IN PARENTHESIS FOLLOWING THE DIMENSION. HOWEVER, WHERE THE METRIC EQUIVALENT IS NOT SHOWN, IT MAY BE COMPUTED ON THE BASIS OF ONE INCH EQUALS 25.4MM AND ONE POUND EQUALS 0.454 KG. METRIC EQUIVALENTS FOR TORQUE ARE BASED ON ONE FOOT-POUND EQUALS 0.7376 NEWTON-METERS.

O. FOR ADDITIONAL GUIDANCE, ATTENTION IS DIRECTED TO THE "SPECIAL NOTES" SECTIONS WHICH ARE IMMEDIATELY ADJACENT TO THE DEPICTED OUTLOADING METHODS. ATTENTION IS ALSO DIRECTED TO THE "SPECIAL HANDLING GUIDANCE" ON PAGE 3 AND TO THE "PREPARATION OF ROCKET POD/CONTAINER FOR SHIPMENT DETAILS ON PAGE 9.

MATERIAL SPECIFICATIONS

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

REVISIONS

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

ADDING THE MLRS POD STABILIZING FRAME.

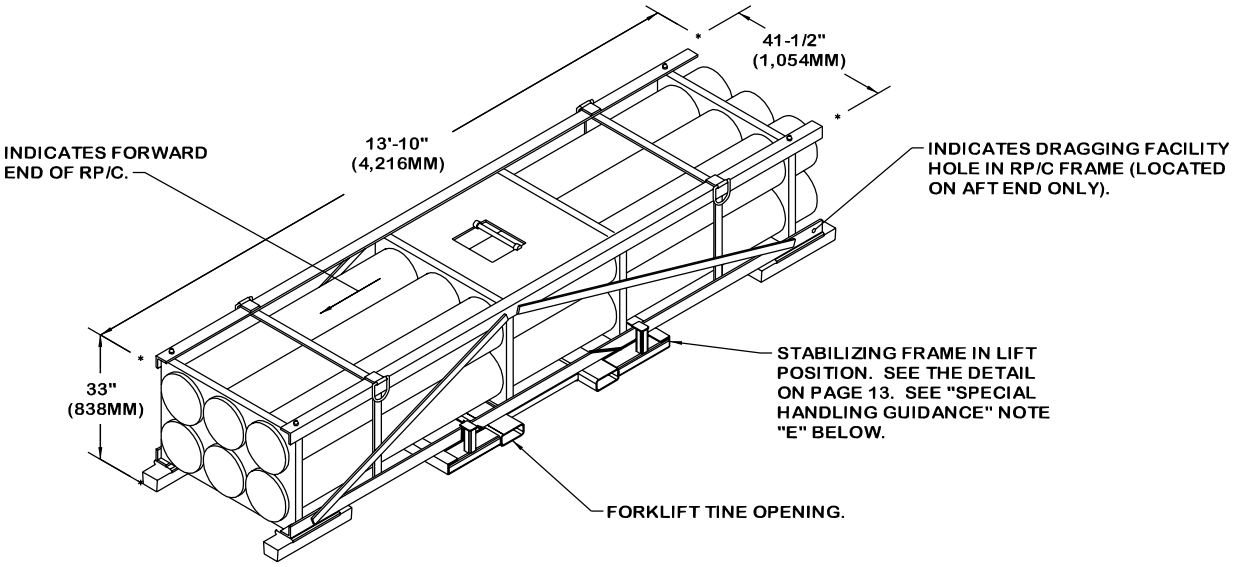
REVISION NO. 2, DATED JANUARY 2005, CONSISTS OF:

1. ADDING GMLRS TO THE DRAWING.

2. ADDING GROSS WEIGHT TABLE.

GROSS WEIGHT OF MULTIPLE LAUNCH ROCKET SYSTEM AND GUIDED MULTIPLE LAUNCH ROCKET SYSTEM

NSN	DODIC	DESCRIPTION	WEIGHT (LBS)	WEIGHT (KGS)
1340-01-122-3506	H104	MLRS M26	5,094	2,311
1340-01-149-0918	H108	PRACTICE M28	5,094	2,311
1340-01-370-9666	H185	REDUCED RANGE PRACTICE ROCKET M28A1	5,090	2,309
1340-01-484-9001	H185	REDUCED RANGE PRACTICE ROCKET M28A1	5,020	2,278
1340-01-450-5876	H186	EXTENDED RANGE M26A2	4,990	2,264
1340-01-490-9695	HA22	GMLRS XM30	5,020	2,278
1340-01-517-4757	---	GMLRS UNITARY	5,093	2,310



ROCKET POD/CONTAINER

(SPECIAL HANDLING GUIDANCE CONTINUED)

B. IF THE CONTAINERS ARE BEING HANDLED INDIVIDUALLY FOR THE 2-HIGH LOAD ON PAGE 4, A BOTTOM LAYER CONTAINER MUST BE PLACED IN THE FINAL LOADING POSITION. A TOP LAYER CONTAINER IS THEN PLACED DIRECTLY ON TOP OF THE BOTTOM LAYER CONTAINER. THE UPPER CONTAINER SHOULD BE PLACED AS CLOSELY AS POSSIBLE IN VERTICAL ALIGNMENT WITH THE LOWER CONTAINER. THE TWO CONTAINERS SHALL THEN BE UNITIZED USING TWO 1-1/4" X .035" OR .031" (32MM X .889MM OR .787MM) STEEL STRAPS PLACED AS SHOWN FOR THE DUNNAGE STRAP IN FIGURE 2 ON PAGE 9.

C. IF A CONTAINER STACK IS BEING HANDLED AND POSITIONED INTO THE CAR AT ONE TIME, THE STACK MUST BE UNITIZED AS DESCRIBED IN 2.B ABOVE PRIOR TO ITS MOVEMENT.

D. WHEN A CONTAINER STACK IS BEING UNITIZED, CARE MUST BE EXERCISED WHEN TIGHTENING THE STRAPS TO ENSURE THAT THE ALUMINUM FRAME MEMBERS OF THE CONTAINERS ARE NOT "PULLED IN" OR DEFORMED.

E. IF HANDLING PRIOR TO LOADING OPERATIONS IS ACCOMPLISHED WITH A FORKLIFT TRUCK, THE TINES OF THE FORKLIFT ARE INSERTED INTO THE MLRS POD STABILIZING FRAME SHOWN IN THE DETAIL ON PAGE 13. THE FORKLIFT CARRIAGE IS TO BE CENTERED ON THE CENTER OF BALANCE MARK ON THE MLRS POD. NOTE: 1/4" SAFETY CHAINS ARE NOT SHOWN BUT WILL BE WELDED TO THE STABILIZING FRAME AT THE MOST DIRECT LOCATION FOR ATTACHMENT TO THE FORKLIFT CARRIAGE BY SECURE HOOKING.

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

G. THE DUNNAGE ASSEMBLIES AT THE ENDS OF THE GONDOLA CAR MUST BE POSITIONED PRIOR TO THE LOADING OF THE ADJACENT CONTAINERS IN THE GONDOLA. FOR THE 2-LAYER LOAD ON PAGE 4, ONCE THE FIRST STACK OF CONTAINERS IS IN POSITION, THE SECOND STACK CAN BE POSITIONED SUBSEQUENT TO THE INSTALLATION OF THE ANTI-CHAFING ASSEMBLY.

SPECIAL HANDLING GUIDANCE

1. CONTAINER PREPARATION PRIOR TO STACKING FOR OUTLOADING.

   A. EVERY CONTAINER TO BE SHIPPED IN THE TOP LAYER MUST FIRST BE PREPARED BY STRAPPING TWO STRAPPING BOARDS AND A SPACER ASSEMBLY TO IT AS DEPICTED IN FIGURE 1 ON PAGE 9.

   B. EVERY CONTAINER TO BE SHIPPED IN THE BOTTOM LAYER MUST FIRST BE PREPARED BY STRAPPING A RISER ASSEMBLY AND A SPACER ASSEMBLY TO IT AS DEPICTED IN FIGURE 2 ON PAGE 9.

