APPROVED BY MECH DIV AAR, THEIR LETTER	APPROVED BY BUREAU OF EXPLOSIVES
DATED 6/3/94 FILE AR-11.0.129	
SIGNED R. E. Martin	
DATE 6/3/94	DATE 6/3/94
MTMCTEA, FT. EUSTIS, VA	

MLRS

LOADING AND BRACING (CL & LCL) ON BULKHEAD FLATCAR ☼ OF MULTIPLE LAUNCH ROCKET SYSTEM ROCKET POD/ CONTAINERS (RP/C)

INDEX

CAUTION:

THE RELEASE PIN RINGS ON EACH QUICK RELEASE LOCKING PIN WHICH SECURES THE END SKID PIN MUST BE TURNED INWARD TO PREVENT IT FROM BEING DAMAGED BY THE ADJACENT DUNNAGE ASSEMBLIES.

☼ PROCEDURES CONTAINED HEREIN ARE ONLY APPLICABLE TO FLATCARS HAVING END OF CAR OR UNDER CAR CUSHIONING.

U.S. ARMY MATERIEL COMMAND DRAWING

APPROVED, U.S. ARMY MISSILE COMMAND

Jerry R. Cobb

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

William F Ernst

U.S. ARMY DEFENSE AMMUNITION CENTER AND SCHOOL

DRAFTSMAN	TECHNICIAN	ENGINEER
P. BELLICH		L. FIEFFER
B. LEONARD	R. ARNOLD	

VALIDATION ENGINEERING DIVISION	TRANSPORTATION ENGINEERING DIVISION	LOGISTICS ENGINEERING OFFICE
	W. Frenchko	W F Ernst

SEPTEMBER 1994

CLASS	DIVISION	DRAWING	FILE
19	48	5542	GM5RS4

DO NOT SCALE

PROJECT GM 835-90

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 IN THIS DRAWING ARE APPLICABLE TO THE MULTIPLE LAUNCH ROCKET SYSTEM ROCKET POD/CONTAINER (RP/C). SUBSEQUENT REFERENCE TO CONTAINER HEREIN MEANS THE RP/C WITH ROCKET COMPONENTS.

C. THE OUTLOADING PROCEDURES DEPICTED WITHIN THIS DOCUMENT ARE APPLICABLE FOR SHIPMENTS ON A BULKHEAD FLATCAR (WITHOUT RISERS) DESIGNATED AS CLASS "FB", WHICH IS 60'-7-1/2" BETWEEN THE 11'-0" HIGH BULKHEADS AND WHICH HAS A USABLE FLOOR WIDTH OF 9'-4". CARS OF OTHER LENGTHS MAY BE USED, HOWEVER THE BULKHEADS MUST BE AT LEAST 62" HIGH, THE FLOOR MUST BE AT LEAST 8'-0" WIDE AND THE FLOOR MUST BE WOOD OR NAILABLE METAL.

D. FOR DETAILS OF THE RP/C, SEE U.S. ARMY MISSILE COMMAND DRAWING NO. 13027900, AND PAGE 3.

CONTAINER DIMENSIONS - - 13'-10" LONG BY 41-1/2" WIDE BY 32" HIGH
GROSS WEIGHT - - - - - - 5,078 POUNDS (APPROX)

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

F. 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 29, FOR EXPLOSIVES AND OTHER DANGEROUS ARTICLES, IN FULL.

G. 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, AND 15. NOTE THAT ALL STRAPPING USED FOR LOAD SECUREMENT, I.E., HOLD-DOWN STRAPS, MUST BE MARKED AS SPECIFIED IN LOADING RULE 15.

H. DIMENSIONS GIVEN FOR DUNNAGE PIECES OR DUNNAGE ASSEMBLIES WILL BE FIELD CHECKED PRIOR TO THEIR ASSEMBLY AND INSTALLATION ON THE FLATCAR. DUNNAGE ASSEMBLIES MUST BE CONSTRUCTED SO THAT A SNUG FIT WITH THE RP/C IS OBTAINED. ALSO, ADJUSTMENTS MAY BE REQUIRED AS TO THE LOCATION OF CERTAIN PIECES OF DUNNAGE IN AN ASSEMBLY IN ORDER FOR THE DUNNAGE ASSEMBLY TO CONTACT THE RP/C AT ITS STRONG POINT (I.E., ITS FRAME MEMBERS).

J. THE HEIGHT OF THE SKIDS ON THE LAUNCH POD ASSEMBLY MAY VARY DEPENDING UPON WHETHER THE ASSEMBLIES ARE NEW OR HAVE BEEN IN STORAGE. THE THICKNESS OF THE SUPPORT "A" MAY REQUIRE ADJUSTMENT TO ACCOUNT FOR THIS VARIATION IN SKID HEIGHT. THE SUPPORT THICKNESS MUST BE ADJUSTED TO BE WITHIN 1/4" OF THE MEASURED DISTANCE BETWEEN THE BOTTOM OF THE LAUNCH POD ASSEMBLY FRAME AND THE DECK OF THE TRANSPORT VEHICLE. THIS MEASUREMENT WILL BE MADE FROM A SINGLE POD ASSEMBLY AND NOT FROM A STACK OF PODS. THE SUPPORTS WILL THEN BE CONSTRUCTED USING APPROPRIATE THICKNESSES OF NOMINAL LUMBER OR NOMINAL LUMBER AND 3-1/2" WIDE PLYWOOD STRIPS.

(CONTINUED AT RIGHT)

MATERIAL SPECIFCATIONS

LUMBER - - - - - - - - :	SEE TM 743-200-1 (DUNNAGE LUMBER) AND FED SPEC MM-L-751.
NAILS - - - - - - - - :	FED SPEC FF-N-105; COMMON.
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 - - - - - - - - - :	FED SPEC QQ-W-461; ANNEALED, BLACK.
STAPLE, STRAP - - - :	COMMERCIAL GRADE.
STAKE POCKET PROTECTOR - - - - - :	COMMERCIAL GRADE.
ANTI-CHAFING MATERIAL - - - - - - :	MIL-B-121 (OR EQUAL); NEUTRAL BARRIER MATERIAL.

