

APPROVED BY
BUREAU OF EXPLOSIVES



DATE 4-14-05

ATACMS

LOADING AND BRACING⁺ WITH WOODEN DUNNAGE ON COMMERCIAL FLATRACK CONTAINERS OF MISSILE/LAUNCH POD ASSEMBLY (M/LPA) FOR ARMY TACTICAL MISSILE SYSTEM

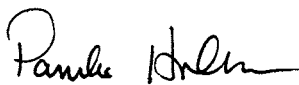
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⁺LOADING AND BRACING SPECIFICATIONS SET FORTH WITHIN THIS DRAWING ARE APPLICABLE TO LOADS THAT ARE TO BE SHIPPED BY TRAILER/CONTAINER-ON-FLATCAR (T/COFC) RAIL CARRIER SERVICE. THESE SPECIFICATIONS MAY ALSO BE USED FOR LOADS THAT ARE TO BE MOVED BY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

U.S. ARMY MATERIEL COMMAND DRAWING

APPROVED, U.S. ARMY
AVIATION AND MISSILE COMMAND



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 6.

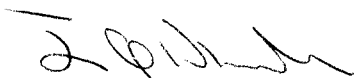
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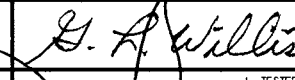
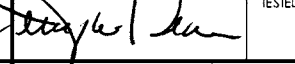

ENGINEER OR TECHNICIAN	BASIC	GREGORY WILLIS
	REV.	MELVIN SIX

REVISION NO. 3	MAY 2005
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APPROVED BY ORDER OF COMMANDING GENERAL,
U.S. ARMY MATERIEL COMMAND



U.S. ARMY DEFENSE AMMUNITION CENTER

TRANSPORTATION ENGINEERING DIVISION		TESTED
VALIDATION ENGINEERING DIVISION		
ENGINEERING DIRECTORATE		

SEE THE REVISION LISTING ON PAGE 2

CLASS	DIVISION	DRAWING	FILE
19	48	8183	GM15AT3

PROJECT GM 817-88

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. ALL LOADS SHIPPED BY THE PROCEDURES DEPICTED IN THIS DRAWING MUST BE IN ACCORDANCE WITH THE REQUIREMENTS SET FORTH IN TITLE 49, THE UNITED STATES CODE OF FEDERAL REGULATIONS; AR 55-355/AFM 75-2; DOD 4500-32-R; DOD 5100, 76M; DOD 6055, 9-STD; AS WELL AS ANY AND ALL OTHER APPLICABLE SERVICE REGULATIONS.
- C. THE SPECIFIED OUTLOADING PROCEDURES ARE APPLICABLE TO THE ARMY TACTICAL MISSILE SYSTEM (ATACMS) COMPLETE ROUND, WHEN PACKED IN THE MISSILE/LAUNCH POD ASSEMBLY (M/LPA). SUBSEQUENT REFERENCE TO ASSEMBLY HEREIN MEANS THE M/LPA WITH MISSILE COMPONENTS. REGARDLESS OF THE NUMBER OF ASSEMBLIES TO BE SHIPPED, THE "MAXIMUM GROSS WEIGHT" OF THE FLATRACK INCLUDING LADING MUST NOT BE EXCEEDED.
- D. THE LOAD AS SHOWN IS BASED ON A 20'-0" LONG BY 8'-0" WIDE COMMERCIAL FLATRACK CONTAINER WITH FULL HEIGHT END WALLS, AND INSIDE DIMENSIONS OF 19'-4" LONG BY 7'-2" WIDE. THE LOAD AS SHOWN CAN BE SHIPPED BY ANY FORM OF SURFACE TRANSPORTATION. NOTICE: OTHER CONTAINERS OF THE SAME DESIGN CONFIGURATION CAN ALSO BE USED.
- E. WHEN LOADING THE M/LPA, THEY ARE TO BE POSITIONED SO AS TO ACHIEVE A TIGHT LOAD. ALTHOUGH A TOTAL OF ONE INCH OF UNBLOCKED SPACE ACROSS THE WIDTH OF A LOAD IS PERMITTED, LONGITUDINAL VOIDS WITHIN THE LOAD ARE TO BE HELD TO A MINIMUM, NOT EXCEEDING ONE-HALF INCH (1/2"). EXCESSIVE SLACK CAN BE ELIMINATED FROM A LOAD BY LENGTHENING THE STRUTS. ADDITIONALLY, THE THICKNESS AND QUANTITY OF THE RETAINER PIECES IN THE END WALL GATES MAY BE ADJUSTED AS REQUIRED TO FACILITATE VARIANCE IN THE LENGTH OF THE LADING.
- F. DUNNAGE LUMBER SPECIFIED IS OF NOMINAL SIZE, FOR EXAMPLE, 2" X 4" MATERIAL IS ACTUALLY 1-1/2" THICK BY 3-1/2" WIDE AND 4" X 4" MATERIAL IS ACTUALLY 3-1/2" THICK BY 3-1/2" WIDE.
- G. A STAGGERED NAILING PATTERN WILL BE USED WHENEVER 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.
- H. WHEN INSTALLING BLOCKING ASSEMBLIES, THE ASSEMBLIES MUST BE POSITIONED SO AS TO BE SUPPORTED AND IN LINE WITH THE STRONG POINTS OF THE FLATRACK END WALLS. NOTE: SOME FLATRACK END WALLS WILL REQUIRE FILL PIECES TO BE INSTALLED ON THE END WALL GATE TO PROVIDE A UNIFORM LOAD BEARING SURFACE. NAIL THESE FILL PIECES TO THE END WALL GATE W/1 APPROPRIATELY SIZED NAIL EVERY SIX INCHES.