   C. TO AID IN THE INSTALLATION OF THE SPACER ASSEMBLY TO THE CONTAINER, THE CONTAINER SHOULD BE SUPPORTED BY TWO 4" X 4" PIECES POSITIONED LATERALLY UNDER THE SKIDS SLIGHTLY OUTWARD FROM THE MAIN CONTAINER FRAME ENDS.

2. CONTAINER STACKING FOR OUTLOADING PURPOSES AND CONTAINER OR CONTAINER STACK HANDLING.

   NOTES: (1) MATERIALS HANDLING EQUIPMENT (MHE) IS INTENDED TO MEAN EQUIPMENT, SUCH AS FORKLIFT TRUCKS, CRANES, HAND TRUCKS, DOLLIES, ROLLER ASSEMBLIES, SLINGS, AND SPREADER BARS, THAT CAN BE USED TO HANDLE THE DEPICTED CONTAINERS.

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

   A. IF AVAILABLE MHE DOES NOT HAVE AN ALLOWABLE CAPACITY GREAT ENOUGH TO CARRY A STACK OF TWO CONTAINERS (APPROXIMATELY 10,200 POUNDS) IN ONE LIFT, THEN THE CONTAINERS MUST BE HANDED INDIVIDUALLY. ONLY APPROVED AND APPROPRIATELY SIZED MHE WILL BE USED FOR THE HANDLING OF THE DEPICTED CONTAINERS.

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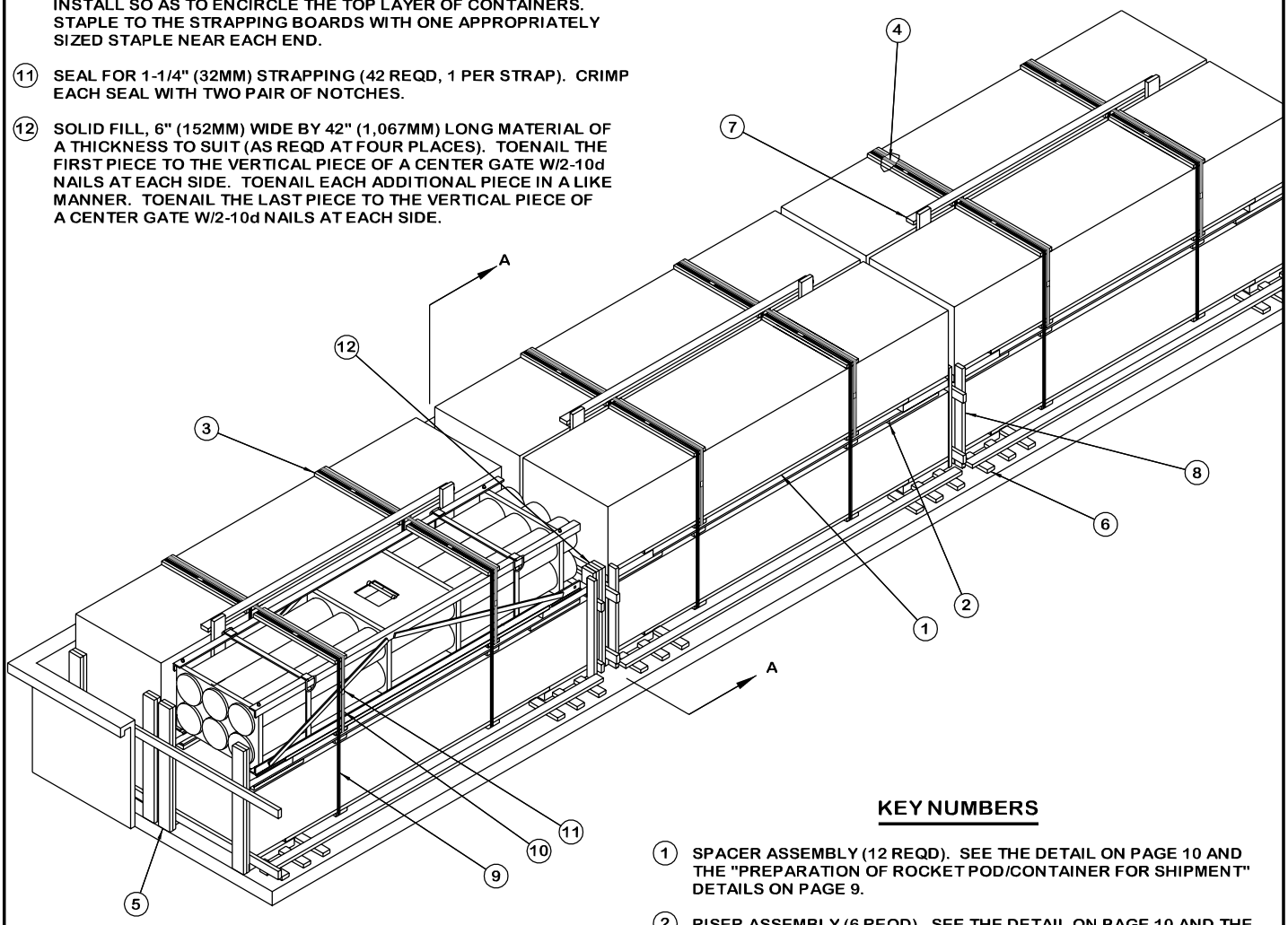
(KEY NUMBERS CONTINUED)

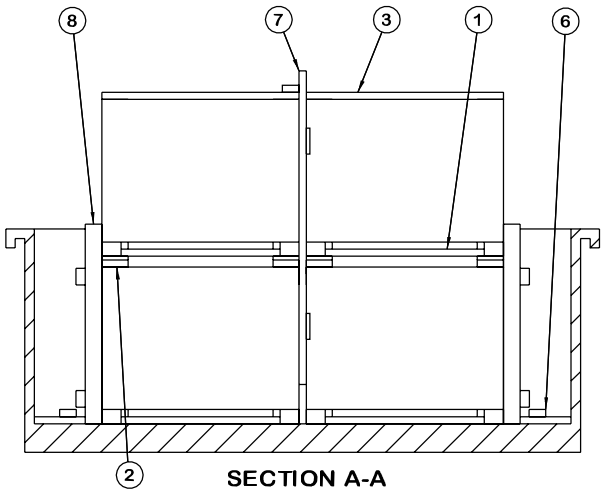
⑩ BUNDLING STRAP, 1-1/4" X .035" OR .031" (32MM X .889MM OR .787MM) BY 21'-0" (6,401MM) LONG STEEL STRAPPING (6 REQD). INSTALL SO AS TO ENCIRCLE THE TOP LAYER OF CONTAINERS. STAPLE TO THE STRAPPING BOARDS WITH ONE APPROPRIATELY SIZED STAPLE NEAR EACH END.

⑪ SEAL FOR 1-1/4" (32MM) STRAPPING (42 REQD, 1 PER STRAP). CRIMP EACH SEAL WITH TWO PAIR OF NOTCHES.

⑫ SOLID FILL, 6" (152MM) WIDE BY 42" (1,067MM) LONG MATERIAL OF A THICKNESS TO SUIT (AS REQD AT FOUR PLACES). TOENAIL THE FIRST PIECE TO THE VERTICAL PIECE OF A CENTER GATE W/2-10d NAILS AT EACH SIDE. TOENAIL EACH ADDITIONAL PIECE IN A LIKE MANNER. TOENAIL THE LAST PIECE TO THE VERTICAL PIECE OF A CENTER GATE W/2-10d NAILS AT EACH SIDE.



ISOMETRIC VIEW



SECTION A-A

STEEL STRAPPING, PIECES MARKED ④, ⑨, AND ⑩ OMITTED FOR CLARITY.

KEY NUMBERS

① SPACER ASSEMBLY (12 REQD). SEE THE DETAIL ON PAGE 10 AND THE "PREPARATION OF ROCKET POD/CONTAINER FOR SHIPMENT" DETAILS ON PAGE 9.

② RISER ASSEMBLY (6 REQD). SEE THE DETAIL ON PAGE 10 AND THE "PREPARATION OF ROCKET POD/CONTAINER FOR SHIPMENT" DETAILS ON PAGE 9.