(GENERAL NOTES CONTINUED)

K. DUNNAGE LUMBER SPECIFIED IS OF NOMINAL SIZE. 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.

L. LOAD BLOCKING STRUTS WHICH ARE 48" OR LONGER MUST BE STIFFENED BY THE APPLICATION OF HORIZONTAL AND VERTICAL STRUT BRACING. BRACING IS NOT REQUIRED IF THE STRUTS FOR THE LOAD BEING SHIPPED ARE SHORTER THAN 48". THE LENGTH OF THE LOAD BLOCKING STRUTS SHOULD BE KEPT AS SHORT AS POSSIBLE (APPROX 18" MINIMUM), BUT IN THE EVENT IT IS NECESSARY TO USE STRUTS WHICH ARE 8'-0" OR MORE IN LENGTH, IT WILL BE NECESSARY TO APPLY AN ADDITIONAL SET OF HORIZONTAL AND VERTICAL STRUT BRACING PIECES. STRUT BRACING SHOULD BE APPLIED SO AS TO PROVIDE NEARLY EQUAL SPACES BETWEEN THE BRACING PIECES AND THE CENTER GATE AND/OR BETWEEN ADJACENT STRUT BRACING PIECES.

M. TO ACHIEVE A TIGHTLY BLOCKED LOAD, A STRUT WILL BE CUT SLIGHTLY LONGER THAN THE MEASURED DISTANCE BETWEEN THE STRUT BEARING AREAS ON THE TWO CENTER GATES. ONE END OF THE STRUT WILL BE POSITIONED AT ITS BEARING AREA JUST ABOVE THE STRUT LEDGER ON ONE GATE. THE OTHER END WILL THEN BE DRIVEN DOWNWARD UNTIL IT CONTACTS THE STRUT LEDGER ON THE OTHER GATE. EACH END OF THE TOP LAYER OF A STRUT WILL BE TOENAILED TO THE ADJACENT CENTER GATE, AS SPECIFIED WITHIN THE KEY NUMBERS FOR A LOAD, IN SUCH A MANNER SO THAT AS NEARLY AS PRACTICAL EQUAL LENGTHS OF A NAIL ARE EMBEDDED IN THE STRUT AND IN THE VERTICAL PIECE OF THE CENTER GATE.

N. 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 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.

O. TO PRECLUDE ABRASION OF RP/C FRAME MEMBERS BY STEEL UNITIZING AND BUNDLING STRAPS, ANTI-CHAFING MATERIAL WILL BE PLACED AT ALL POINTS OF CONTACT. ALSO, UNITIZATION STRAPS, BUNDLING STRAPS, AND HOLD-DOWN STRAPS MUST BE LOCATED AS CLOSELY AS POSSIBLE TO THE STRONG POINTS OF THE RP/C FRAME, I.E., NEAR THE VERTICAL FRAME MEMBERS AND BULKHEADS, TO PRECLUDE DAMAGE TO THE RP/C FRAME.

P. CAUTION: STAKE POCKETS ON FLATCARS WILL BE USED FOR ANCHORING HOLD-DOWN STRAPPING WHENEVER POSSIBLE. DO NOT USE SWIVEL RING TYPE ANCHOR DEVICES. IF OTHER TYPES ARE USED, THEY MUST BE OF SUFFICIENT WIDTH TO RECEIVE 2" STRAPPING, AND ALSO BE OF A DESIGN WHICH WILL PROVIDE A BEARING SURFACE, ACROSS THE FULL WIDTH OF THE STRAPPING, THAT WILL NOT DEFORM A STRAP, ESPECIALLY AT THE EDGES, WHEN IT IS TENSIONED.

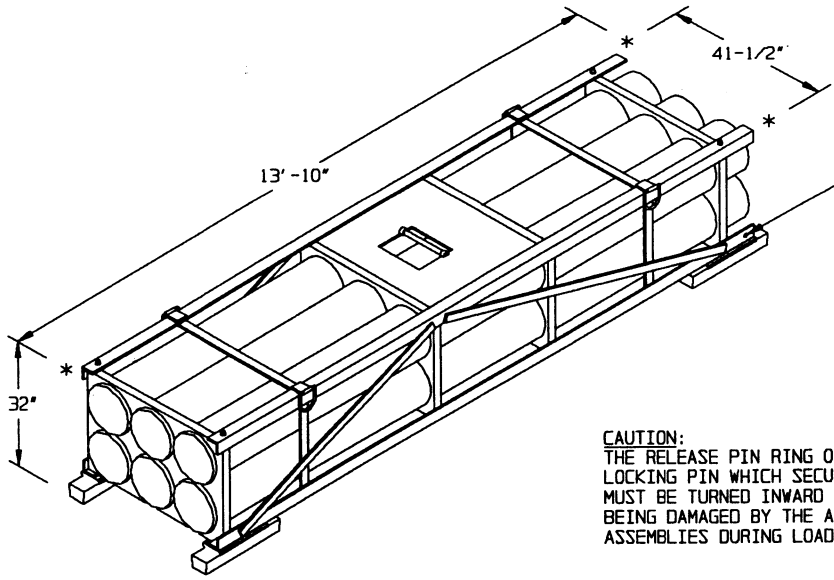
Q. WHEN STEEL STRAPPING IS SEALED AT AN END-OVER-END LAP JOINT, A MINIMUM OF ONE SEAL, WITH TWO PAIR OF NOTCHES WILL BE USED TO SEAL THE JOINT WHEN A NOTCH-TYPE SEALER IS BEING USED. A MINIMUM OF TWO SEALS, BUTTED TOGETHER, WITH TWO PAIR OF CRIMPS PER SEAL WILL BE USED TO SEAL THE JOINT WHEN A CRIMP TYPE SEALER IS BEING USED. CAUTION: CARE SHOULD BE EXERCISED DURING TENSIONING TO PREVENT DAMAGE TO THE ROCKET POD/CONTAINERS.