(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).
- 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.
- 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 ----- : ASTM A853; ANNEALED AT FINISH, BLACK OXIDE FINISH, .0800" DIA, GRADE 1006 OR BETTER.
- FIBERBOARD ----- : ASTM D4727.

(GENERAL NOTES CONTINUED)

- J. PORTIONS OF ONE OF THE FLATRACK END WALLS DEPICTED WITHIN THIS DRAWING HAVE NOT BEEN SHOWN IN THE LOAD VIEW FOR CLARITY PURPOSES.
- K. 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 BEING USED. REFER TO THE "STRAP JOINT A" AND "STRAP JOINT B" DETAILS ON PAGE 5 FOR GUIDANCE.
- L. REQUIREMENTS CITED WITH THE ASSOCIATION OF AMERICAN RAILROADS IN TERMODAL LOADING GUIDE 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. THE 2" STRAPPING USED FOR LOAD SECUREMENT, I.E. HOLD-DOWN STRAPS, WILL ONLY BE FASTENED TO THE FLATRACK CONTAINER BY UTILIZING TIEDOWN PROVISIONS LOCATED ON THE TOP OR ALONG THE SIDE OF THE FLATRACK BOTTOM SIDE RAILS. CAUTION: THE LOAD SECUREMENT STRAPS WILL NOT BE POSITIONED AROUND THE UNDERSIDE OR THROUGH THE FORKLIFT POCKETS OF THE FLATRACK CONTAINER. ADDITIONALLY, THE FLATRACK TIEDOWN PROVISIONS MUST BE AT LEAST AS STRONG AS THE 2" LOAD SECUREMENT STRAPPING BEING USED; AND BE OF A SUFFICIENT WIDTH TO RECEIVE THE 2" STRAPPING AND BE OF A DESIGN WHICH WILL PROVIDE A BEARING SURFACE ACROSS THE FULL WIDTH OF THE 2" STRAPPING SO THAT THE STRAPPING WILL NOT BE DEFORMED, ESPECIALLY AT ITS EDGES, WHEN PROPERLY TENSIONED.
- O. THE OUTLOADING PROCEDURES SPECIFIED HEREIN CAN ALSO BE UTILIZED FOR THE SHIPMENT OF THE DEPICTED M/LPA CONTAINERS WHEN THEY ARE LOADED WITH AN ITEM WHICH IS IDENTIFIED DIFFERENTLY BY NOMENCLATURE THAT THE ITEM DESIGNATED WITHIN THE DRAWING TITLE, PROVIDED THE GROSS WEIGHT OF THE CONTAINER DOES NOT EXCEED 5,300 POUNDS.
- P. REFER TO ASSOCIATION OF AMERICAN RAILROADS MANUAL "GENERAL RULES GOVERNING THE LOADING OF COMMODITIES ON OPEN TOP CARS" FOR APPLICABLE LOADING RULES AS FOLLOWS; PREFACE, 1A, 2, 5, 10, AND 15. NOTE THAT ALL STRAPPING USED FOR LOAD SECUREMENT, I.E., HOLD-DOWN STRAPS, MUST BE MARKED AS SPECIFIED IN LOADING RULE 15.
- Q. 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 25.4MM AND ONE POUND EQUALS 0.454 KG.
- R. NEW STYLE MISSILE/LAUNCH POD ASSEMBLIES AS REFERENCED IN THE REVISION BLOCK BELOW HAVE END COVERS ON THE AFT END OF THE ASSEMBLY WHICH EXTEND SLIGHTLY BEYOND THE TOP AND BOTTOM RAILS. CAUTION: BLOCKING MUST ONLY CONTACT THE RAIL, NOT THE AFT END COVER.
- S. THE DUNNAGE ASSEMBLIES SHOWN WITHIN THIS DRAWING ARE BASED ON THE DIMENSIONS FOR THE BLOCK IA AND BLOCK II M/LPA'S. WHEN SHIPPING BLOCK I M/LPA'S, SOME DIMENSIONS WILL CHANGE SLIGHTLY. THESE CHANGES ARE NOTED IN THE DETAILED VIEWS OF THE DUNNAGE ASSEMBLIES.