③ STRAPPING BOARD, 2" X 6" X 40" (51MM X 152MM X 1,016MM) (12 REQD).

④ DUNNAGE STRAP, 1-1/4" X .035" OR .031" (32MM X .889MM OR .787MM) BY 13'-6" (4,115MM) LONG STEEL STRAPPING (24 REQD). STAPLE TO THE RISER ASSEMBLY, PIECE MARKED ②, AND/OR TO THE STRAPPING BOARD, PIECE MARKED ③, WITH TWO STAPLES. SEE THE "PREPARATION OF ROCKET POD/CONTAINER FOR SHIPMENT" DETAILS ON PAGE 9.

⑤ ENDWALL BULKHEAD (2 REQD). SEE THE DETAIL ON PAGE 11.

⑥ SIDE BLOCKING ASSEMBLY (6 REQD). SEE THE DETAIL ON PAGE 11.

⑦ ANTI-CHAFING ASSEMBLY A (3 REQD). SEE THE DETAIL ON PAGE 10. INSTALL PRIOR TO FINAL POSITIONING OF SECOND STACK IN EACH LOAD BAY. WIRE TIE TO FIRST STACK AT FOUR LOCATIONS WITH 18" (457MM) LENGTHS OF WIRE.

⑧ CENTER GATE (3 REQD). SEE THE DETAIL ON PAGE 11.

⑨ UNITIZING STRAP, 1-1/4" X .035" OR .031" (32MM X .889MM OR .787MM) BY 19'-0" (5,791MM) LONG STEEL STRAPPING (12 REQD). INSTALL DIRECTLY ON TOP OF DUNNAGE STRAPS ON THE CONTAINERS SO AS TO ENCIRCLE A STACK OF TWO CONTAINERS, EXTENDING STRAP OVER THE STRAPPING BOARD ON THE TOP CONTAINER AND UNDER THE CROSS PIECE TO THE SPACER ASSEMBLY ON THE LOWER CONTAINER. STAPLE TO THE STRAPPING BOARD WITH TWO APPROPRIATELY SIZED STAPLES.

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12-RP/C LOAD IN A 42'-9" LONG BY 9'-5" WIDE GONDOLA CAR

PROJECT GM 808-86

SPECIAL NOTE:

A 12-UNIT LOAD IS SHOWN IN A KOREAN GONDOLA. IF IT IS DESIRED TO SHIP 11 ROCKET POD/CONTAINERS IT WILL BE NECESSARY TO INSTALL A FILLER ASSEMBLY IN THE PLACE OF AN OMITTED CONTAINER. THE CONTAINER WILL BE OMITTED FROM THE CENTER LOAD BAY. SEE THE "FILLER ASSEMBLY A" DETAIL AND THE "INSTALLATION OF FILLER ASSEMBLY" DETAIL ON PAGE 8. NOTE THAT THE FILLER ASSEMBLY MUST BE ASSEMBLED TO THE ROCKET POD/CONTAINERS PRIOR TO LOADING BY ADDING FILLER ASSEMBLIES TO BOTH CENTER AREA CONTAINERS.

BILL OF MATERIAL

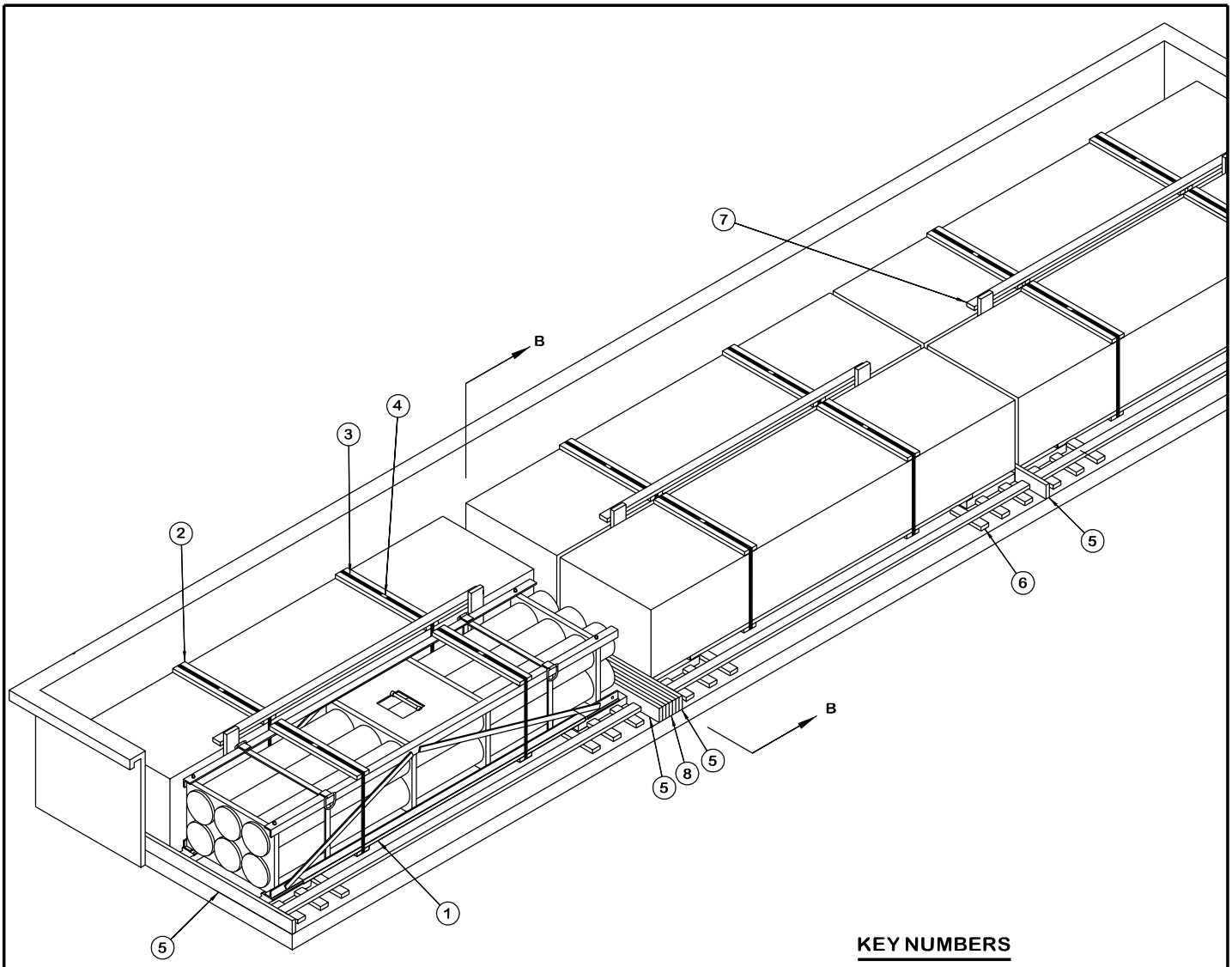
LUMBER	LINEAR FEET	BOARD FEET
1" X 6" (25MM X 152MM)	259 (78,943MM)	130
2" X 4" (51MM X 102MM)	264 (80,467MM)	176
2" X 6" (51MM X 152MM)	652 (198,730MM)	652
NAILS	**NO. REQD**	**POUNDS**
6d (2") (51MM)	300	2
10d (3") (76MM)	526	8-1/4
16d (3-1/2") (89MM)	36	1
STEEL STRAPPING, 1-1/4" - - 678' REQD - - - -		97 LBS
SEAL FOR 1-1/4" STRAPPING - - 42 REQD - - - -		2 LBS
WIRE - - - - - - - - - - - - - - 18' REQD - - - - -		NIL

LOAD AS SHOWN

ITEM	QUANTITY	WEIGHT (APPROX)
CONTAINER - - - - - -	12 - - -	61,128 LBS (27,727 KG)
DUNNAGE - - - - - - - - - - - -		2,027 LBS (920 KG)
TOTAL WEIGHT- - - - -		63,155 LBS (28,647 KG) (APPROX)

