APPROVED BY
BUREAU OF EXPLOSIVES

DATE 9/10/04

MLRS AND GMLRS

LOADING AND BRACING✧ WITH LOAD AND ROLL PALLET (LRP)⊕ IN END OPENING ISO CONTAINERS OF ROCKET POD/ CONTAINERS (RP/C) FOR MULTIPLE LAUNCH ROCKET SYSTEM AND GUIDED MULTIPLE LAUNCH ROCKET SYSTEM

INDEX

✧ LOADING AND BRACING SPECIFICATIONS SET FORTH WITHIN THIS DRAWING ARE APPLICABLE TO LOADS THAT ARE TO BE SHIPPED BY TRAILER/CONTAINER-ON-FLATCAR (T/COFC) RAIL CARRIER SERVICE. THESE SPECIFICATIONS MAY ALSO BE USED FOR LOADS THAT ARE TO BE MOVED BY MOTOR OR WATER CARRIERS.

⊕ SEE GENERAL NOTE "P" ON PAGE 2.

U.S. ARMY MATERIEL COMMAND DRAWING

APPROVED, U.S. ARMY
AVIATION AND MISSILE COMMAND

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

U.S. ARMY DEFENSE AMMUNITION CENTER

CAUTION: VERIFY PRIOR TO USE AT WWW.DAC.ARMY.MIL THAT THIS IS THE MOST CURRENT VERSION OF THIS DOCUMENT. THIS IS PAGE 1 OF 12.

DO NOT SCALE

DECEMBER 1994

ENGINEER OR TECHNICIAN	BASIC	HAYNES/WILLIS
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ENGINEERING DIRECTORATE		

REVISION NO. 1 — AUGUST 2004

SEE THE REVISION LISTING ON PAGE 3

CLASS	DIVISION	DRAWING	FILE
19	48	8184	GM15RS3

PROJECT GM 820-89

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 SPECIFIED OUTLOADING PROCEDURES ARE APPLICABLE TO LOADS OF MULTIPLE LAUNCH ROCKET SYSTEM AND GUIDED MULTIPLE LAUNCH ROCKET SYSTEM ROCKET POD/CONTAINERS (RP/C) UTILIZING A LOAD AND ROLL PALLET (LRP). SUBSEQUENT REFERENCE TO POD HEREIN MEANS THE RP/C WITH ROCKET COMPONENTS. NOTE: THE OUTLOADING PROCEDURES ARE ALSO APPLICABLE TO THE ARMY TACTICAL MISSILE SYSTEM (ATACMS) MISSILE LAUNCH POD ASSEMBLY (M/LPA) OR OTHER SIMILARLY CONFIGURED ITEMS NOT EXCEEDING 22,000 POUNDS IN TOTAL LADING WEIGHT.

C. FOR DETAILS OF THE ROCKET POD/CONTAINER, SEE US ARMY MISSILE COMMAND DRAWING NO. 13027900.

D. THE OUTLOADING PROCEDURES SPECIFIED HEREIN CAN ALSO BE UTILIZED FOR THE SHIPMENT OF THE DEPICTED PODS WHEN THEY ARE LOADED WITH AN ITEM WHICH IS IDENTIFIED DIFFERENTLY BY NOMENCLATURE THAN THE ITEM DESIGNATED IN THE DRAWING TITLE.

E. THE LOAD AS SHOWN IS BASED ON A 4,700 POUND 20' LONG BY 8' WIDE BY 8'-6" HIGH END OPENING ISO CONTAINER WITH INSIDE DIMENSIONS OF 19'-4" LONG BY 92" WIDE BY 95" HIGH (93" CLEAR HEIGHT) AND A MAXIMUM GROSS WEIGHT OF 52,910 POUNDS. THE LOAD IS DESIGNED FOR TRAILER/CONTAINER-ON-FLATCAR (T/COFC) SHIPMENT, HOWEVER, THE LOAD AS DESIGNED CAN ALSO BE MOVED BY OTHER SURFACE MODES OF TRANSPORT. NOTICE: OTHER CONTAINERS OF THE SAME DESIGN CONFIGURATION CAN BE USED.

F. WHEN LOADING THE PODS, THEY ARE TO BE POSITIONED SO AS TO ACHIEVE A TIGHT LOAD (TIGHT AGAINST THE FORWARD BLOCKING ASSEMBLY). ADDITIONALLY, LATERAL VOIDS WITHIN THE LOAD ARE TO BE HELD TO A MINIMUM. EXCESSIVE SLACK CAN BE ELIMINATED FROM A LOAD BY LAMINATING ADDITIONAL PIECES OF APPROPRIATE THICKNESS TO THE FILLER BLOCKS ON THE CORNER RETAINER PIECES. NAIL EACH ADDITIONAL PIECE TO THE FILLER BLOCK W/4 APPROPRIATELY SIZED NAILS. ADDITIONALLY, THE THICKNESS OF THE FILLER BLOCKS MAY BE ADJUSTED AS REQUIRED TO FACILITATE VARIANCE IN THE SIZE OF THE LOAD AND ROLL PALLET OR THE CONTAINER INTERIOR LOADING SPACE.

(CONTINUED AT RIGHT)

MATERIAL SPECIFICATIONS

LUMBER - - - - - - - - :	SEE TM 743-200-1 DUNNAGE LUMBER) AND VOLUNTARY PRODUCT STANDARD PS 20.
NAILS - - - - - - - - :	ASTM F1667; COMMON STEEL NAIL (NLCMS OR NLCMMS).
STRAPPING, STEEL - - :	ASTM D3953; FLAT STRAPPING, TYPE 1, HEAVY DUTY, FINISH A, B (GRADE 2), OR C.
SEAL, STRAP - - - - :	ASTM D3953; CLASS H, FINISH A, B (GRADE 2), OR C, DOUBLE NOTCH TYPE, STYLE I, II, OR IV.
WEB STRAP - - - - - - :	ANCRA ASSEMBLY PART NO. 48050-10 (8M-30-24-260P3) OR EQUIVALENT.
WIRE, CARBON STEEL - :	ASTM A853; ANNEALED AT FINISH, BLACK OXIDE FINISH, .0800" DIA, GRADE 1006 OR BETTER.
STAKE POCKET PROTECTOR - - - - - :	COMMERCIAL GRADE.
ANTI-CHAFING MATERIAL - - - - - - :	MIL-B-121 (OR EQUAL); NEUTRAL BARRIER MATERIAL.
LOAD & ROLL PALLET - :	LOAD & ROLL IN. DRAWING NO. 100-3121 AND PATENT NO. 4,834,000. CAPACITY 2,000 LBS.
LUMBER, LRP BLOCKING - - - - - - :	FED SPEC MM-L-751; DOUGLAS FIR OR COMPARABLE LUMBER WITH STRAIGHT GRAIN AND FREE FROM MATERIAL DEFECTS.
PLYWOOD - - - - - - :	COMMERCIAL ITEM DESCRIPTION A-A-55057, INDUSTRIAL PLYWOOD, INTERIOR WITH EXTERIOR GLUE, GRADE C-D. IF SPECIFIED GRADE IS NOT AVAILABLE, A BETTER INTERIOR OR AN EXTERIOR GRADE MAY BE SUBSTITUTED.

(GENERAL NOTES CONTINUED)

G. DUNNAGE LUMBER SPECIFIED IS OF NOMINAL SIZE. FOR EXAMPLE, 1" X 4" MATERIAL IS ACTUALLY 3/4" THICK BY 3-1/2" WIDE AND 2" X 6" MATERIAL IS ACTUALLY 1-1/2" THICK BY 5-1/2" WIDE.