R. IF IT NECESSARY TO SHIP LESS THAN A FULL LOAD OF ROCKET POD/CONTAINERS, A FILLER ASSEMBLY MUST BE INSTALLED IN THE PLACE OF EACH ROCKET POD OMITTED FROM THE TOP LAYER. SEE THE "FILLER ASSEMBLY" DETAIL ON PAGE 8. NOT MORE THAN SEVEN FILLER ASSEMBLIES WILL BE USED. THE FILLER ASSEMBLY WILL BE SECURED TO THE ROCKET POD UPON WHICH IT RESTS WITH THREE 1-1/4" STEEL STRAPS.

S. IF THE RAILCAR BEING USED IS NOT EQUIPPED WITH PLACARD MOUNTING PROVISIONS ON BOTH ENDS AND BOTH SIDES, 16" X 24" BOARDS MUST BE PROVIDED AS REQUIRED. CAUTION: BOARDS AND BOARD MOUNTING BRACKETS MUST NOT BE NAILED TO THE LADING; NAILING TO THE DUNNAGE IS PERMISSIBLE.

T. THE NUMBER OF LADING UNITS MAY BE ADJUSTED TO FIT THE SIZE OF THE CAR BEING LOADED OR THE QUANTITY TO BE SHIPPED, HOWEVER, THE APPROVED METHODS SPECIFIED HEREIN MUST BE FOLLOWED AS CLOSELY AS POSSIBLE FOR BLOCKING, BRACING, AND STAYING OF THE UNITS. NOTICE: A SHIPMENT WILL BE POSITIONED ON THE RAIL CAR IN COMPLIANCE WITH THE WEIGHT DISTRIBUTION REQUIREMENTS OF THE AAR.

(CONTINUED ON PAGE 3)



CAUTION:
THE RELEASE PIN RING ON EACH QUICK RELEASE LOCKING PIN WHICH SECURES THE END SKID PIN MUST BE TURNED INWARD TO PREVENT IT FROM BEING DAMAGED BY THE ADJACENT DUNNAGE ASSEMBLIES DURING LOADING.

ROCKET POD/CONTAINER

SPECIAL HANDLING GUIDANCE

RP/C STACKING FOR OUTLOADING PURPOSES AND RP/C OR RP/C 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 RP/Cs.

(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 ASSEMBLIES (APPROXIMATELY 10,200 POUNDS) IN ONE LIFT, THEN THE ASSEMBLIES MUST BE HANDLED INDIVIDUALLY. ONLY APPROVED AND APPROPRIATELY SIZED MHE WILL BE USED FOR THE HANDLING OF THE DEPICTED RP/Cs.

B. WHEN AN RP/C STACK IS BEING UNITIZED, CARE MUST BE EXERCISED WHEN TIGHTENING THE STRAPS TO INSURE THAT THE LONGITUDINAL FRAME MEMBERS OF THE RP/Cs ARE NOT "PULLED IN" OR DEFORMED. POSITION THE UNITIZATION AND BUNDLING STRAPS AS CLOSE AS POSSIBLE TO THE BULKHEADS OF THE RP/C TO AVOID DAMAGING THE RP/C FRAME MEMBERS.

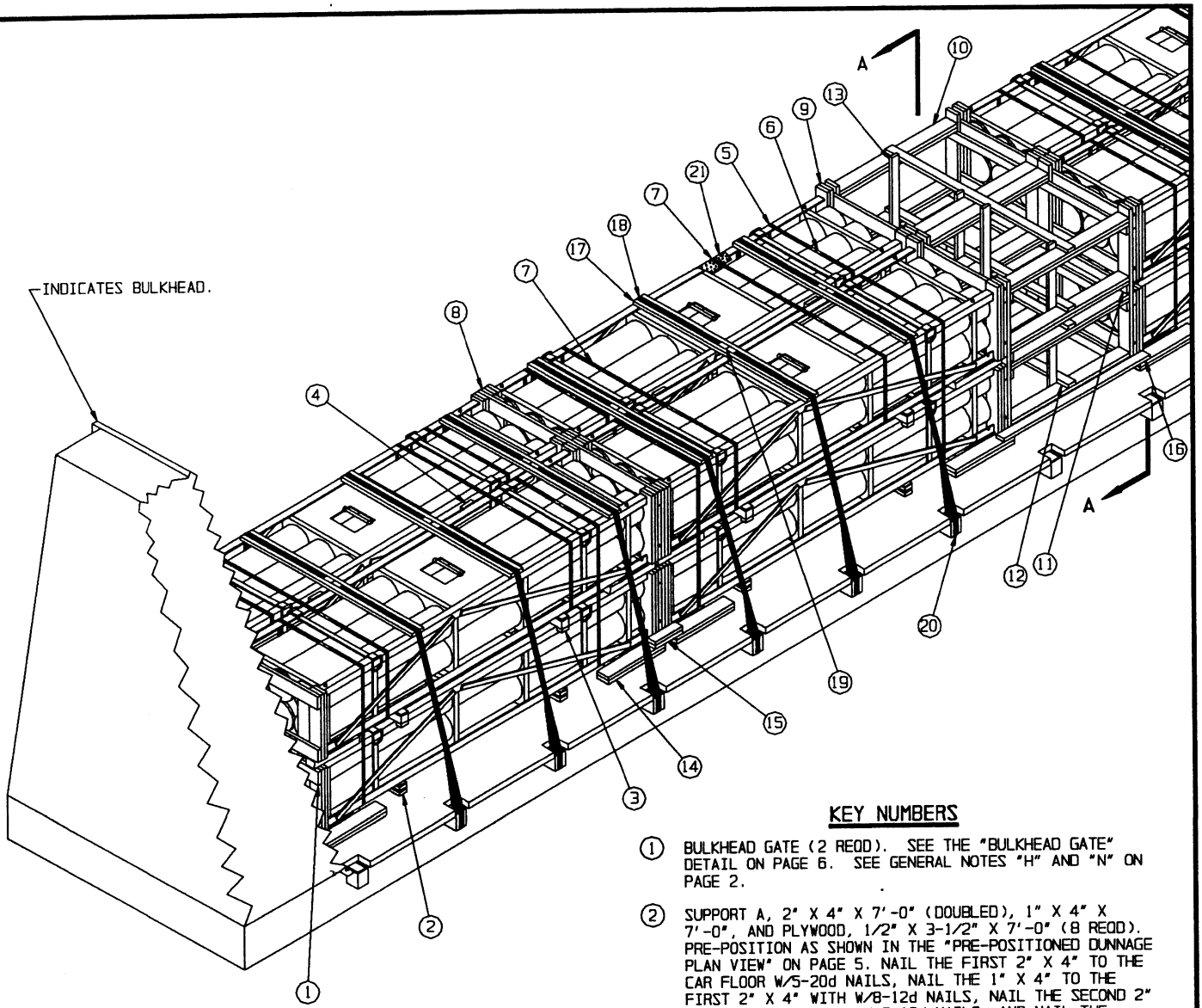
C. IF HANDLING IS ACCOMPLISHED WITH A FORKLIFT TRUCK, THE RP/Cs SHOULD BE HANDLED FROM A SIDE POSITION AS MUCH AS POSSIBLE. CARE MUST BE EXERCISED WHEN INSERTING FORKS UNDER AN RP/C TO PREVENT DAMAGE TO THE RP/C BY THE FORK TINES OR THE FORKLIFT PACKAGE GUARD. ADDITIONALLY, THE FORK TINES SHOULD BE PLACED UNDER THE AREA MARKED "FORKLIFT AREA" LOCATED NEAR THE LONGITUDINAL CENTER OF THE RP/C.