12-RP/C LOAD IN A 42'-9" LONG BY 9'-5" WIDE GONDOLA CAR

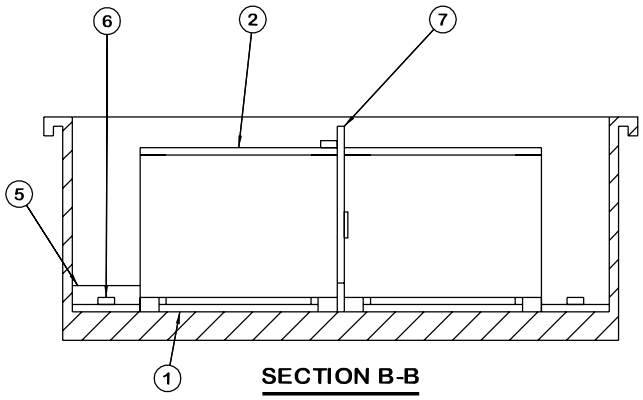
PROJECT GM 808-86



ISOMETRIC VIEW

KEY NUMBERS

1. SPACER ASSEMBLY (6 REQD). SEE THE DETAIL ON PAGE 10 AND THE "PREPARATION OF ROCKET POD/CONTAINER FOR SHIPMENT" DETAILS ON PAGE 9.
2. STRAPPING BOARD, 2" X 6" X 40" (51MM X 152MM X 1,016MM) (12 REQD).
3. DUNNAGE STRAP, 1-1/4" X .035" OR .031" (32MM X .889MM OR .787MM) BY 13'-6" (4,115MM) LONG STEEL STRAPPING (12 REQD). STAPLE TO THE STRAPPING BOARD, PIECE MARKED (2), WITH TWO STAPLES. SEE THE "PREPARATION OF ROCKET POD/CONTAINER FOR SHIPMENT" DETAILS ON PAGE 9.
4. SEAL FOR 1-1/4" (32MM) STRAPPING (12 REQD, 1 PER STRAP). CRIMP EACH SEAL WITH TWO PAIR OF NOTCHES.
5. HEADER, 2" X 6" (51MM X 152MM) BY CAR WIDTH MINUS 1/2" (13MM) (5 REQD). POSITION ON EDGE AGAINST CAR ENDWALL AND/OR BETWEEN CONTAINERS AS SHOWN.
6. SIDE BLOCKING ASSEMBLY (6 REQD). SEE THE DETAIL ON PAGE 11.
7. ANTI-CHAFING ASSEMBLY (3 REQD). SEE THE "ANTI-CHAFING ASSEMBLY B" DETAIL ON PAGE 12. INSTALL PRIOR TO FINAL POSITIONING OF SECOND CONTAINER IN EACH LOAD BAY. WIRE TIE TO FIRST CONTAINER AT TWO LOCATIONS WITH 18" (457MM) LONG WIRE.
8. SOLID FILL, 2" X 6" (51MM X 152MM) BY CAR WIDTH MINUS 1/2" (13MM) (AS REQD). NAIL OR TOENAIL THE FIRST PIECE TO A HEADER, PIECE MARKED (5), W/4-10d NAILS. NAIL OR TOENAIL EACH ADDITIONAL PIECE IN A LIKE MANNER. SECURE LAST PIECE TO OTHER HEADER, PIECE MARKED (5), W/4-10d NAILS.



SECTION B-B

DUNNAGE STRAP, PIECE MARKED (3), OMITTED OF CLARITY.

6-RP/C LOAD IN A 42'-9" LONG BY 9'-5" WIDE GONDOLA CAR

PROJECT GM 808-86

SPECIAL NOTE:

A SIX UNIT LOAD IS SHOWN IN A KOREAN GONDOLA. IF IT IS DESIRED TO SHIP FIVE ROCKET POD/CONTAINERS IT WILL BE NECESSARY TO INSTALL A FILLER ASSEMBLY IN THE PLACE OF AN OMITTED CONTAINER. SEE THE "FILLER ASSEMBLY B" DETAIL ON PAGE 12. THE FILLER SHOULD BE INSTALLED IN THE CENTER AREA OF THE CAR, ORIENTED AS INDICATED BY THE DETAIL. FOUR ROCKET POD/CONTAINERS CAN BE LOADED BY INSTALLING TWO FILLER ASSEMBLIES IN THE CENTER AREA. NOTE THAT IT MAY BE NECESSARY TO APPLY ANOTHER THICKNESS OF 2" X 4" (51MM X 102MM) TO THE FILL PIECE ON ONE FILLER ASSEMBLY TO PROVIDE FOR PROPER ALIGNMENT OF THE FILLER ASSEMBLY WITH THE LONGITUDINALLY ADJACENT CONTAINERS.

BILL OF MATERIAL

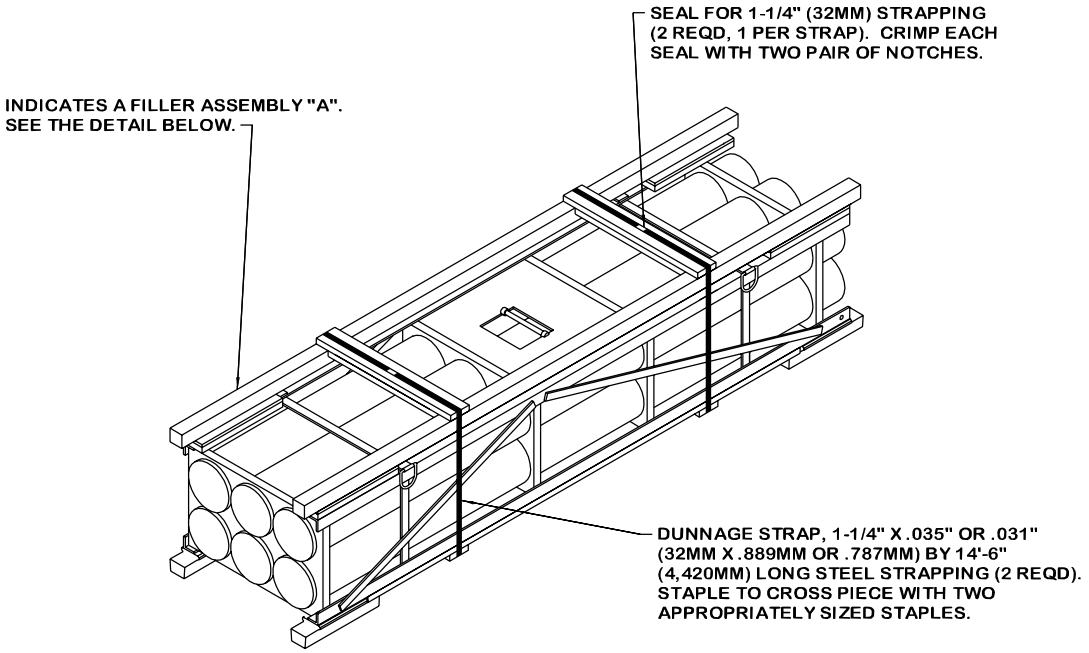
LUMBER	LINEAR FEET	BOARD FEET
1" X 6" (25MM X 152MM)	36 (914MM)	18
2" X 4" (51MM X 102MM)	157 (4,039MM)	105
2" X 6" (51MM X 152MM)	319 (8,103MM)	319
NAILS	**NO. REQD**	**POUNDS**
6d (2") (51MM)	18	1/4
10d (3") (76MM)	246	4

STEEL STRAPPING, 1-1/4" - - 162' REQD - - - - 24 LBS
SEAL FOR 1-1/4" STRAPPING - - 12 REQD - - - - 1/2 LB
WIRE - - - - - - - - - - - - - - 9' REQD - - - - - NIL