H. WHEN STEEL STRAPPING IS SEALED AT AN END-OVER-END LAP JOINT, A MINIMUM OF ONE SEAL WITH TWO PAIR OF NOTCHES WILL BE USED TO SEAL THE JOINT WHEN A NOTCH-TYPE SEALER BEING USED. A MINIMUM OF TWO SEALS, BUTTED TOGETHER WITH TWO PAIR OF CRIMPS PER SEAL WILL BE USED TO SEAL THE JOINT WHEN A CRIMP-TYPE SEALER IS BEING USED. REFER TO THE "STRAP JOINT A" AND "STRAP JOINT B" DETAILS ON PAGE 5 FOR GUIDANCE.

J. DIMENSIONS GIVEN FOR DUNNAGE PIECES OR ASSEMBLIES WILL BE FIELD CHECKED PRIOR TO THEIR ASSEMBLY AND INSTALLATION INTO THE END OPENING CONTAINER.

K. MAXIMUM LOAD WEIGHT CRITERIA:

THE MAXIMUM LOAD WEIGHTS ARE CONTROLLED BY EQUIPMENT CAPABILITY FACTORS. 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. 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 INTERMODAL CONTAINER SYSTEM.

L. REQUIREMENTS CITED WITHIN THE BUREAU OF EXPLOSIVES PAMPHLET 6C APPLY WHEN THE SHIPMENT MOVES BY TRAILER/ CONTAINER-ON-FLATCAR (T/COFC). SPECIAL T/COFC NOTES FOLLOW:

1. A LOADED CONTAINER MUST BE ON A CHASSIS EQUIPPED WITH TWO BOGIE ASSEMBLIES WHEN BEING MOVED IN TOFC SERVICE.

2. THE LOAD LIMIT OF A T/COFC RAILCAR 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.

M. DURING INTRASTATE AND/OR INTERSTATE MOVES BY MOTOR CARRIER, A PROPER CHASSIS OR MODIFIED FLATBED TRAILER MUST BE USED TO PRECLUDE VIOLATION OF ONE OR MORE "WEIGHT LAWS" APPLICABLE TO THE STATE OR STATES INVOLVED.

N. THREE INCH WIDE WEB CARGO STRAPS MAY BE USED IN LIEU OF THE 2" WIDE STEEL HOLD-DOWN STRAPS USED TO SECURE THE LADING TO THE LOAD AND ROLL PALLET. EACH WEB CARGO STRAP ASSEMBLY MUST HAVE A MINIMUM LOAD RATING OF 9,000 POUNDS AND CONSIST OF A HEAVY CAPACITY RATCHET, 3-INCH WIDE POLYESTER WEBBING, A PAIR OF MOVABLE CORNER PROTECTORS, A FLAT HOOK ON EACH END, AND A KEEPER ON EACH FLAT HOOK. AN ACCEPTABLE WEB STRAP ASSEMBLY IS IDENTIFIED IN THE MATERIAL SPECIFICATIONS BELOW.

O. CONVERSION TO METRIC EQUIVALENTS: DIMENSIONS WITHIN THIS DOCUMENT ARE EXPRESSED IN INCHES AND WEIGHTS ARE EXPRESSED IN POUNDS. WHEN NECESSARY, THE METRIC EQUIVALENTS MAY BE COMPUTED ON THE BASIS OF ONE INCH EQUALS 25.4 MM AND ONE POUND EQUALS 0.454 KG.

P. THE LOAD AND ROLL PALLET IS A COMMERCIAL PRODUCT. FOR A SOURCE OF SUPPLY, CONTACT LOAD AND ROLL INC., 10100 KITTY AVENUE, CHICAGO RIDGE, IL 60415. PHONE (708)499-3370.

Q. AS REQUIRED BY THE ASSOCIATION OF AMERICAN RAILROADS (AAR), ALL 1-1/4" AND 2" STEEL STRAPPING USED FOR LOAD RESTRAINT MUST BE MARKED AS SPECIFIED WITHIN THE APPLICABLE AAR RULES GOVERNING LOADING, BLOCKING AND BRACING OF FREIGHT WITHIN THE CONVEYANCE. FOR THE SPECIFIC MARKING SIZE, FREQUENCY, ETC., REQUIRED, REFER TO THE APPROPRIATE AAR LOADING RULES.

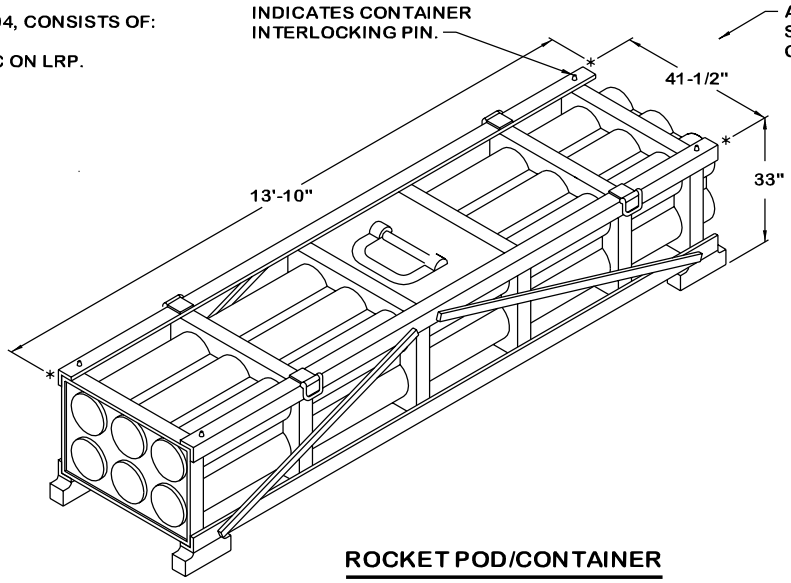
R. PORTIONS OF THE CONTAINER DEPICTED WITHIN THIS DRAWING, SUCH AS THE SIDEWALL, HAVE NOT BEEN SHOWN IN THE LOAD VIEWS FOR CLARITY PURPOSES.

S. IF 2" WIDE STEEL STRAPPING IS UNAVAILABLE FOR USE, TWO 1-1/4" X .035" OR .031" STEEL HOLD-DOWN STRAPS MAY BE USED IN LIEU OF EACH 2" WIDE STEEL HOLD-DOWN STRAP USED TO SECURE THE LADING TO THE LOAD AND ROLL PALLET. INSTALL 1-1/4" WIDE STRAPPING PAD BETWEEN EACH 1-1/4" WIDE HOLD-DOWN STRAP AND TIEDOWN PROVISION. EACH FULL LOAD WILL REQUIRE EIGHT 1-1/4" HOLD-DOWN STRAPS AND 16 STRAPPING PADS.

REVISION

REVISION NO. 1, DATED AUGUST 2004, CONSISTS OF:

1. ADDING LAYOUT FOR SINGLE RP/C ON LRP.



ROCKET POD/CONTAINER

SPECIAL HANDLING GUIDANCE

1. ASSEMBLY STACKING FOR OUTLOADING PURPOSES.

   A. THE UPPER ASSEMBLY SHOULD BE PLACED AS CLOSELY AS POSSIBLE IN VERTICAL ALIGNMENT WITH THE LOWER POD.

   B. WHEN STACKING THESE PODS, CARE MUST BE EXERCISED TO INSURE THAT THE INTERLOCKING HOLES IN THE BOTTOM OF THE POD SKIDS ALIGN CORRECTLY WITH THE INTERLOCKING PINS ON THE TOP OF THE POD FRAME. THIS WILL PRECLUDE DAMAGE TO THE SKIDS AND INSURE PROPER FUNCTIONING OF THE POD INTERLOCKS.