REVISIONS

REVISION NO. 1, DATED DECEMBER 1996, CONSISTS OF:

1. ADDITION OF PLYWOOD SPACERS TO LOAD BEARING GATES FOR USE WITH NEW STYLE MISSILE/LAUNCH POD ASSEMBLIES.

2. ADDING NEW WEIGHTS FOR ASSEMBLIES.

REVISION NO. 2, DATED MAY 1999, CONSISTS OF:

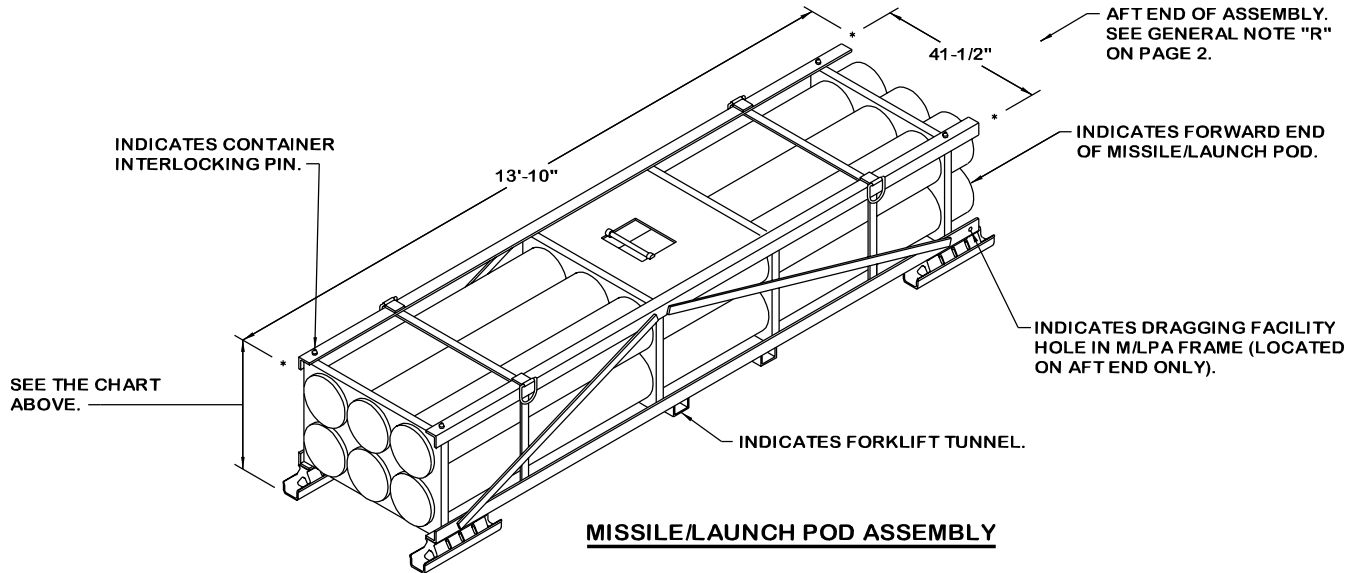
ADDING NEW WEIGHTS FOR ASSEMBLIES.

REVISION NO. 3, DATED MAY 2005, CONSISTS OF:

ADDING NEW WEIGHTS AND NSN'S.

**GROSS WEIGHT, DIMENSIONS, AND CUBE OF
GUIDED MISSILE LAUNCHING ASSEMBLIES**

NSN	DODIC	TYPE	LENGTH	WIDTH	HEIGHT	WEIGHT (LBS)	CUBE (CU FT)
1427-00-000-0195	PL81	BLOCK I	13'-10"	41-1/2"	32-5/8"	5,105	129.7
1427-01-274-3904	PL81	BLOCK I	13'-10"	41-1/2"	32-5/8"	4,814	129.7
1427-01-386-3113	PL81	BLOCK I	13'-10"	41-1/2"	32-5/8"	5,111	129.7
1427-01-398-6538	PL38	BLOCK IA	13'-10"	41-1/2"	33-3/4"	4,640	134.6
1427-01-463-0001	PL38	BLOCK IA	13'-10"	41-1/2"	33-3/4"	4,640	134.6
1427-01-439-8639	PL47	BLOCK II	13'-10"	41-1/2"	33-3/4"	4,985	134.6
1427-01-481-1620	N/A	TACMS 2K	13'-10"	41-1/2"	33-3/4"	4,985	134.6
1427-01-480-8516	PL65	IA UNITARY	13'-10"	41-1/2"	33-3/4"	4,682	134.6



MISSILE/LAUNCH POD ASSEMBLY

M/LPA STACKING AND HANDLING GUIDANCE

(M/LPA STACKING AND HANDLING GUIDANCE CONTINUED)

1. ASSEMBLY STACKING FOR OUTLOADING PURPOSES.
 - A. THE UPPER ASSEMBLY SHOULD BE PLACED AS CLOSELY AS POSSIBLE IN VERTICAL ALIGNMENT WITH THE LOWER ASSEMBLY.
 - B. WHEN STACKING THESE ASSEMBLIES, CARE MUST BE EXERCISED TO INSURE THAT THE INTERLOCKING HOLES IN THE BOTTOM OF THE ASSEMBLY SKIDS ALIGN CORRECTLY WITH THE INTERLOCKING PINS ON THE TOP OF THE ASSEMBLY FRAME. THIS WILL PRECLUDE DAMAGE TO THE SKIDS AND INSURE PROPER FUNCTIONING OF THE ASSEMBLY INTERLOCKS.