(GENERAL NOTES CONTINUED FROM PAGE 2)

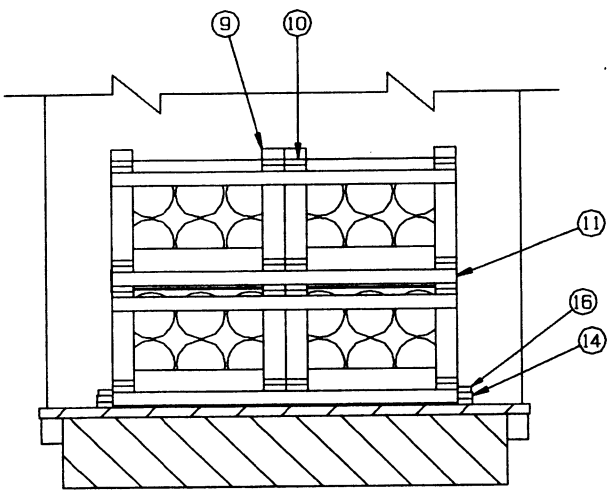
U. PORTIONS OF THE CAR DEPICTED WITHIN THIS DRAWING, SUCH AS ONE OF THE BULKHEADS, HAVE NOT BEEN SHOWN IN THE LOAD VIEW FOR CLARITY PURPOSES.

V. 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 0.454KG.

W. FOR ADDITIONAL GUIDANCE, ATTENTION IS DIRECTED TO THE "SPECIAL HANDLING GUIDANCE" ON THIS PAGE.



ISOMETRIC VIEW



SECTION A-A

STRAPPING OMITTED FOR CLARITY PURPOSES.

KEY NUMBERS

(1) BULKHEAD GATE (2 REQD). SEE THE "BULKHEAD GATE" DETAIL ON PAGE 6. SEE GENERAL NOTES "H" AND "N" ON PAGE 2.

(2) SUPPORT A, 2" X 4" X 7'-0" (DOUBLED), 1" X 4" X 7'-0", AND PLYWOOD, 1/2" X 3-1/2" X 7'-0" (8 REQD). PRE-POSITION AS SHOWN IN THE "PRE-POSITIONED DUNNAGE PLAN VIEW" ON PAGE 5. NAIL THE FIRST 2" X 4" TO THE CAR FLOOR W/5-20d NAILS, NAIL THE 1" X 4" TO THE FIRST 2" X 4" WITH W/8-12d NAILS, NAIL THE SECOND 2" X 4" TO THE 1" X 4" W/8-12d NAILS, AND NAIL THE PLYWOOD TO THE SECOND 2" X 4" W/8-6d NAILS. SEE GENERAL NOTE "J" ON PAGE 2.

(3) SUPPORT B (8 REQD). SEE THE DETAIL AND THE SPECIAL NOTES ON PAGE 7.

(4) ANTI-CHAFING PIECE, 1" X 6" X 62" AND 2" X 6" X 62", (8 REQD). LAMINATE THE 1" X 6" PIECE TO THE 2" X 6" PIECE W/6-6d NAILS. WIRE TIE TO THE FRAME MEMBERS OF BOTH THE TOP AND BOTTOM MLRS PODS WITH 18" OF 14 GAGE WIRE AT EACH LOCATION.

(5) UNITIZING STRAP, 1-1/4" X .035" OR .031" X 19'-0" LONG STEEL STRAPPING (16 REQD). SEE THE "SPECIAL HANDLING GUIDANCE" ON PAGE 3.

(6) SEAL FOR 1-1/4" STRAPPING (48 REQD, 2 PER STRAP). DOUBLE CRIMP EACH SEAL. SEE GENERAL NOTE "Q" ON PAGE 2.