2. POD OR POD 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 PODS.

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

   A. ONLY APPROVED AND APPROPRIATELY SIZED MHE WILL BE USED FOR HANDLING THE DEPICTED PODS.

   B. IF HANDLING IS ACCOMPLISHED WITH A FORKLIFT TRUCK, THE PODS SHOULD BE HANDLED FROM A SIDE POSITION ONLY. CARE MUST BE EXERCISED WHEN INSERTING THE FORKS UNDER THE POD TO PREVENT DAMAGE TO THE POD BY THE FORK TINES OR THE FORKLIFT PACKAGE GUARD.

3. SEQUENTIAL CONTAINER LOADING.

   A. NOTE: FOR EASE IN LOADING THE LOAD AND ROLL PALLET INTO THE ISO CONTAINER, SET THE FRONT END PORTION (APPROX 24") OF THE LOAD AND ROLL PALLET IN THE OPEN DOORWAY END OF THE CONTAINER AND INSERT CORNER SUPPORTS DIAGONALLY BENEATH THE REAR CORNERS OF THE LOAD AND ROLL PALLET (SEE DETAIL ON PAGE 4).

   B. LOAD THE PODS OR POD STACKS BY FIRST INSERTING THE FAR SKIDS IN THE CENTER SKID RESTRAINT PANS ON THE LOAD AND ROLL PALLET. THEN LOWERING THE NEAR SKIDS INTO THE OUTSIDE SKID RESTRAINT PANS ON THE PALLET. NOTE: THE AFT END OF THE POD MUST BE POSITIONED AT THE FORWARD END OF THE LOAD AND ROLL PALLET.

(CONTINUED AT RIGHT)

(SPECIAL HANDLING GUIDANCE CONTINUED)

   C. APPLY THE STACK UNITIZING STRAP. NOTE: FIBERBOARD ANTI-CHAFING MATERIAL MUST BE INSTALLED UNDER THE STRAPS AT ALL POINTS OF CONTACT WITH THE PODS.

   D. INSTALL THE CENTER FILL PIECES. POSITION THE CENTER FILL PIECES OF THE BOTTOM LAYER SO THAT THEY ARE SUPPORTED BY THE TOP OF THE FORK POCKET (TUNNEL) ON THE LOAD AND ROLL PALLET. POSITION THE CENTER FILL PIECES FOR THE TOP LAYER IN LINE WITH THOSE FOR THE BOTTOM LAYER. WIRE TIE THE CENTER FILL PIECES TO THE POD FRAME.

   E. NEXT, LOAD AND UNITIZE THE REMAINING PODS IN THE MANNER DETAILED IN PARAGRAPHS 3B AND 3C ABOVE.

   F. APPLY THE HOLD-DOWN STRAPS. POSITION FIBERBOARD ANTI-CHAFING MATERIAL UNDER THE STRAPS AT ALL POINTS OF CONTACT WITH THE ASSEMBLIES. CAUTION: THE HOLDDOWN STRAPS MUST BE INSTALLED WITH CARE SO AS NOT TO HAVE EDGE-TO-EDGE CONTACT WITH THE STACK UNITIZING STRAPS.

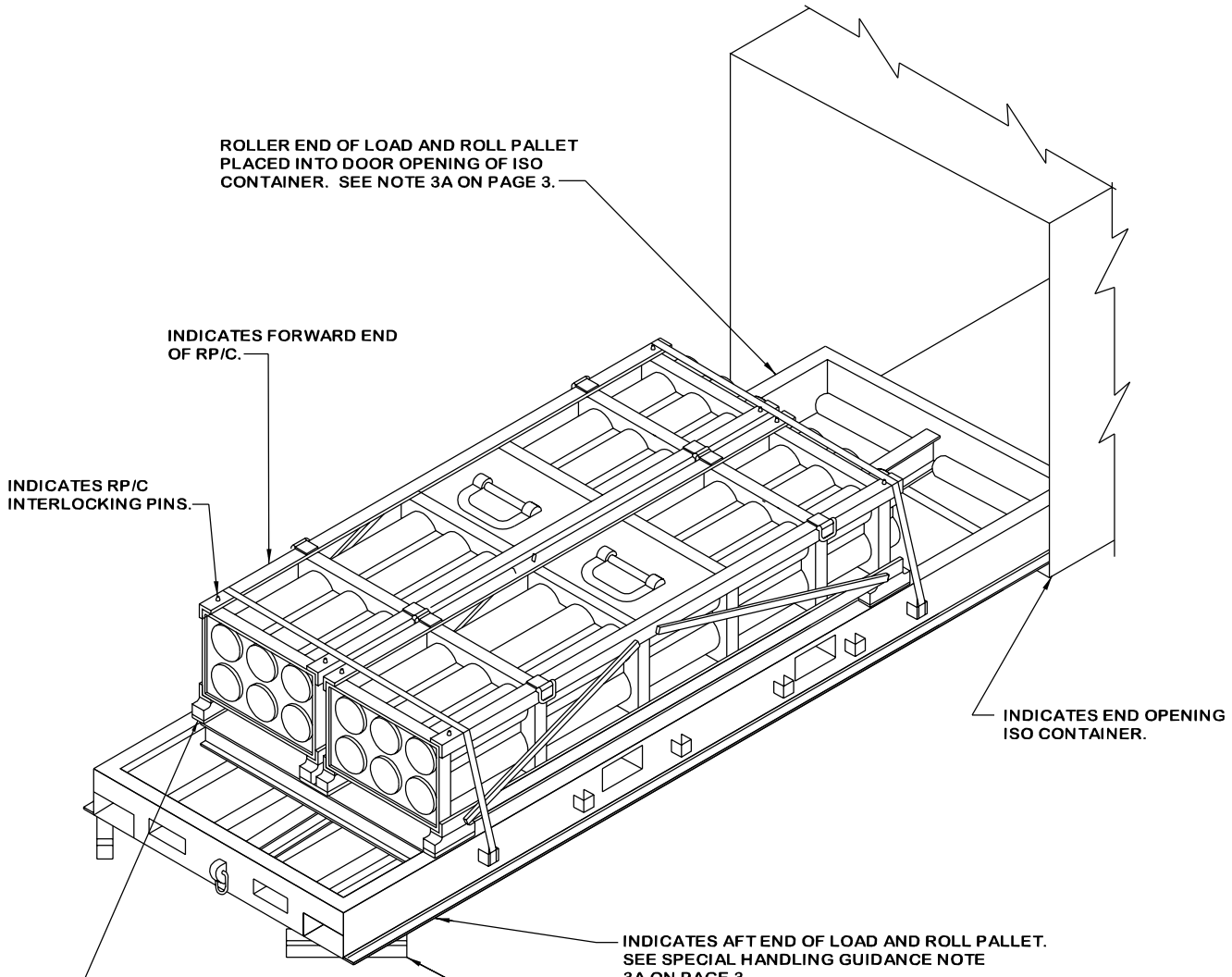
   G. POSITION THE FORWARD BLOCKING ASSEMBLY IN THE ISO CONTAINER. LIFT THE REAR END OF THE LOAD AND ROLL PALLET WITH APPROPRIATELY SIZED MHE UNTIL ONLY THE ROLLER CONTACTS THE ISO CONTAINER FLOOR (REF: 6"). ROLL THE PALLET INTO THE CONTAINER UNTIL IT CONTACTS THE FORWARD BLOCKING ASSEMBLY. SET THE REAR OF THE PALLET ON THE ISO CONTAINER FLOOR. INSTALL THE CORNER RETAINER PIECES AND FILL MATERIAL, AS NECESSARY.