2. ASSEMBLY OR ASSEMBLY 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 ASSEMBLIES.

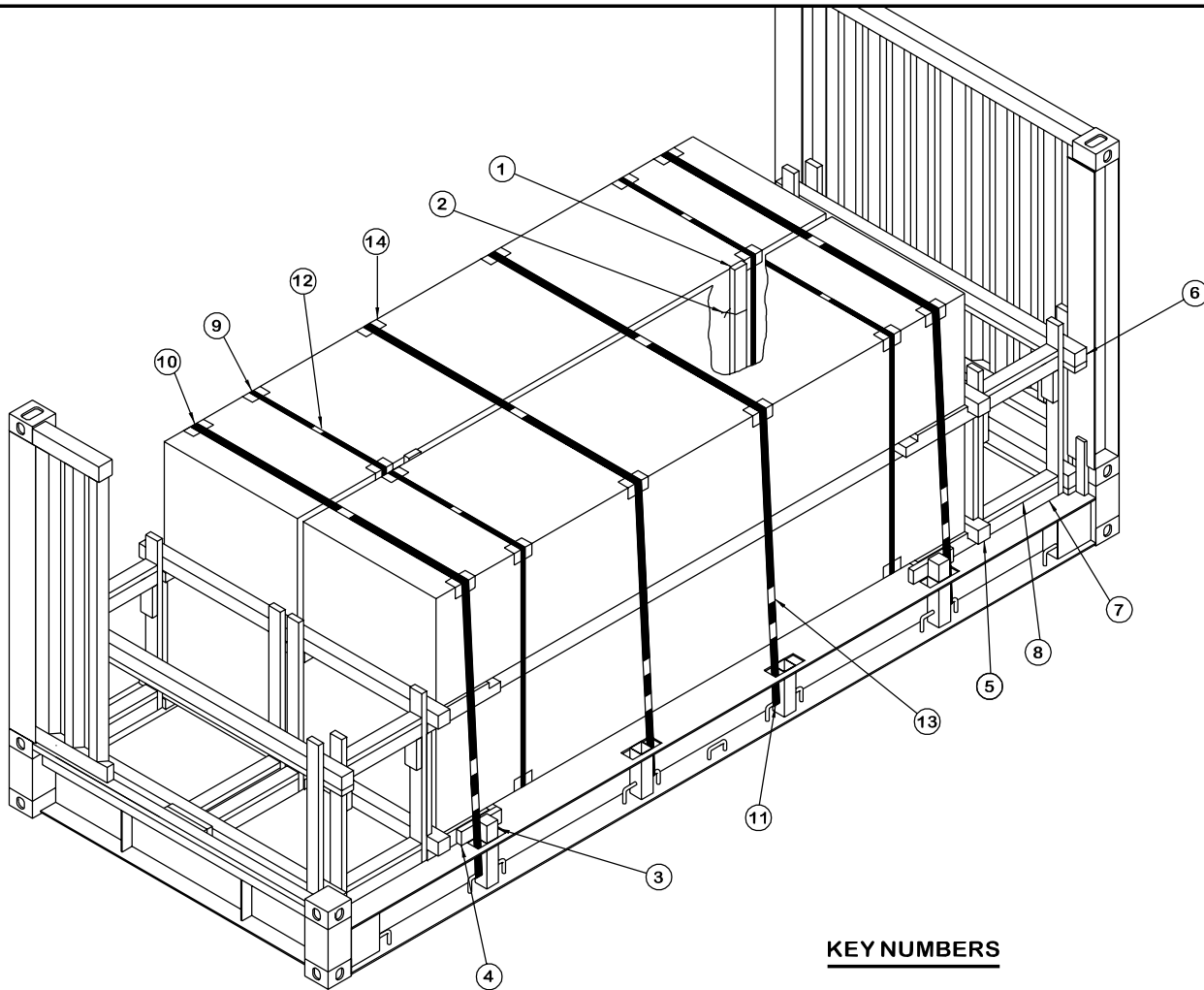
(2) PRECAUTIONARY HANDLING TECHNIQUES NORMALLY EMPLOYED OR AS SPECIFIED FOR THE TYPE OF COMMODITY INVOLVED WILL BE OBSERVED.

- A. ONLY APPROVED AND APPROPRIATELY SIZED MHE WILL BE USED FOR HANDLING THE DEPICTED ASSEMBLIES.
- B. IF HANDLING IS ACCOMPLISHED WITH A FORKLIFT TRUCK, THE ASSEMBLIES MUST BE HANDLED FROM A SIDE POSITION ONLY. CARE MUST BE EXERCISED WHEN INSERTING THE FORKS UNDER THE ASSEMBLY INTO THE FORKLIFT TUNNELS TO PREVENT DAMAGE TO THE ASSEMBLY BY THE FORK TINES OR THE FORKLIFT PACKAGE GUARD.