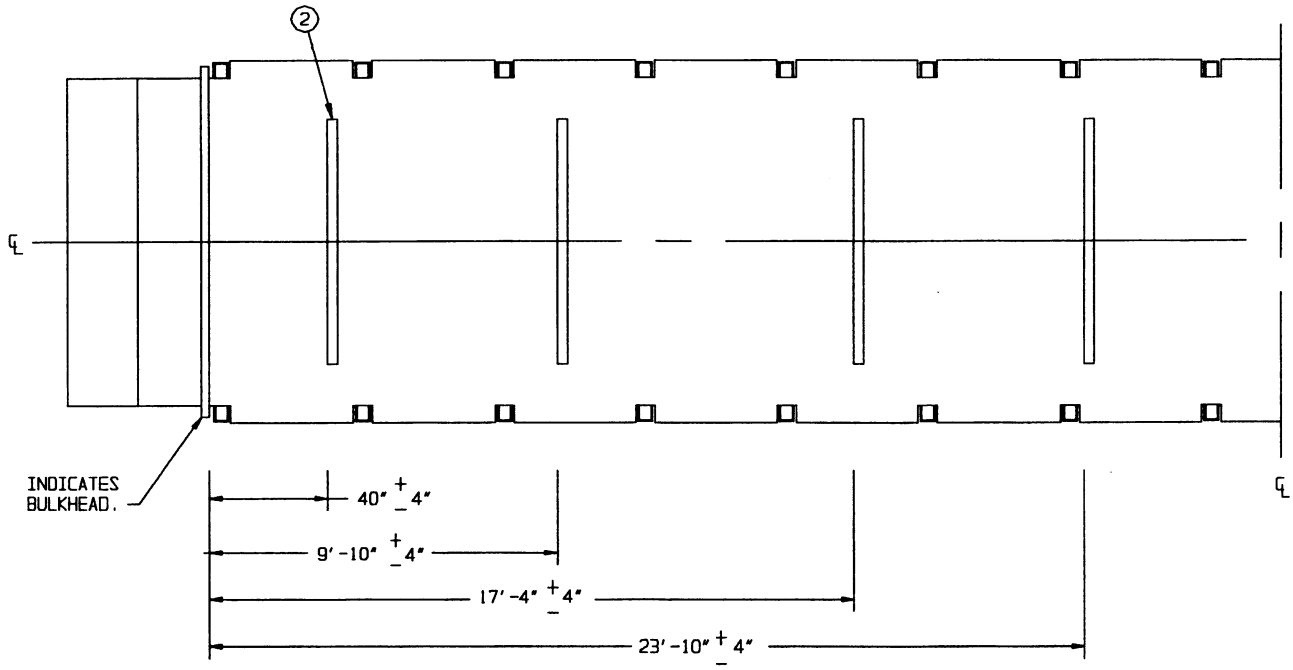
(7) BUNDLING STRAP, 1-1/4" X .035" OR .031" X 21'-0" LONG STEEL STRAPPING (8 REQD). INSTALL TO ENCIRCLE LATERALLY ADJACENT CONTAINERS IN THE TOP LAYER AS SHOWN.

(8) SEPARATOR GATE (2 REQD). SEE THE DETAIL ON PAGE 7.

(9) CENTER GATE (2 REQD). SEE THE DETAIL ON PAGE 6.

(10) STRUT, 2" X 6" BY A LENGTH TO SUIT (REF: 57") (DOUBLED) (16 REQD). LAMINATE W/1-10d NAIL EVEY 6" AND TOENAIL THE TOP PIECE TO THE CENTER GATES W/2-12d NAILS AT EACH END. NOTE THAT 4" X 6" STRUTS MAY BE USED IN LIEU OF THE DOUBLED 2" X 6". LAMINATING IS THEN NOT REQUIRED. SEE GENERAL NOTE "M" ON PAGE 2.

(CONTINUED ON PAGE 5)



PRE-POSITIONED DUNNAGE PLAN VIEW

(KEY NUMBERS CONTINUED)

⑳ PAD, 2" X .050" OR .044" X 24" LONG STEEL STRAPPING (24 REQD). POSITION UNDER STAKE POCKET AND SEAL TO HOLD-DOWN STRAP, PIECE MARKED ⑱ WITH ONE SEAL CRIMPED WITH ONE PAIR OF NOTCHES. SEE "DETAIL A" ON PAGE 8. ALT: STAKE POCKET PROTECTOR (48 REQD). USE TWO UNDER EACH STAKE POCKET WITH A HOLD-DOWN STRAP. SEE "DETAIL-B" ON PAGE 8.

㉑ ANTI-CHAFING NEUTRAL BARRIER MATERIAL (AS REQD). POSITION UNDER ALL STRAPPING AT POINTS OF CONTACT WITH CONTAINERS.

(KEY NUMBERS CONTINUED FROM PAGE 4)

⑪ STRUT LEDGER, 2" X 4" X 7'-3" (2 REQD). POSITION ON THE SECOND LEVEL OF STRUTS AND NAIL TO THE CENTER GATE VERTICAL PIECES W/3-10d NAILS AT EACH JOINT.

⑫ HORIZONTAL STRUT BRACING, 2" X 4" X 7'-6" (4 REQD). NAIL TO THE STRUTS W/3-10d NAILS AT EACH JOINT. SEE GENERAL NOTE "L" ON PAGE 2.

⑬ VERTICAL STRUT BRACING, 2" X 4" X 66" (4 REQD). NAIL TO THE STRUTS W/3-10d NAILS AT EACH JOINT.

⑭ SIDE BLOCKING, 2" X 6" X 30" (DOUBLED) (16 REQD). LOCATE ADJACENT TO THE RP/C SKIDS. LOCATE THE SIDE BLOCKING PIECES AT EACH END OF THE LOAD SO AS TO BUTT UP AGAINST THE BULKHEAD. NAIL THE FIRST PIECE TO THE CAR FLOOR W/6-20d NAILS. NAIL THE SECOND PIECE TO THE FIRST W/6-30d NAILS.