LOAD AS SHOWN

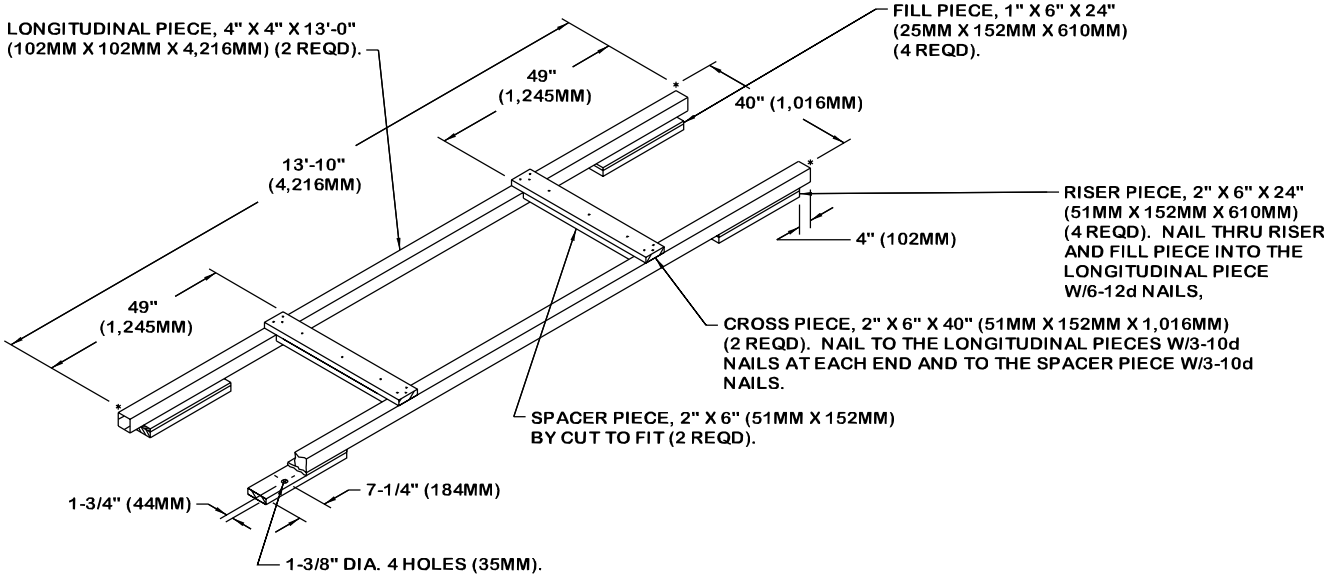
ITEM	QUANTITY	WEIGHT (APPROX)
CONTAINER	8	30,564 LBS (13,864 KG)
DUNNAGE		913 LBS (415 KG)
TOTAL WEIGHT		31,477 LBS (14,278 KG) (APPROX)

6-RP/C LOAD IN A 42'-9" LONG BY 9'-5" WIDE GONDOLA CAR



INSTALLATION OF FILLER ASSEMBLY

THIS VIEW DEPICTS A FILLER ASSEMBLY "A" ATTACHED TO A ROCKET POD/CONTAINER FOR USE IN OMITTING A CONTAINER FROM A TOP LAYER. THE FILLER ASSEMBLY MUST BE ASSEMBLED TO THE ROCKET POD/CONTAINER PRIOR TO PLACEMENT IN THE CAR.



FILLER ASSEMBLY A

THIS ASSEMBLY IS DESIGNED FOR USE IN THE PLACE OF A ROCKET POD/CONTAINER OMITTED FROM THE TOP LAYER OF A 2-LAYER LOAD.

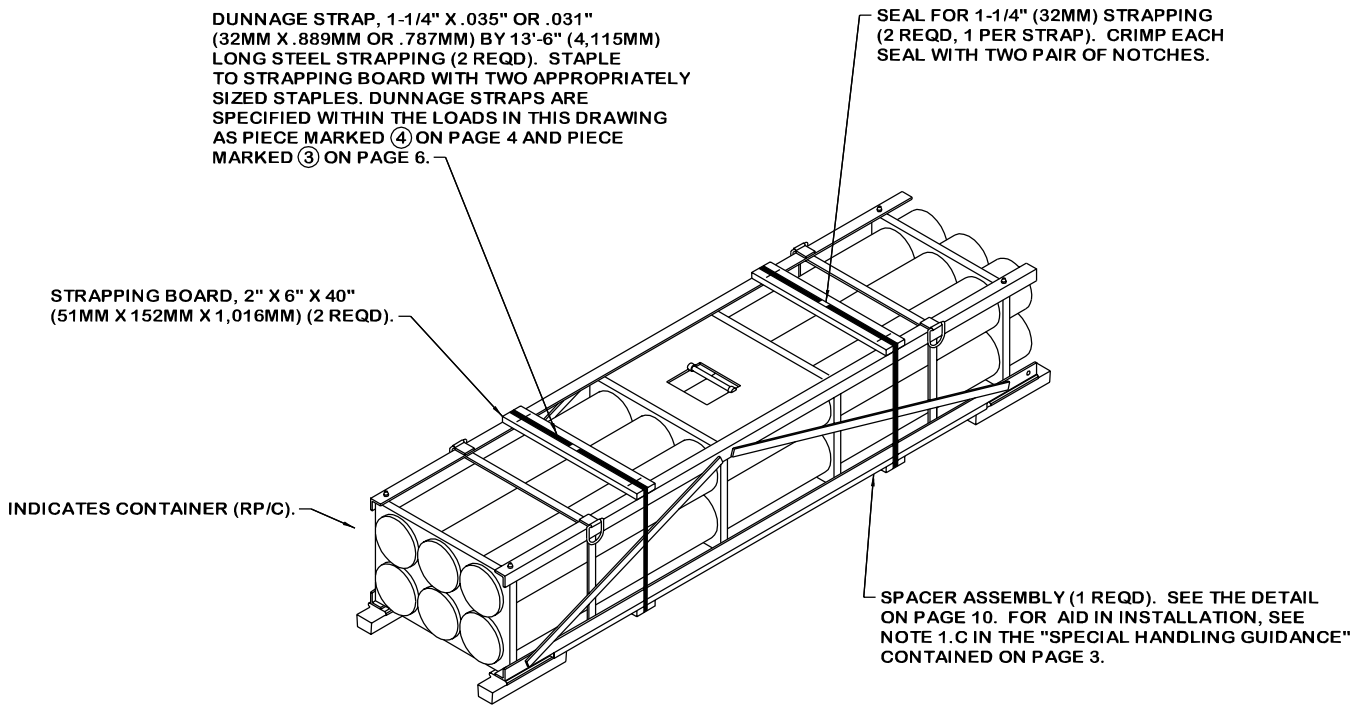


FIGURE 1

THIS VIEW DEPICTS AN UPPER LAYER CONTAINER OF A TWO LAYER LOAD OR A CONTAINER IN A ONE LAYER LOAD WITH REQUIRED DUNNAGE/DUNNAGE ASSEMBLIES ATTACHED. THE DUNNAGE/DUNNAGE ASSEMBLIES MUST BE ASSEMBLED TO THE CONTAINER PRIOR TO LOADING INTO THE GONDOLA CAR.