4. UNLOADING THE LOAD AND ROLL PALLET FROM THE COMMERCIAL CONTAINER.

   A. THE LOAD AND ROLL PALLET MAY BE UNLOADED USING THE REVERSE OF THE METHOD DETAILED IN 3G ABOVE.

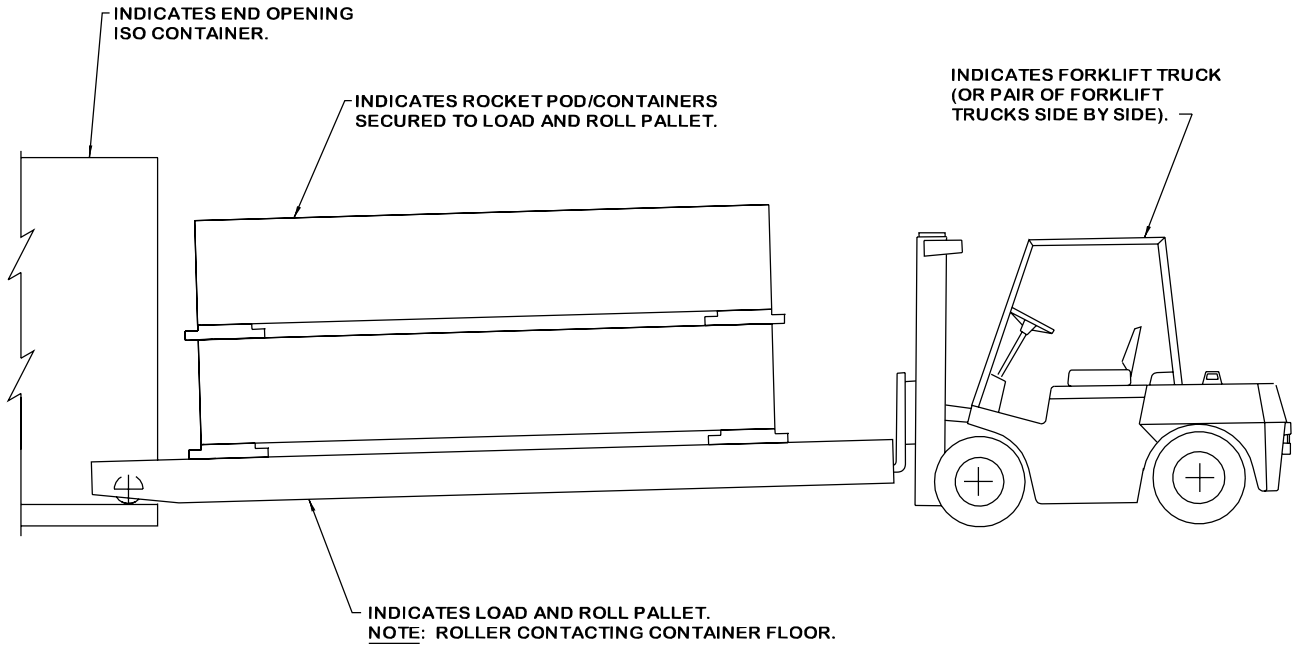
   B. THE LOAD AND ROLL PALLET MAY ALSO BE UNLOADED USING A VEHICLE WITH AN APPROPRIATELY SIZED WINCH. FIRST REMOVE THE CORNER RETAINER PIECES. ATTACH THE WINCH TO THE D-RING ON THE REAR OF THE LOAD AND ROLL PALLET. RAISE THE PALLET UNTIL THE ROLLER CONTACTS THE ISO CONTAINER FLOOR, AND ROLL THE PALLET OUT USING THE WINCHING VEHICLE. TAKING CARE NOT TO PULL THE PALLET TOTALLY OUT OF THE ISO CONTAINER. SET CORNER SUPPORTS UNDER THE CORNERS OF THE PALLET, AND UNLOAD THE PODS USING APPROPRIATELY SIZED MHE.

GROSS WEIGHT OF MULTIPLE LAUNCH ROCKET SYSTEM AND GUIDED MULTIPLE LAUNCH ROCKET SYSTEM			
NSN	DODIC	DESCRIPTION	WEIGHT (LBS)
1340-01-122-3506	H104	MLRS M26	5,094
1340-01-149-0918	H108	PRACTICE M28	5,094
1340-01-370-9666	H185	REDUCED RANGE PRACTICE ROCKET M28A1	5,090
1340-01-484-9001	H185	REDUCED RANGE PRACTICE ROCKET M28A1	5,020
1340-01-450-5876	H186	EXTENDED RANGE M26A2	4,990
1340-01-490-9695	HA22	GMLRS XM30	5,020
1340-01-517-4757	---	GMLRS UNITARY	5,093

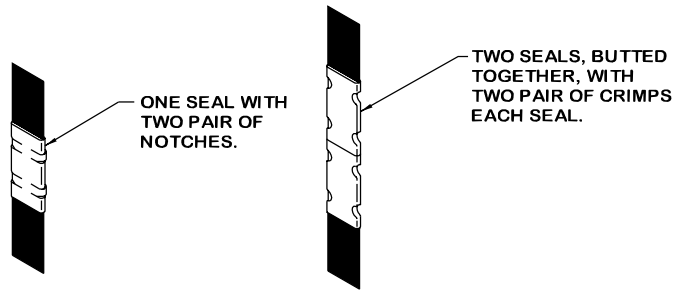


ISOMETRIC VIEW

ALTHOUGH THE ABOVE VIEW DEPICTS ONLY TWO PODS SECURED TO A LOAD AND ROLL PALLET, THE SAME PROCEDURES ARE APPLICABLE FOR A FOUR POD LOAD.