3. INSTALLATION OF 1-1/4" X .035" OR .031" STACK UNITIZING STEEL STRAPPING.
 - A. EACH OF THE TWO UNITIZING STRAPS SHOULD BE POSITIONED AROUND THE ASSEMBLIES, NEAR THE ASSEMBLY STRONG POINTS (I.E., THE LATERAL FRAME MEMBERS/BULKHEADS). PLACE STRAPPING SO THAT IT LAYS FLAT AND STRAIGHT WITH THE CONTOUR OF THE ASSEMBLIES, I.E., VERTICAL ALONG THE SIDES AND STRAIGHT ACROSS THE TOP AND BOTTOM OF THE STACK.
 - B. PLACE FOLDED FIBERBOARD UNDER THE STRAPPING AT ALL POINTS OF CONTACT WITH THE ASSEMBLY AND SECURE TO PREVENT DISLODGEEMENT DURING AND AFTER STRAP APPLICATION. STRIPS OF FIBERBOARD MATERIAL MAY BE TAPED OR STRING-TIED TO THE ASSEMBLY OR STRAPPING, OR IT CAN BE FORMED INTO STRAP ENCIRCLING TUBES BY WINDING THE MATERIAL AROUND THE STRAPPING TO FORM A SELF-HOLDING UNIT.
 - C. STRAPPING WILL BE FIRMLY TENSIONED, AND EACH END-OVER-END LAP JOINT WILL BE SEALED WITH ONE STRAP SEAL AS SHOWN. CRIMP EACH SEAL WITH TWO PAIR OF NOTCHES. SEE GENERAL NOTE "K" ON PAGE 2. THE LAP JOINTS WILL BE MADE ALONG THE SIDE OF THE STACK SO THAT THE SEALS WILL NOT BE IN CONTACT WITH THE ASSEMBLIES DURING STRAP TENSIONING. CARE SHOULD BE EXERCISED TO INSURE THAT THE ASSEMBLIES ARE NOT DAMAGED. EXCESS STRAPPING (STRAP ENDS) SHOULD BE CUT OFF OR BROKEN OFF NEAR THE JOINT SEALS.
4. CAUTION: CARE MUST BE EXERCISED DURING HANDLING OF THE ASSEMBLIES TO PREVENT DAMAGE CAUSED BY BUMPING OR DROPPING OF THE ASSEMBLIES.

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ASSEMBLY DETAIL AND HANDLING GUIDANCE



ISOMETRIC VIEW

(KEY NUMBERS CONTINUED)

- ⑨ STACK UNITIZING STRAP, 1-1/4" X .035" OR .031" BY A LENGTH TO SUIT LONG STEEL STRAPPING (REF: 19'-0") (4 REQD). INSTALL EACH UNITIZING STRAP TO ENCIRCLE A STACK OF PODS AS SHOWN.
- ⑩ HOLD-DOWN STRAP, 2" X .044" OR .050" BY A LENGTH TO SUIT LONG STEEL STRAPPING (REF: 26'-0") (4 REQD). INSTALL EACH STRAP FROM TWO 13'-0" LONG PIECES. FASTEN TO A TIEDOWN PROVISION ON THE SIDE OF THE FLATRACK AND BRING UP TO THE TOP OF THE LOAD WHERE THEY CAN BE TENSIONED AND SEALED.
- ⑪ PAD, STRAPPING, 2" X .044" OR .050" X 18" LONG STEEL STRAPPING (8 REQD). POSITION THE PAD BETWEEN THE HOLD-DOWN STRAP, PIECE MARKED ⑩, AND THE FLATRACK TIEDOWN PROVISION AND SECURE WITH ONE SEAL CRIMPED WITH ONE PAIR OF NOTCHES. SEE THE "STRAP JOINT DETAILS" ON PAGE 5 AND GENERAL NOTE "K" ON PAGE 2.
- ⑫ SEAL FOR 1-1/4" STRAPPING (4 REQD, 1 PER STRAP). CRIMP EACH SEAL WITH TWO PAIR OF NOTCHES. SEE GENERAL NOTE "K" ON PAGE 2.
- ⑬ SEAL FOR 2" STRAPPING (20 REQD, 5 PER STRAP). CRIMP EACH SEAL WITH TWO PAIR OF NOTCHES, EXCEPT FOR THOSE USED TO SECURE THE PADS, PIECES MARKED ⑪. SEE THE "STRAP JOINT DETAILS" ON PAGE 5 AND GENERAL NOTE "K" ON PAGE 2.
- ⑭ FOLDED FIBERBOARD (AS REQD). POSITION UNDER ALL STRAPS AT POINTS OF CONTACT WITH THE FRAME EDGES OF THE M/LPA'S.