⑮ SIDE BLOCKING FOR SEPARATOR GATE, 2" X 4" X 16" (DOUBLED) (4 REQD). NAIL THE FIRST PIECE TO THE SIDE BLOCKING PIECES W/2-10d NAILS AT EACH END. NAIL THE SECOND PIECE TO THE FIRST W/4-10d NAILS.

⑯ SIDE BLOCKING FOR CENTER GATE, 2" X 4" BY A LENGTH TO SUIT (REF 72") (2 REQD). NAIL TO THE SIDE BLOCKING PIECES W/3-10d NAILS AT EACH END.

⑰ STRAPPING BOARD, 2" X 6" X 6'-10" (12 REQD).

⑱ HOLD-DOWN STRAP, 2" X .050", OR .044" X 27'-0" LONG STEEL STRAPPING (12 REQD). INSTALL EACH STRAP FROM TWO 13'-6" LONG PIECES. STAPLE TO A STRAPPING BOARD W/3 STAPLES.

⑲ SEAL FOR 2" STRAPPING (96 REQD, 8 PER STRAP). CRIMP EACH SEAL WITH TWO PAIR OF NOTCHES, EXCEPT THOSE USED TO SECURE THE PADS, PIECES MARKED ⑳.

(CONTINUED AT LEFT)

BILL OF MATERIAL

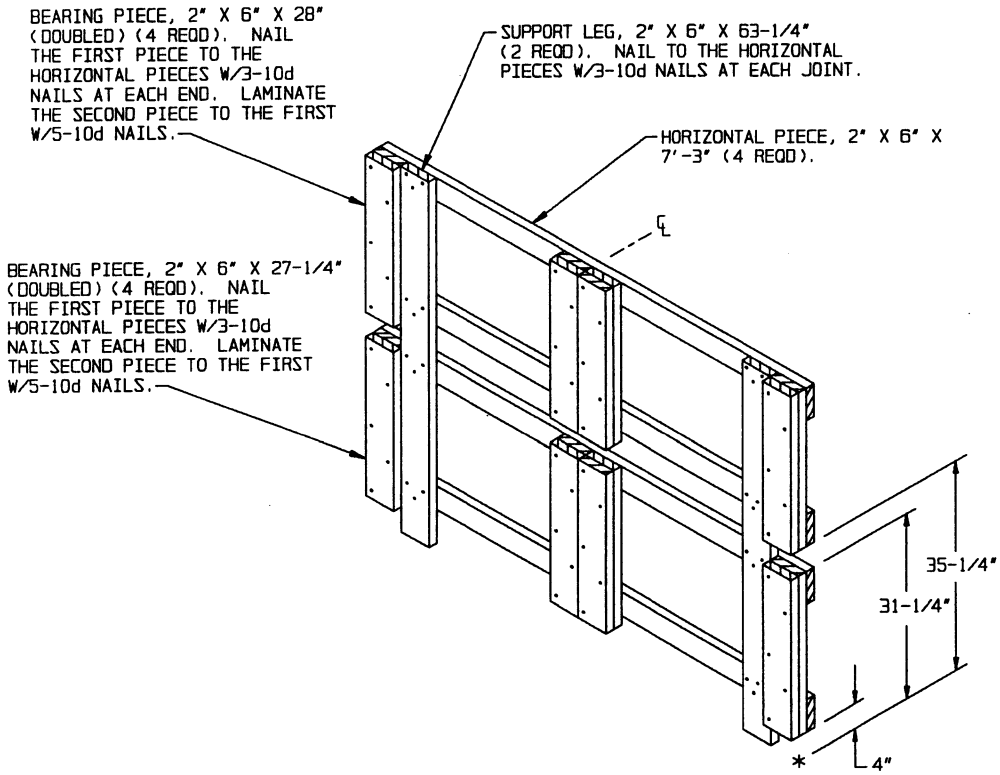
LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	120	40
1" X 6"	42	21
2" X 4"	245	164
2" X 6"	951	951
4" X 4"	64	86

NAILS	NO. REQD	POUNDS
6d (2")	176	1-1/4
10d (3")	1,292	20
12d (3-1/4")	192	3-1/4
20d (4")	200	7-1/4
30d (4-1/2")	96	5