LOADING OF LRP AND RP/C INTO ISO CONTAINER



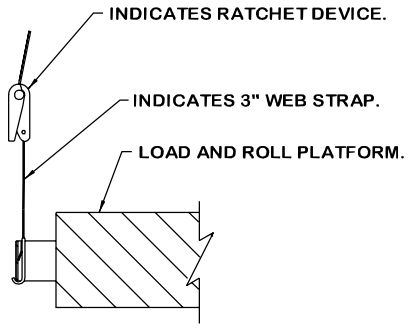
STRAP JOINT A

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

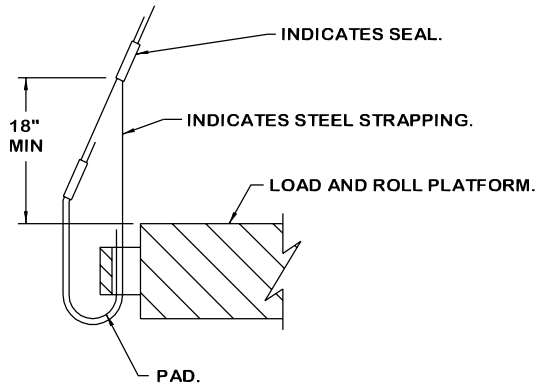
STRAP JOINT B

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

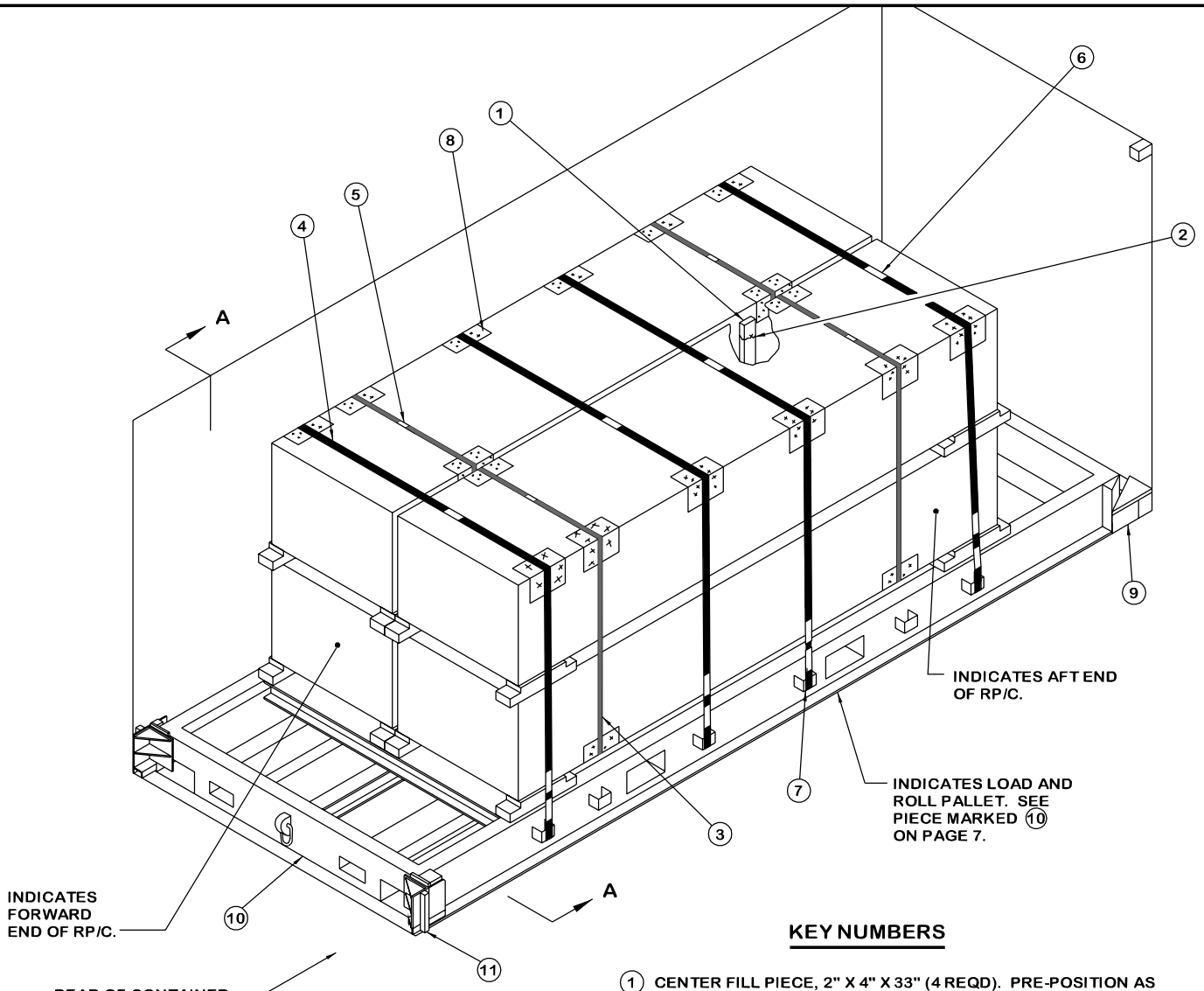
END-OVER-END LAP JOINT DETAILS



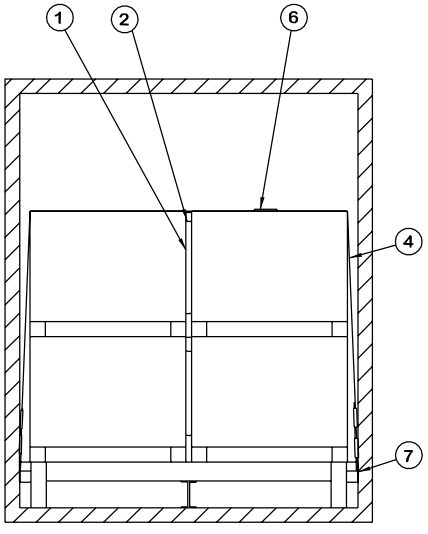
ATTACHMENT OF WEB STRAP ASSEMBLY TO LRP ANCHORING FACILITY



ATTACHMENT OF STEEL STRAPPING TO LRP ANCHORING FACILITY



ISOMETRIC VIEW



SECTION A-A

KEY NUMBERS

(1) CENTER FILL PIECE, 2" X 4" X 33" (4 REQD). PRE-POSITION AS SHOWN AND WIRE TIE TO A VERTICAL FRAME MEMBER OF A POD.

(2) TIE WIRE, .0800" DIA 24" LONG (8 REQD). INSTALL WIRE TO FORM A LOOP AROUND A VERTICAL FRAME MEMBER OF A POD AND THE CENTER FILL PIECE, PIECE MARKED (1). BRING ENDS TOGETHER AND TWIST TAUT.

(3) STACK UNITIZING STRAP, 1-1/4" X .035" OR .031" BY A LENGTH TO SUIT (REF: 20'-0") (4 REQD). INSTALL SO AS TO ENCIRCLE THE PODS IN ONE STACK AS SHOWN.

(4) HOLD-DOWN STRAP, 2" X .050" OR .044" X 28'-0" LONG STEEL STRAPPING (4 REQD). INSTALL EACH STRAP FROM TWO 14'-0" LONG PIECES.

(5) SEAL FOR 1-1/4" STEEL STRAPPING (4 REQD, 1 PER STRAP). CRIMP EACH SEAL WITH TWO PAIR OF NOTCHES.

(6) SEAL FOR 2" STEEL STRAPPING (20 REQD, 5 PER STRAP). CRIMP EACH SEAL WITH TWO PAIR OF NOTCHES, EXCEPT FOR THOSE USED TO SECURE THE PADS, WHICH ONLY REQUIRE ONE PAIR OF NOTCHES.

(7) PAD, STRAPPING, 2" X .050" OR .044" X 24" (8 REQD). PRE-POSITION THE PAD BETWEEN THE STRAPPING, PIECE MARKED 4 , AND THE LOAD AND ROLL PALLET TIEDOWN PROVISION AND SECURE WITH ONE SEAL AND WITH ONE PAIR OF NOTCHES. SEE THE "ATTACHMENT OF STEEL STRAPPING TO LRP ANCHORING FACILITY" DETAIL ON PAGE 5.

(8) FIBERBOARD ANTI-CHAFING MATERIAL (AS REQD). FOLD FIBERBOARD TO FORM A DOUBLE THICKNESS AND PLACE UNDER STRAPPING AT ALL POINTS OF CONTACT WITH THE PODS.

(CONTINUED ON PAGE 7)

(KEY NUMBERS CONTINUED FROM PAGE 6)

(9) FORWARD BLOCKING ASSEMBLY (1 REQD). SEE THE DETAIL ON PAGE 12. PRE-POSITION PRIOR TO LOADING THE LOAD AND ROLL PALLET IN THE CONTAINER.

(10) LOAD AND ROLL PALLET (1 REQD). SEE GENERAL NOTE "P" ON PAGE 2.

(11) CORNER RETAINER PIECE (2 REQD). SEE THE DETAIL ON PAGE 12.