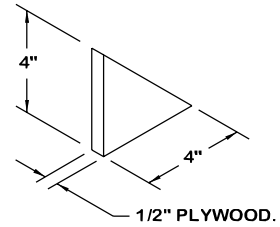
KEY NUMBERS

- ① CENTER FILL PIECE, 2" X 4" X 62-1/2" (2 REQD). POSITION A CENTER FILL PIECE APPROXIMATELY 34" FROM EACH END OF THE LOAD AS SHOWN.
- ② TIE WIRE, .0800" DIA 24" LONG (4 REQD). FASTEN EACH CENTER FILL PIECE, PIECE MARKED ①, TO ONE STACK OF ASSEMBLIES AT TWO LOCATIONS LOOPING WIRE AROUND FRAME OF ASSEMBLY, BRINGING ENDS TOGETHER AND TWISTING TAUT.
- ③ STAKE, 4" X 4" X 15" (4 REQD). INSTALL THE STAKES INTO THE FLATRACK STAKE POCKETS WITH A TIGHT (SNUG) FIT. NOTE: REFERENCE DIMENSIONS FOR A TIGHT FITTING STAKE ARE 3-1/8" X 3-1/4" (ACTUAL). TOENAIL TO THE FILLER PIECE, PIECE MARKED ④, W/1/2-10d NAILS ON EACH SIDE OF THE STAKE. NAIL W/1-20d NAIL THROUGH THE HOLE PROVIDED IN THE FACE OF THE FLATRACK STAKE POCKET AND INTO THE STAKE. BEND THE PROTRUDING HEAD OF THE NAIL OVER AGAINST THE STAKE POCKET.
- ④ FILLER PIECE, 2" X 4" X 12" (4 REQD). CENTER ON THE FACE OF THE STAKE, PIECE MARKED ③ AS SHOWN.
- ⑤ LOAD BEARING GATE (2 REQD). SEE THE "LOAD BEARING GATE" DETAIL ON PAGE 5. CENTER ASSEMBLY AGAINST END OF LOAD. SEE GENERAL NOTES "G" AND "R" ON PAGE 2.
- ⑥ END WALL GATE (2 REQD). SEE THE "END WALL GATE DETAIL" ON PAGE 6. POSITION AS SHOWN SO THAT THE RETAINER PIECES ARE LOCATED ON THE INSIDE EDGES OF THE CORNER POSTS. NOTE: NAIL A 1/2" X 5" X 5" PLYWOOD SHIM TO THE FACE OF EACH END OF THE LOWER BEAM ASSEMBLY TO PROVIDE A UNIFORM FIT OF THE GATE AGAINST THE CORNER POSTS.
- ⑦ STRUT "A", 4" X 4" BY CUT TO FIT (REF: 22") (12 REQD). INSTALL AS SHOWN AND TOENAIL EACH END TO THE GATES W/2-12d NAILS. NOTE: THE BOTTOM CENTER STRUTS NEED TO BE 1-1/2" LONGER THAN THE OUTSIDE STRUTS.
- ⑧ STRUT "B", 2" X 4" BY CUT TO FIT (REF: 22") (12 REQD). LAMINATE TO STRUT "A", PIECE MARKED ⑦, W/4-10d NAILS. NOTE: THE BOTTOM CENTER STRUTS NEED TO BE 1-1/2" LONGER THAN THE OUTSIDE STRUTS.

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SPECIAL NOTES:

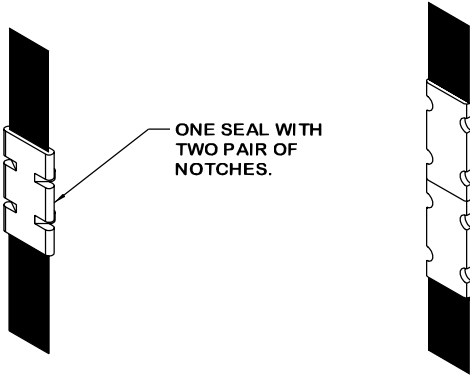
1. A 4-UNIT LOAD OF MISSILE/LAUNCH POD ASSEMBLIES (M/LPA) IS DEPICTED ON A COMMERCIAL FLATRACK CONTAINER.
2. TO PROVIDE ADDITIONAL SPACE BETWEEN THE NEW STYLE AFT END COVER AND THE LOAD BEARING GATE AT THE AFT END OF THE M/LPA, SPACER PIECES, AS DEPICTED AT THE RIGHT MUST BE USED. THE SPACER PIECES SHALL BE LOCATED SO THAT THEY CONTACT THE BOTTOM RAIL OF THE M/LPA. SEE GENERAL NOTE "R" ON PAGE 2.
3. THE LOAD AS SHOWN IS BASED ON BLOCK I M/LPA'S. WHEN SHIPPING BLOCK IA AND BLOCK II M/LPA'S THE WEIGHT OF THE LADING WILL CHANGE. SEE THE WEIGHT CHART ON PAGE 3.



SPACER

TWO SEALS, BUTTED TOGETHER, WITH TWO PAIR OF CRIMPS EACH SEAL.