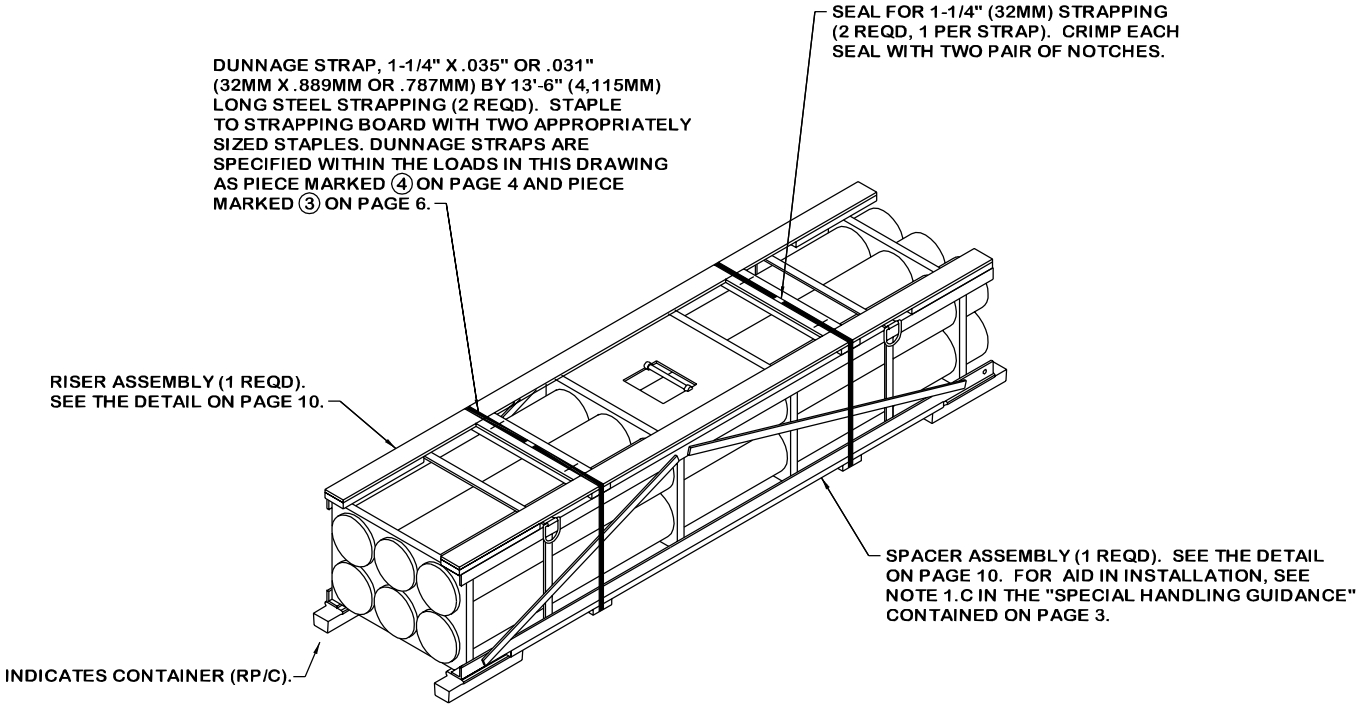
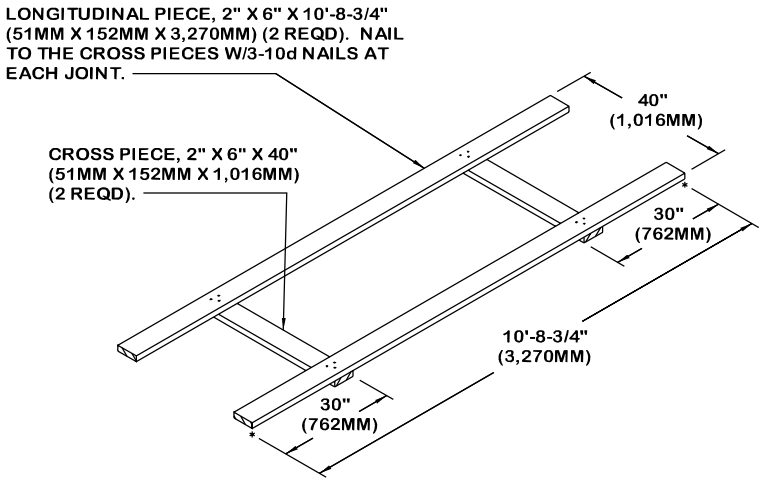
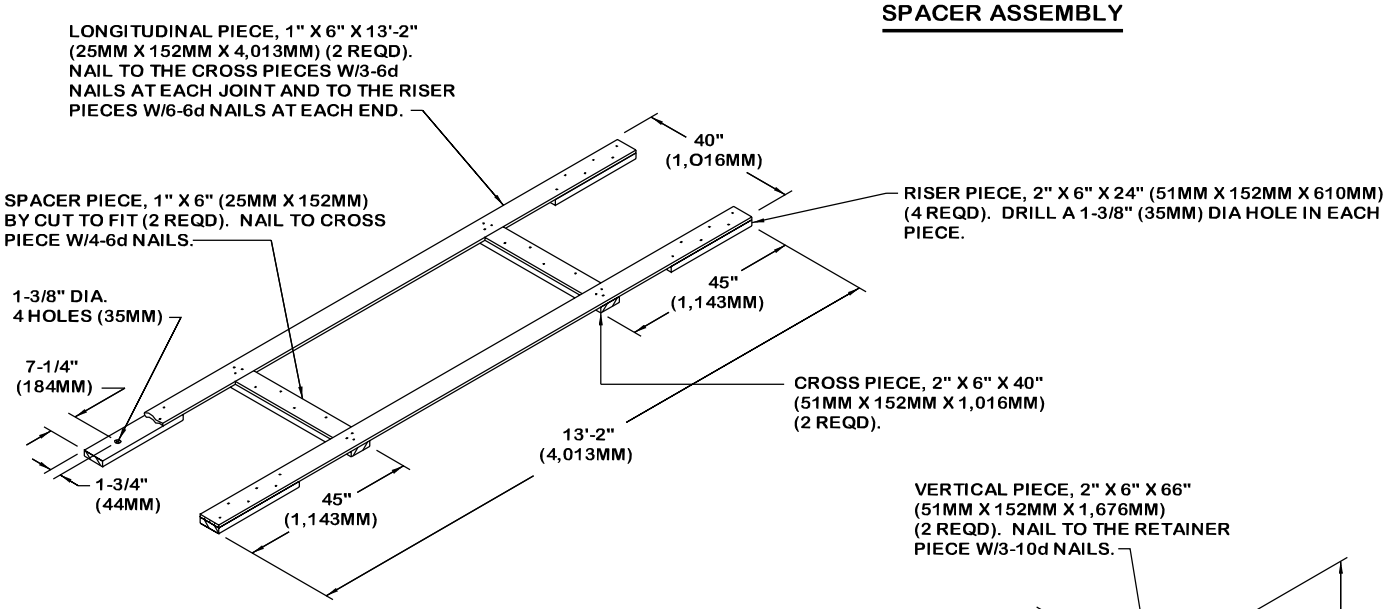


FIGURE 2

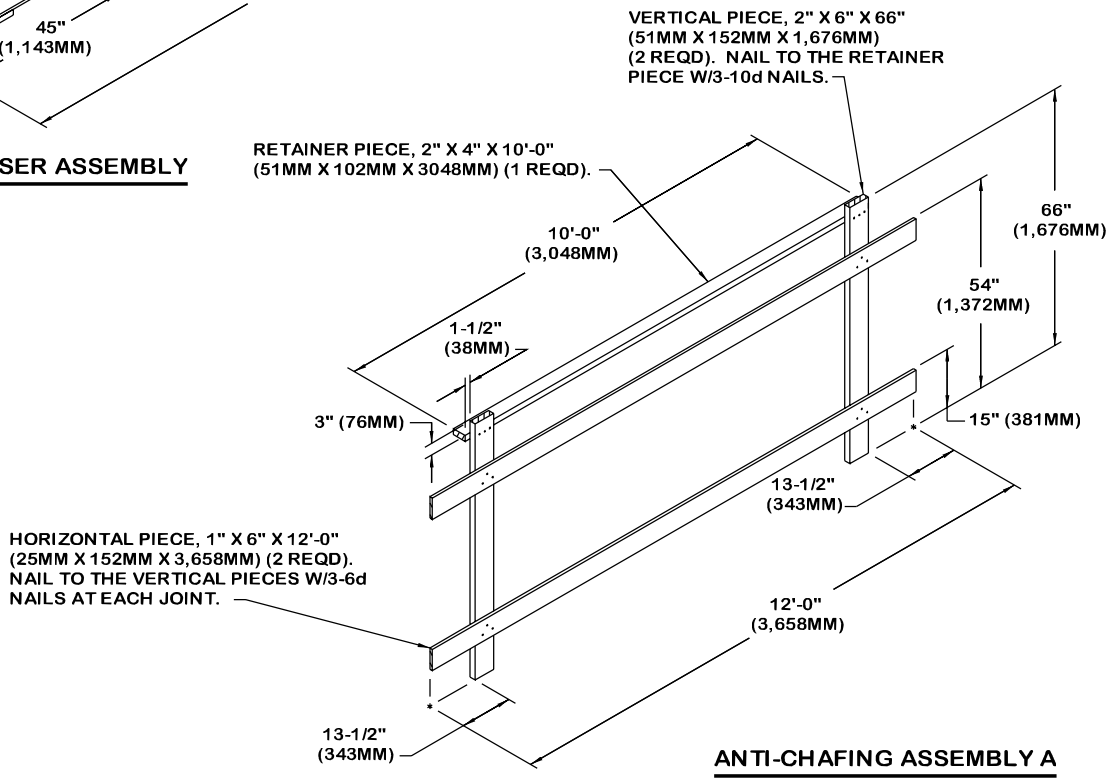
THIS VIEW DEPICTS A LOWER LAYER CONTAINER OF A TWO LAYER LOAD WITH THE REQUIRED DUNNAGE ASSEMBLIES ATTACHED. THE DUNNAGE ASSEMBLIES MUST BE ASSEMBLED TO THE CONTAINER PRIOR TO LOADING THE GONDOLA CAR.