SPECIAL NOTES:

1. A 4-UNIT LOAD OF ROCKET POD/CONTAINERS(RP/C) IS DEPICTED ON A LOAD AND ROLL PALLET IN AN END OPENING ISO CONTAINER.
2. PRIOR TO LOADING THE ASSEMBLIES INTO THE INTERMODAL FREIGHT CONTAINER, SEE THE SPECIAL HANDLING GUIDANCE ON PAGES 3 THROUGH 5.
3. ALL STRAPS MUST BE INSTALLED NEAR THE STRONG POINTS OR VERTICALLY REINFORCED AREAS OF THE PODS.

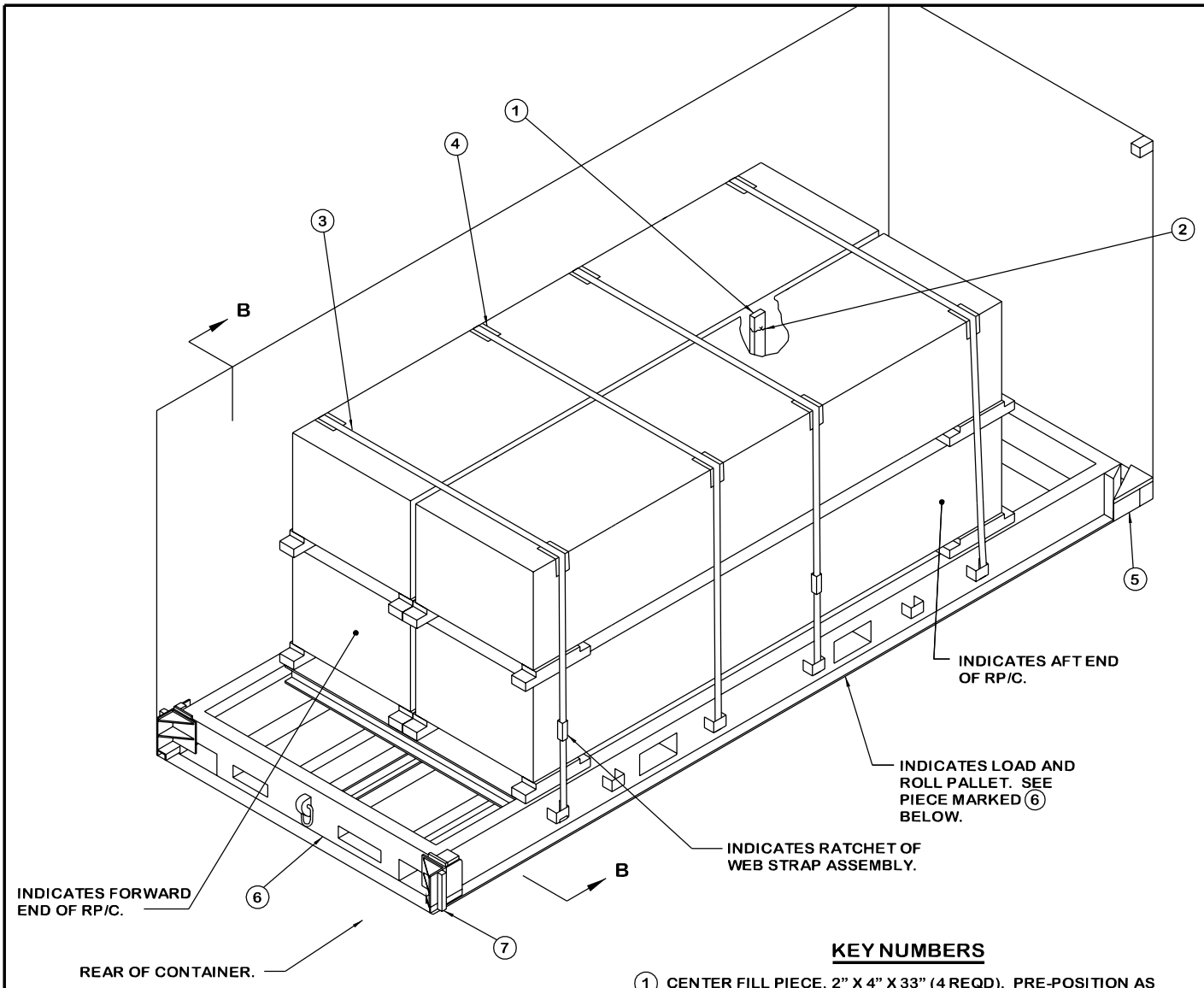
BILL OF MATERIAL

LUMBER	LINEAR FEET	BOARD FEET
2" X 4"	11	8
4" X 4"	11	15
NAILS	**NO. REQD**	**POUNDS**
6d (2")	14	NIL
10d (3")	4	NIL

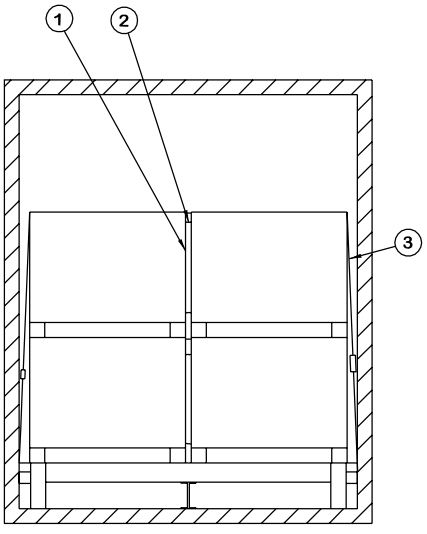
STEEL STRAPPING, 2" - - - 128' REQD - - - - - 43 LBS
SEAL FOR 2" STRAPPING - - - 20 REQD - - - - - 5 LBS
STEEL STRAPPING, 1-1/4" - 80' REQD - - - - - 11 LBS
SEAL FOR 1-1/4" STRAPPING - 4 REQD - - - - - 1/4 LB
WIRE, .0800" - - - - - - 16' REQD - - - - - - NIL
PLYWOOD, AS REQD - - 2 SQ FT REQD - - - - - - 1 LB
ANTI-CHAFING MATERIAL - - - AS REQD - - - - - - NIL
LOAD AND ROLL PALLET - - - 1 REQD - - - 1,970 LBS

LOAD AS SHOWN

ITEM	QUANTITY	WEIGHT (APPROX)
MLRS (RP/C)	4	20,312 LBS
DUNNAGE		2,077 LBS
CONTAINER		4,700 LBS
TOTAL WEIGHT		27,089 LBS (APPROX)



ISOMETRIC VIEW



SECTION B-B

KEY NUMBERS

(1) CENTER FILL PIECE, 2" X 4" X 33" (4 REQD). PRE-POSITION AS SHOWN AND WIRE TIE TO A VERTICAL FRAME MEMBER OF A ROCKET POD CONTAINER.

(2) TIE WIRE, .0800" DIA 24" LONG (8 REQD). INSTALL WIRE TO FORM A LOOP AROUND A VERTICAL FRAME MEMBER OF A POD AND THE CENTER FILL PIECE, PIECE MARKED (1). BRING ENDS TOGETHER AND TWIST TAUT.

(3) WEB STRAP TIEDOWN ASSEMBLY (4 REQD). INSTALL TO EXTEND FROM AN ANCHORING FACILITY ON ONE SIDE OF THE LOAD AND ROLL PALLET, OVER THE PODS, TO AN ANCHORING FACILITY ON THE OPPOSITE SIDE OF THE PALLET. SEE GENERAL NOTE "N" ON PAGE 2. SEE THE "ATTACHMENT OF WEB STRAP ASSEMBLY TO LRP ANCHORING FACILITY" DETAIL ON PAGE 5.