SPACER (8 REQD). SEE THE DETAIL ABOVE. POSITION SO AS TO CONTACT THE BOTTOM RAIL AND NAIL TO THE HORIZONTAL BEAM W/2-6d NAILS. SEE SPECIAL NOTE 2 ABOVE.

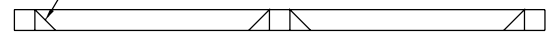


STRAP JOINT A

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

STRAP JOINT B

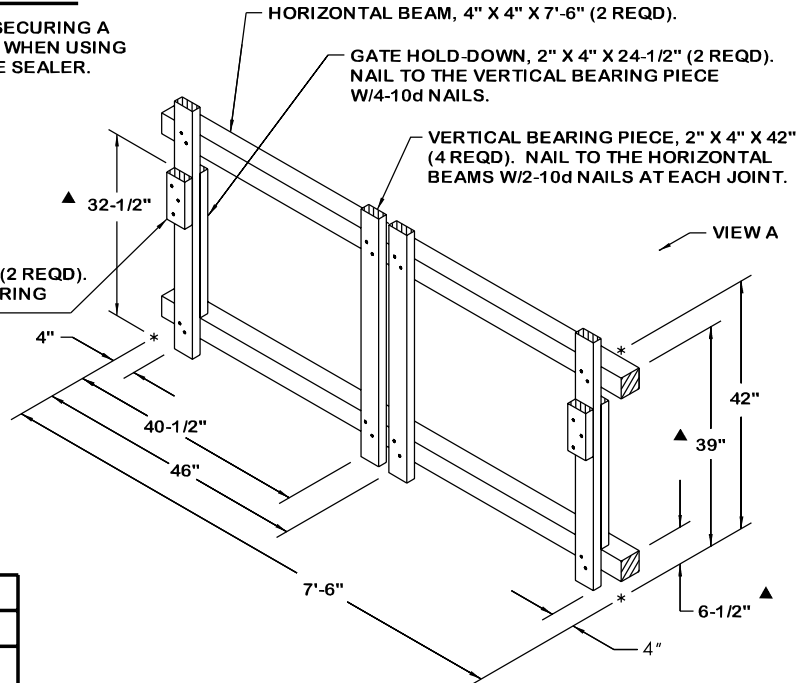
METHOD OF SECURING A STRAP JOINT WHEN USING A CRIMP-TYPE SEALER.



PARTIAL VIEW A

END-OVER-END LAP JOINT DETAILS

STRUT LEDGER, 2" X 4" X 8" (2 REQD). NAIL TO THE VERTICAL BEARING PIECE W/3-10d NAILS.



LOAD BEARING GATE

▲ WHEN GATE IS USED FOR SHIPPING "BLOCK I" M/LPA'S THESE DIMENSIONS WILL BE REDUCED AS FOLLOWS:

- 6-1/2" TO 6-1/4"
- 32-1/2" TO 30-3/4"
- 39" TO 37-1/4"

LOAD AS SHOWN

ITEM	QUANTITY	WEIGHT (APPROX)
ATACMS M/LPA	4	20,444 LBS *
DUNNAGE		480 LBS
FLATRACK		5,700 LBS

TOTAL WEIGHT - - - - - 26,624 LBS (APPROX)

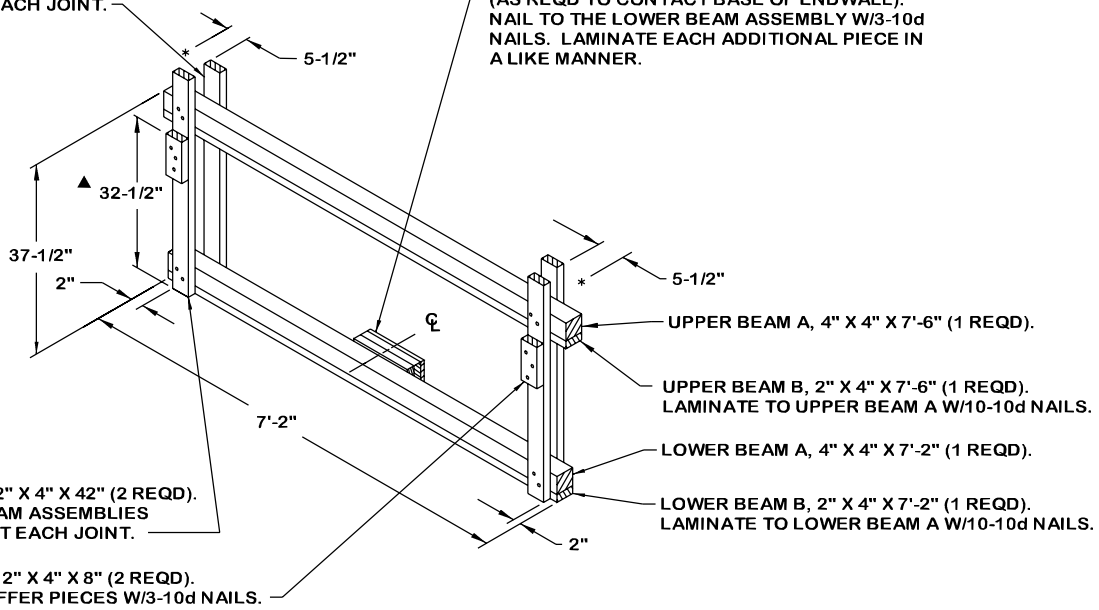
BILL OF MATERIAL		
LUMBER	LINEAR FEET	BOARD FEET
1" X 6"	2	1
2" X 4"	136	91
2" X 6"	4	4
4" X 4"	87	116
NAILS	NO. REQD	POUNDS
6d (2")	30	NIL
10d (3")	226	3-1/2
12d (3-1/4")	48	3/4
20d (4")	4	NIL
STEEL STRAPPING, 2" - - -	116'	REQD - - - - - 39 LBS
SEAL FOR 2" STRAPPING - - -	20	REQD - - - - - 4 LBS
STEEL STRAPPING, 1-1/4" - -	76'	REQD - - - - - 11 LBS
SEAL FOR 1-1/4" STRAPPING - -	4	REQD - - - - - 1/4 LB
WIRE, .0800" - - - - -	8'	REQD - - - - - NIL
PLYWOOD, AS REQD - - - - -	2 SQ FT	REQD - - - - - 1 LB
ANTI-CHAFING MATERIAL - - -	AS REQD	- - - - - NIL