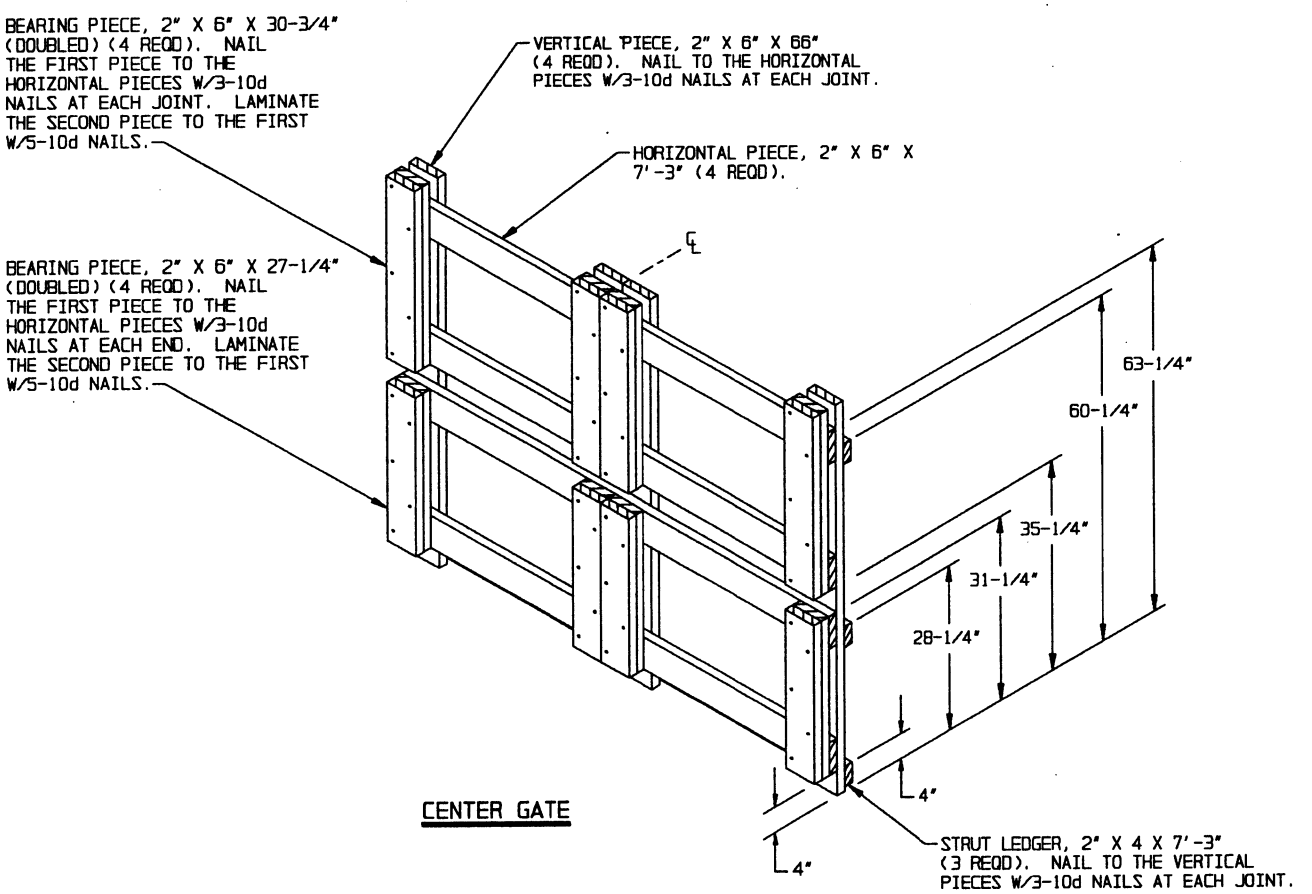
STEEL STRAPPING, 1-1/4"	472'	REQD	68 LBS
SEAL FOR 1-1/4" STRAPPING	48	REQD	2-1/4 LBS
STEEL STRAPPING, 2"	372'	REQD	124 LBS
STAPLE FOR 2" STRAPPING	36	REQD	NIL
SEAL FOR 2" STRAPPING	96	REQD	20 LBS
PLYWOOD, 1/2"	16.33 SQ FT	REQD	22-1/2 LBS
WIRE, NO. 14 GAGE	24'	REQD	1/2 LB
ANTI-CHAFING	AS	REQD	NIL

LOAD AS SHOWN

ITEM	QUANTITY	WEIGHT (APPROX)
MLRS RP/C	16	81,520 LBS
DUNNAGE		2,800 LBS
TOTAL WEIGHT		84,320 LBS (APPROX)