(4) CORNER PROTECTOR (2 PER STRAP PROVIDED). POSITION ON OUTER EDGE OF THE POD FRAME. NOTE: IF THE CORNER PROTECTOR IS MISSING THEN A FOLDED PIECE OF FIBERBOARD SHALL BE USED TO PROTECT THE WEBBING.

(5) FORWARD BLOCKING ASSEMBLY (1 REQD). SEE THE DETAIL ON PAGE 12. PRE-POSITION PRIOR TO LOADING THE LOAD AND ROLL PALLET IN THE CONTAINER.

(6) LOAD AND ROLL PALLET (1 REQD). SEE GENERAL NOTE "P" ON PAGE 2.

(7) CORNER RETAINER PIECE (2 REQD). SEE THE DETAIL ON PAGE 12.

SPECIAL NOTES:

1. A 4-UNIT LOAD OF ROCKET POD/CONTAINERS (RP/C) IS DEPICTED SECURED WITH WEB STRAPPING TO A LOAD AND ROLL PALLET AND LOADED INTO A END OPENING ISO CONTAINER.
2. PRIOR TO LOADING THE ASSEMBLIES INTO THE INTERMODAL FREIGHT CONTAINER, SEE THE SPECIAL HANDLING GUIDANCE ON PAGES 3 THROUGH 5.
3. ALL STRAPS MUST BE INSTALLED NEAR THE STRONG POINTS OR VERTICALLY REINFORCED AREAS OF THE PODS.

BILL OF MATERIAL

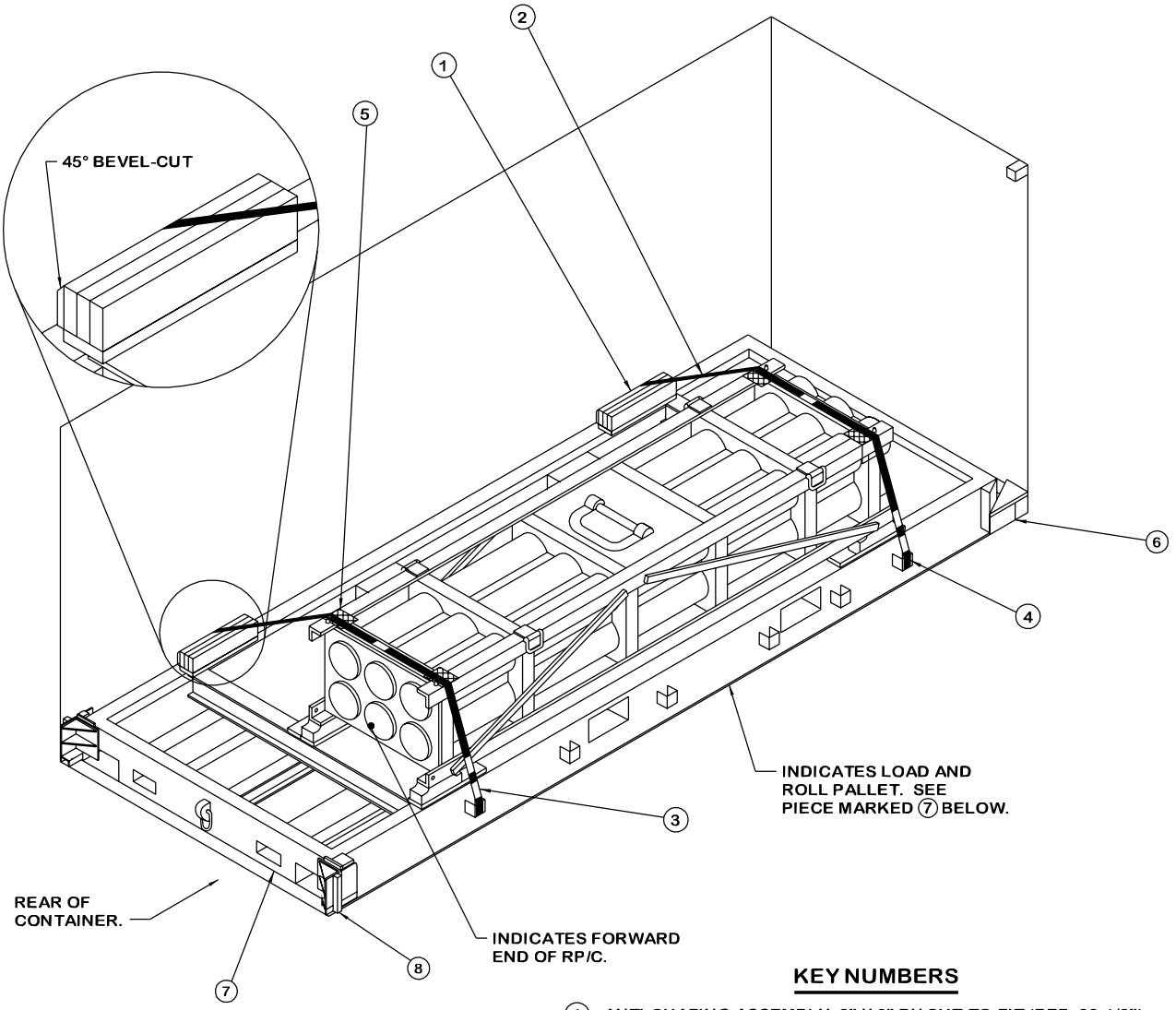
LUMBER	LINEAR FEET	BOARD FEET
2" X 4" 4" X 4"	11 11	8 15
NAILS	**NO. REQD**	**POUNDS**
6d (2") 10d (3")	14 4	NIL NIL

WEB STRAP ASSEMBLY (3") - - 4 REQD - - - - - 44 LBS
WIRE, .0800" - - - - - - 16' REQD - - - - - - NIL
PLYWOOD, AS REQD - - 2 SQ FT REQD - - - - - - 1 LB
ANTI-CHAFING MATERIAL - - - AS REQD - - - - - - NIL
LOAD AND ROLL PALLET - - - 1 REQD - - - 1,970 LBS

LOAD AS SHOWN

ITEM	QUANTITY	WEIGHT (APPROX)
MLRS (RP/C)	4	20,312 LBS
DUNNAGE		2,060 LBS
CONTAINER		4,700 LBS

TOTAL WEIGHT - - - - - - - - 27,072 LBS (APPROX)



ISOMETRIC VIEW

KEY NUMBERS

(1) ANTI-CHAFING ASSEMBLY, 2" X 6" BY CUT-TO-FIT (REF: 22-1/2") (TRIPLED) AND 1" X 4" BY CUT-TO-FIT (REF: 22-1/2") (2 REQD). NAIL THE FIRST 2" X 6" TO THE SECOND W/3-10d NAILS. NAIL THE THIRD PIECE TO THE SECOND IN A SIMILAR MANNER. BEVEL-CUT THE 1" X 4" WITH 45° BEVEL AS SHOWN, ALIGN WITH THE TOP EDGE OF THE TRIPLED 2" X 6", AND NAIL W/3-6d NAILS.

(2) HOLD-DOWN STRAP, 2" X .050" OR .044" X 13'-0" LONG STEEL STRAPPING (2 REQD). INSTALL EACH STRAP FROM TWO 6'-5" LONG PIECES.

(3) SEAL FOR 2" STEEL STRAPPING (10 REQD, 5 PER STRAP). CRIMP EACH SEAL WITH TWO PAIR OF NOTCHES, EXCEPT FOR THOSE USED TO SECURE THE PADS, WHICH ONLY REQUIRE ONE PAIR OF NOTCHES.