SPACER ASSEMBLY

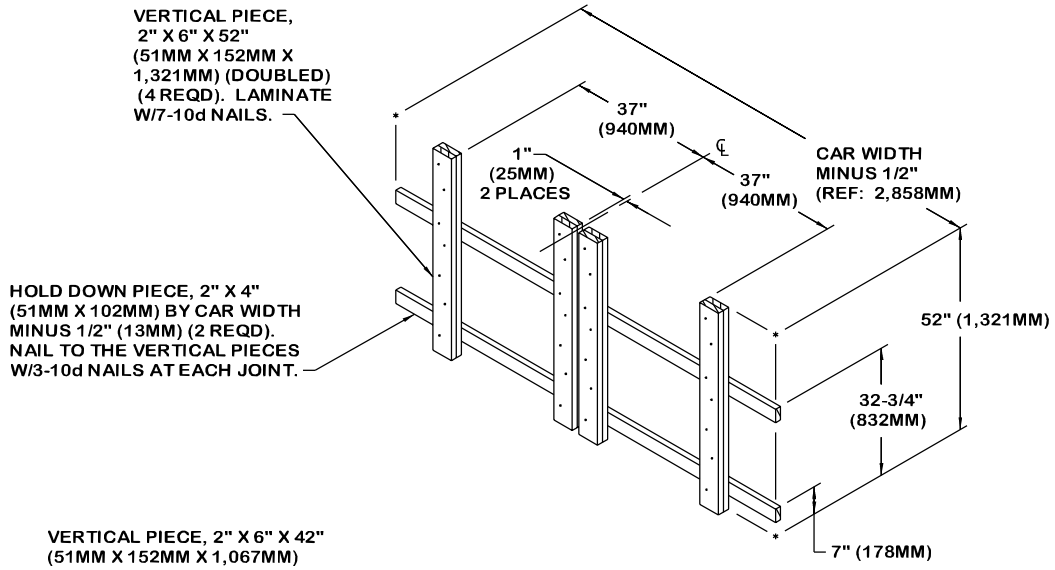


RISER ASSEMBLY



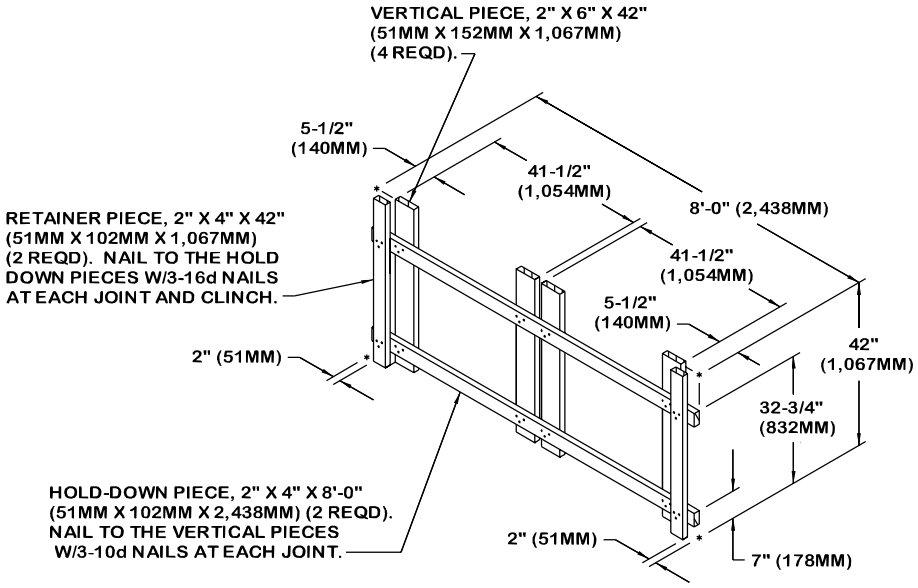
ANTI-CHAFING ASSEMBLY A

PROJECT GM 808-86



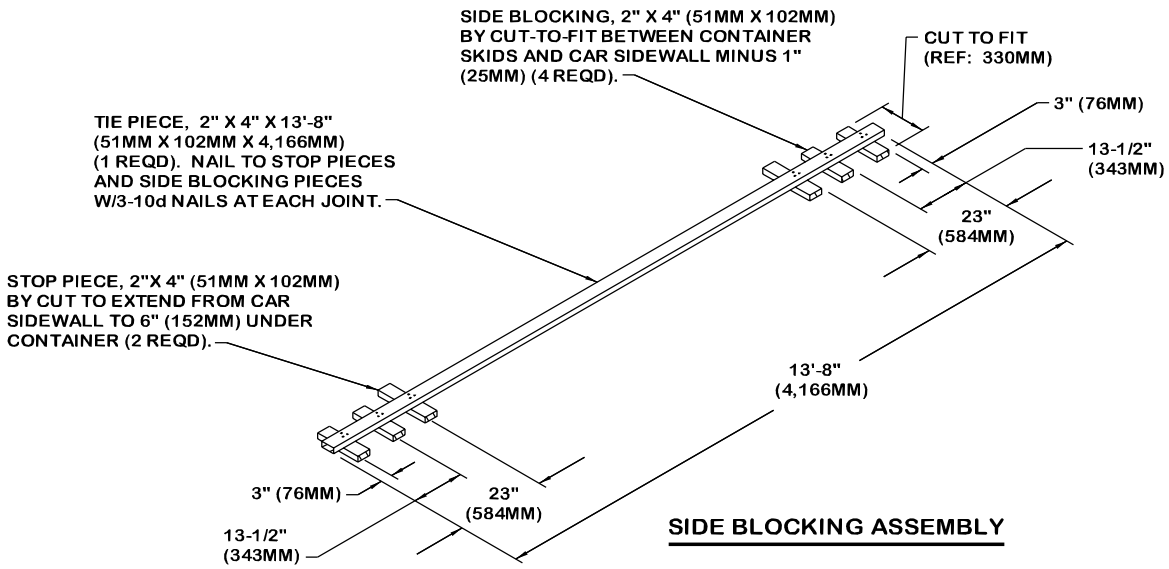
ENDWALL BULKHEAD

FOR A 2-HIGH LOAD.