* SEE SPECIAL NOTE 3 ABOVE.

FOUR ASSEMBLY LOAD

RETAINER PIECE, 2" X 4" X 42" (2 REQD).
NAIL TO THE BEAM ASSEMBLIES
W/2-10d NAILS AT EACH JOINT.

FILLER PIECE, 2" X 6" X 12" OR 1" X 6" X 12"
(AS REQD TO CONTACT BASE OF ENDWALL).
NAIL TO THE LOWER BEAM ASSEMBLY W/3-10d
NAILS. LAMINATE EACH ADDITIONAL PIECE IN
A LIKE MANNER.



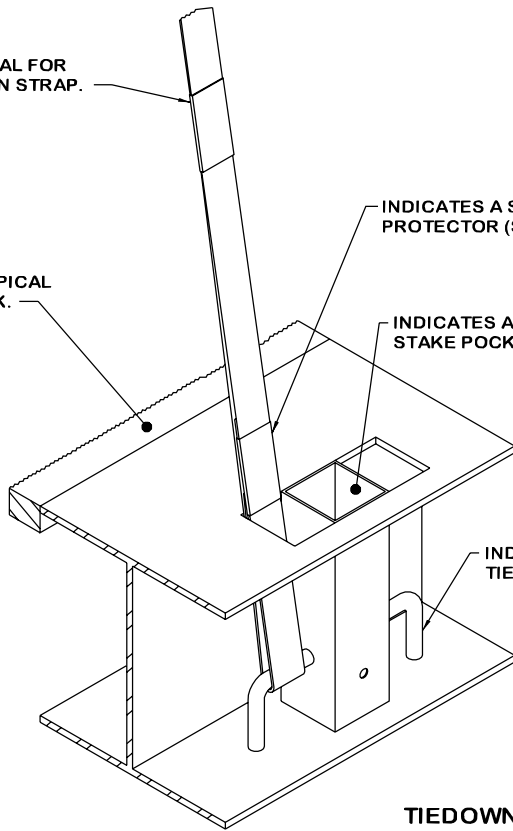
END WALL GATE

▲ WHEN GATE IS USED FOR
SHIPPING "BLOCK I" M/LPA'S
THIS DIMENSION WILL BE
REDUCED AS FOLLOWS:

32-1/2" TO 30-3/4"

INDICATES A SEAL FOR
THE HOLD-DOWN STRAP.

INDICATES A TYPICAL
FLATRACK DECK.



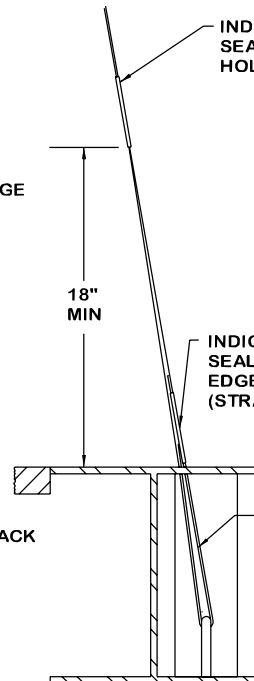
TIEDOWN DETAIL

PARTIAL ISOMETRIC SECTION VIEW

INDICATES A
SEAL FOR THE
HOLD-DOWN STRAP.

INDICATES A
SEAL FOR THE
EDGE PROTECTOR
(STRAPPING PAD).

INDICATES AN
EDGE PROTECTOR
(STRAPPING PAD).



PARTIAL SIDE VIEW