(4) PAD, STRAPPING, 2" X .050" OR .044" X 24" (4 REQD). PRE-POSITION THE PAD BETWEEN THE STRAPPING, PIECE MARKED (4), AND THE LOAD AND ROLL PALLET TIEDOWN PROVISION AND SECURE WITH ONE SEAL AND WITH ONE PAIR OF NOTCHES. SEE THE "ATTACHMENT OF STEEL STRAPPING TO LRP ANCHORING FACILITY" DETAIL ON PAGE 5.

(5) FIBERBOARD ANTI-CHAFING MATERIAL (AS REQD). FOLD FIBERBOARD TO FORM A DOUBLE THICKNESS AND PLACE UNDER STRAPPING AT ALL POINTS OF CONTACT WITH THE ASSEMBLIES.

(6) FORWARD BLOCKING ASSEMBLY (1 REQD). SEE THE DETAIL ON PAGE 10. PRE-POSITION PRIOR TO LOADING THE LOAD AND ROLL PALLET IN THE CONTAINER.

(7) LOAD AND ROLL PALLET (1 REQD). SEE THE "SPECIAL HANDLING GUIDANCE" ON PAGES 4 AND 5. SEE GENERAL NOTE "P" ON PAGE 2.

(8) CORNER RETAINER PIECE (2 REQD). SEE THE DETAIL ON PAGE 12.

SINGLE RP/C LOAD PROCEDURES (STEEL STRAPPING METHOD)

SPECIAL NOTES:

1. A 1-UNIT LOAD OF ROCKET POD/CONTAINERS (RP/C) IS DEPICTED ON A LOAD AND ROLL PALLET IN AN END OPENING ISO CONTAINER.
2. PRIOR TO LOADING THE PODS INTO THE INTERMODAL FREIGHT CONTAINER, SEE THE SPECIAL HANDLING GUIDANCE ON PAGES 3 THROUGH 5.
3. ALL STRAPS MUST BE INSTALLED NEAR THE STRONG POINTS OR VERTICALLY REINFORCED AREAS OF THE PODS.
4. INSTALL THE ANTI-CHAFING ASSEMBLIES IN THE SKID RESTRAINT PANS AS DEPICTED ON PAGE 10.
5. THREE INCH WEB STRAPPING MAY BE USED IN LIEU OF 2" STEEL STRAPPING.

BILL OF MATERIAL

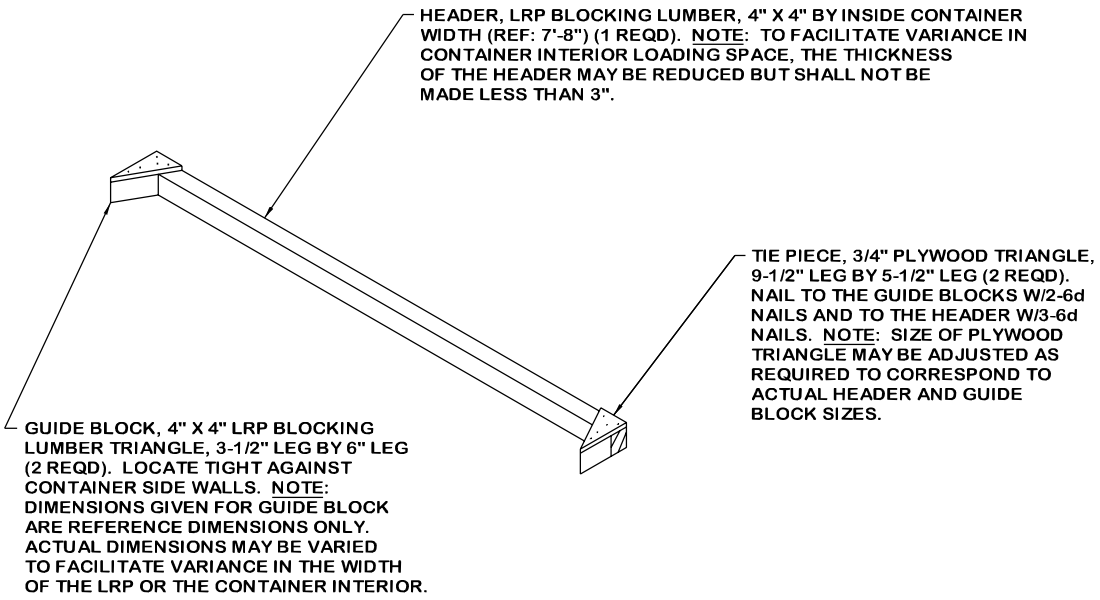
LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	4	2
2" X 6"	12	12
4" X 4"	11	15

NAILS	NO. REQD	POUNDS
6d (2")	20	NIL
10d (3")	16	1/4

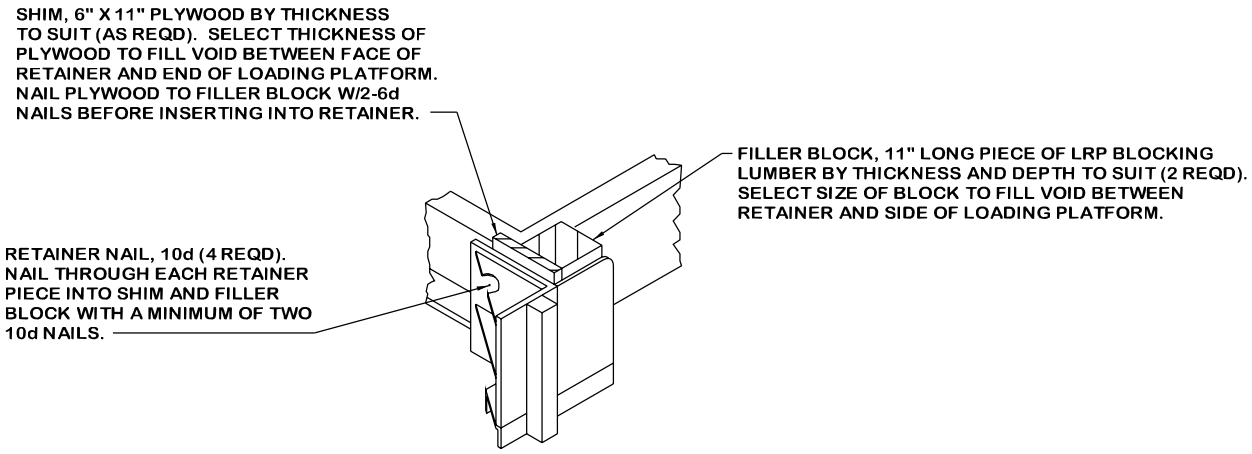
STEEL STRAPPING, 2"	26' REQD	9 LBS
SEAL FOR 2" STRAPPING	10 REQD	2 LBS
PLYWOOD, AS REQD	2 SQ FT REQD	1 LB
ANTI-CHAFING MATERIAL	AS REQD	NIL
LOAD AND ROLL PALLET	1 REQD	1,970 LBS

LOAD AS SHOWN

ITEM	QUANTITY	WEIGHT (APPROX)
MLRS RP/C	1	5,078 LBS
DUNNAGE		2,035 LBS
CONTAINER		4,700 LBS
TOTAL WEIGHT		11,813 LBS (APPROX)



FORWARD BLOCKING ASSEMBLY



CORNER RETAINER PIECE

NOTE: POSITION SQUARE BAR OF RETAINER PIECE INTO RECESS OF SIDEWALL LOCATED JUST AHEAD OF REAR CORNER POST.