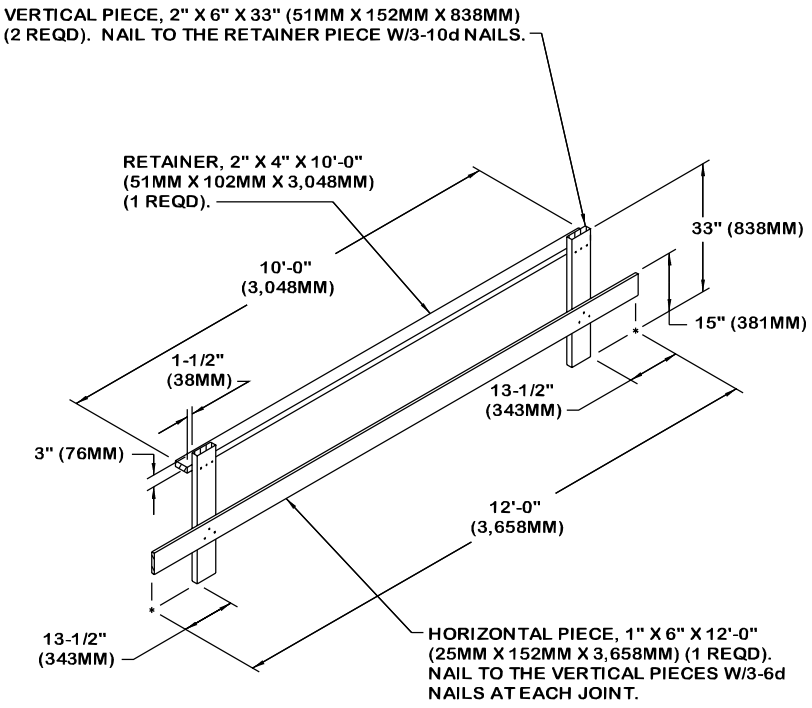


CENTER GATE

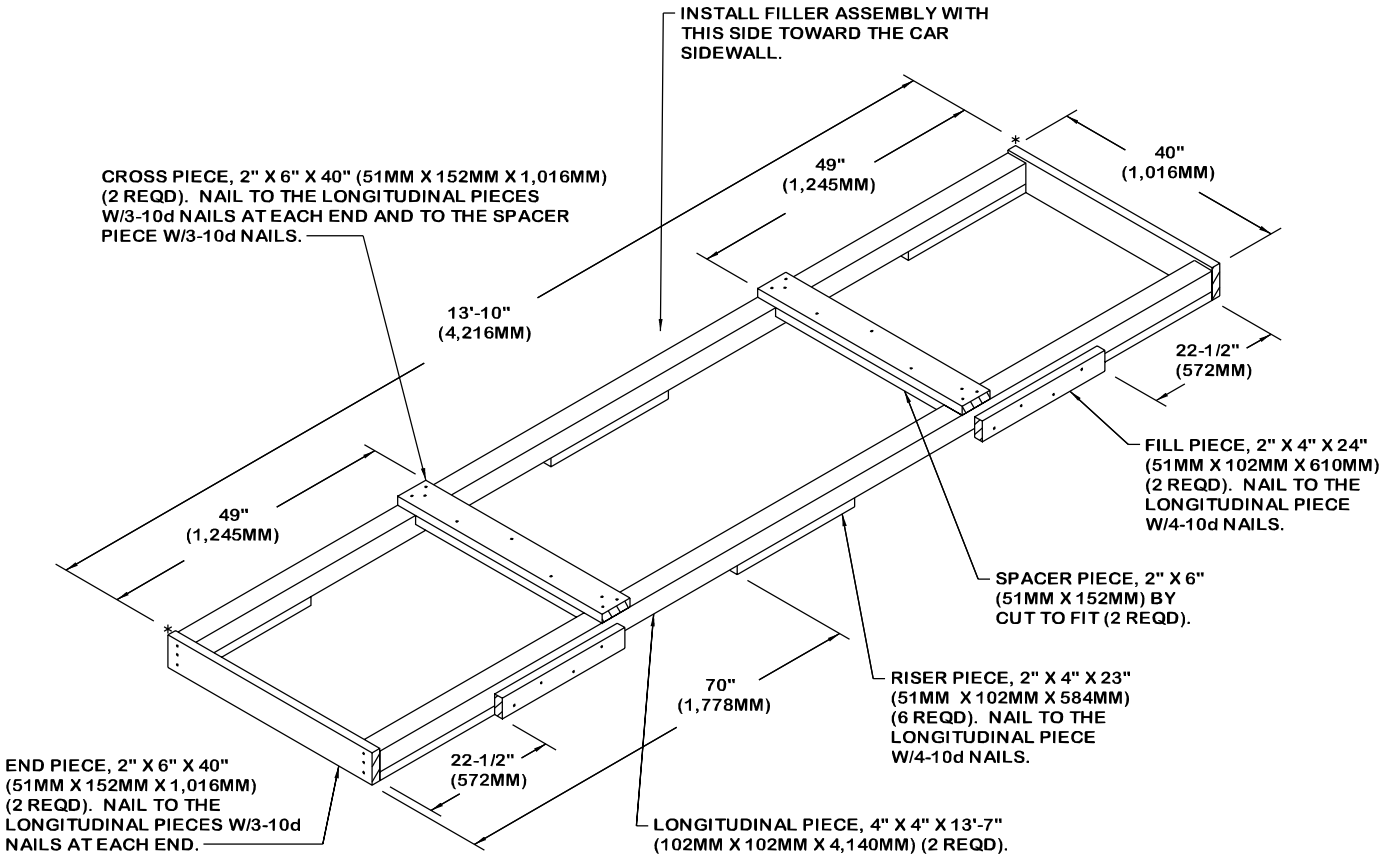
FOR A 2-HIGH LOAD.



SIDE BLOCKING ASSEMBLY

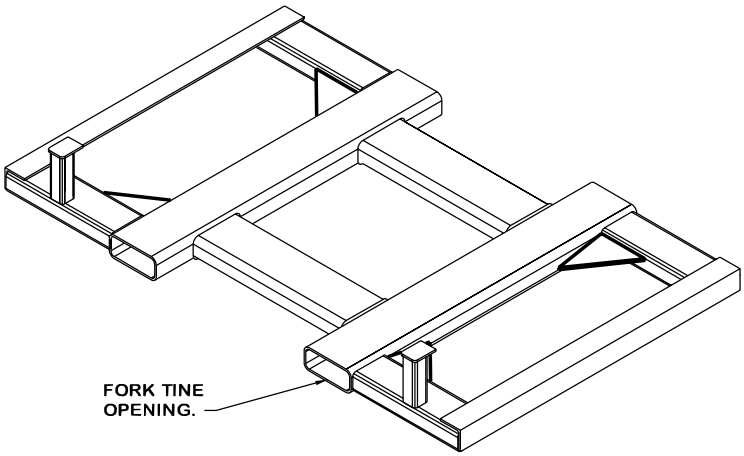


ANTI-CHAFING ASSEMBLY B



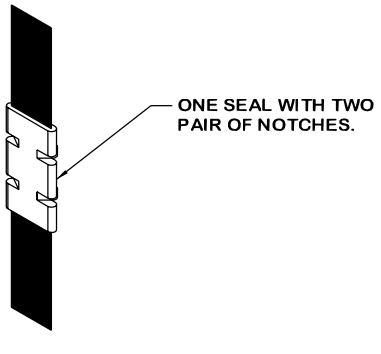
FILLER ASSEMBLY B

THIS ASSEMBLY IS DESIGNED FOR USE IN THE PLACE OF AN OMITTED ROCKET POD/CONTAINER IN A 1-LAYER LOAD.



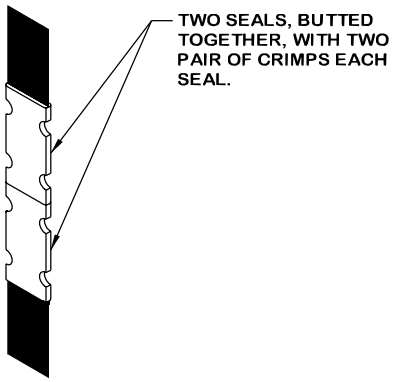
STABILIZING FRAME

REFER TO DEFENSE AMMUNITION CENTER DRAWING NUMBER AC200000809 TO MANUFACTURE. THE DRAWING CAN BE OBTAINED FROM THE FOLLOWING ADDRESS: U.S. ARMY DEFENSE AMMUNITION CENTER, ATTN: SJMAC-DET, MCALESTER, OK 74501, DSN 956-8927, COMM (918) 420-8927.



STRAP JOINT A

METHOD OF SECURING A STRAP JOINT WHEN USING A NOTCH-TYPE SEALER.



STRAP JOINT B

METHOD OF SECURING A STRAP JOINT WHEN USING A CRIMP-TYPE SEALER.

END-OVER-END LAP JOINT DETAILS