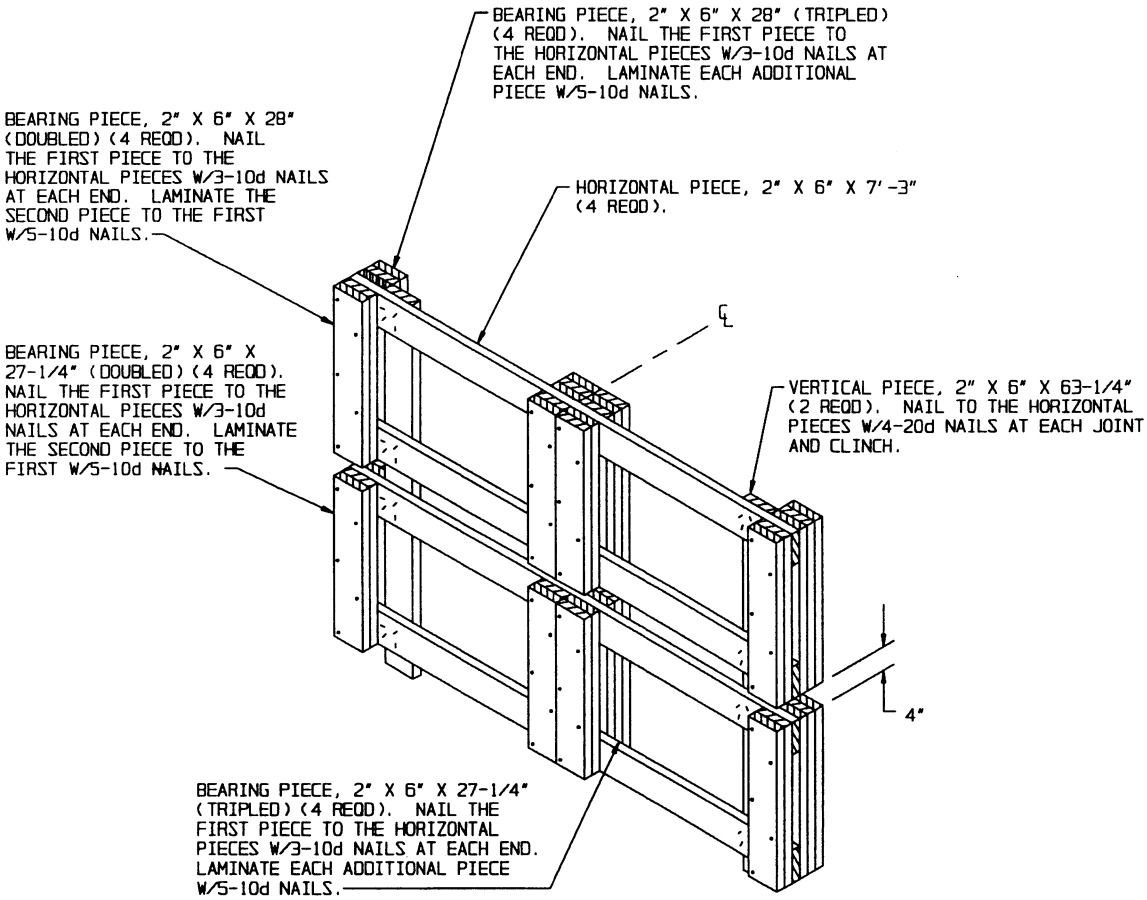


BULKHEAD GATE

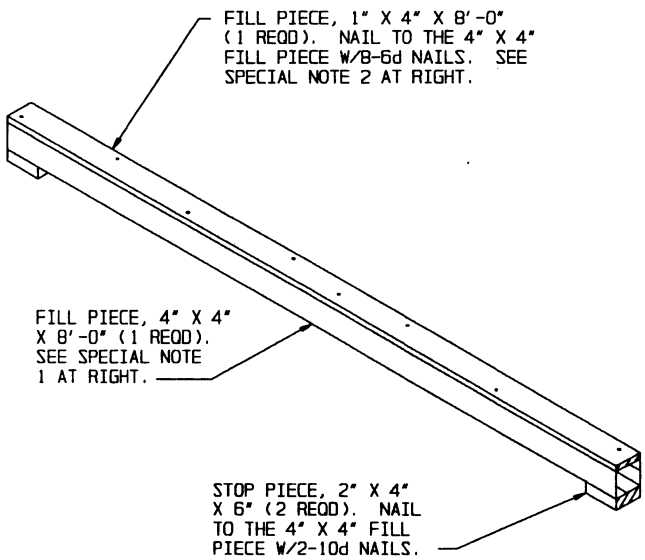


CENTER GATE

PROJECT GM 835-90



SEPARATOR GATE

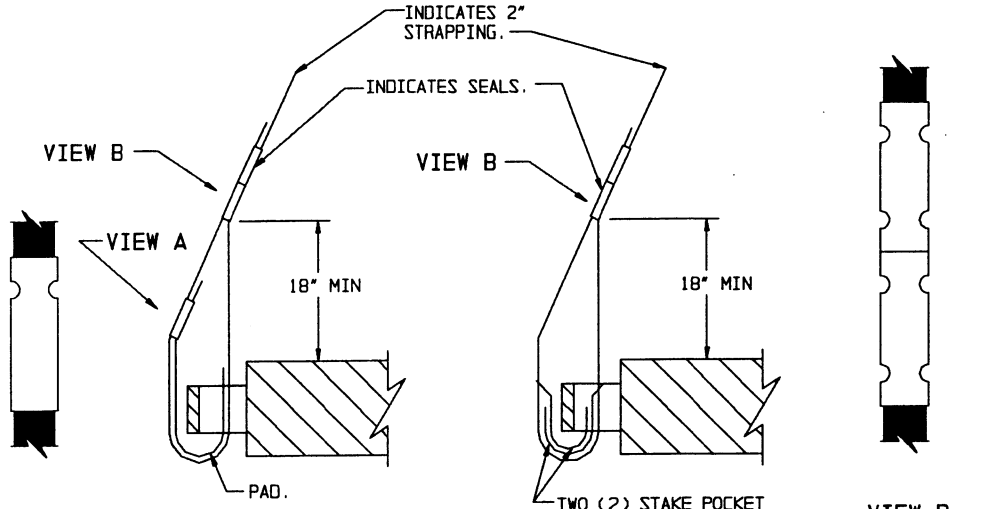


SUPPORT B

SPECIAL NOTES:

1. THE SUPPORT ASSEMBLY AS DEPICTED AT LEFT CAN ONLY BE USED WHEN A FLATCAR IS BEING LOADED FROM BOTH SIDES. IF THE LOADING AREA AT AN INSTALLATION ONLY ALLOWS ONE SIDE ACCESS TO THE FLATCAR, THE SUPPORT ASSEMBLIES MUST BE MODIFIED TO ALLOW FOR PROPER CAR LOADING. MODIFICATIONS REQUIRED ARE REDUCING OVERALL LENGTH TO 44", USING TWO OF THE SHORTENED ASSEMBLIES IN PLACE OF THE DEPICTED ASSEMBLY, AND FASTENING A 2" X 2" X 3-1/2" STOP PIECE TO THE END OF THE ASSEMBLY THAT WILL BE BETWEEN RP/C STACKS. ALSO, THE SHORTENED SUPPORT ASSEMBLIES IN LATERALLY ADJACENT STACKS WILL NEED TO BE OFFSET TO PRECLUDE INTERFERENCE.

2. THE SUPPORT "B" ASSEMBLIES MAY REQUIRE THICKNESS ADJUSTMENTS TO COMPENSATE FOR VARIATIONS IN THE SKID HEIGHT AND INSURE A POSITIVE INTERLOCK BETWEEN THE PINS ON THE TOP OF THE FRAME OF A LOWER ASSEMBLY AND THE HOLE IN THE BOTTOM OF THE SKIDS OF AN UPPER ASSEMBLY IN A STACK ON A TRANSPORT VEHICLE. THE THICKNESS WILL BE BASED UPON THE MEASURED DISTANCE BETWEEN THE LOWER FRAME MEMBER OF AN UPPER POD AND THE UPPER FRAME MEMBER OF A LOWER POD. THE SUPPORT MATERIAL WILL BE ADJUSTED TO BE WITHIN 1/4" OF THIS MEASUREMENT. THE MATERIAL MAY BE CHANGED AS DESCRIBED WITHIN GENERAL NOTE "J" ON PAGE 2 TO PROVIDE THE PROPER THICKNESS SUPPORTS.



VIEW A

ONE SEAL WITH ONE PAIR OF CRIMPS.

DETAIL A

METHOD OF INSTALLING 2" STRAPPING AND PAD AT ANCHORING FACILITY.

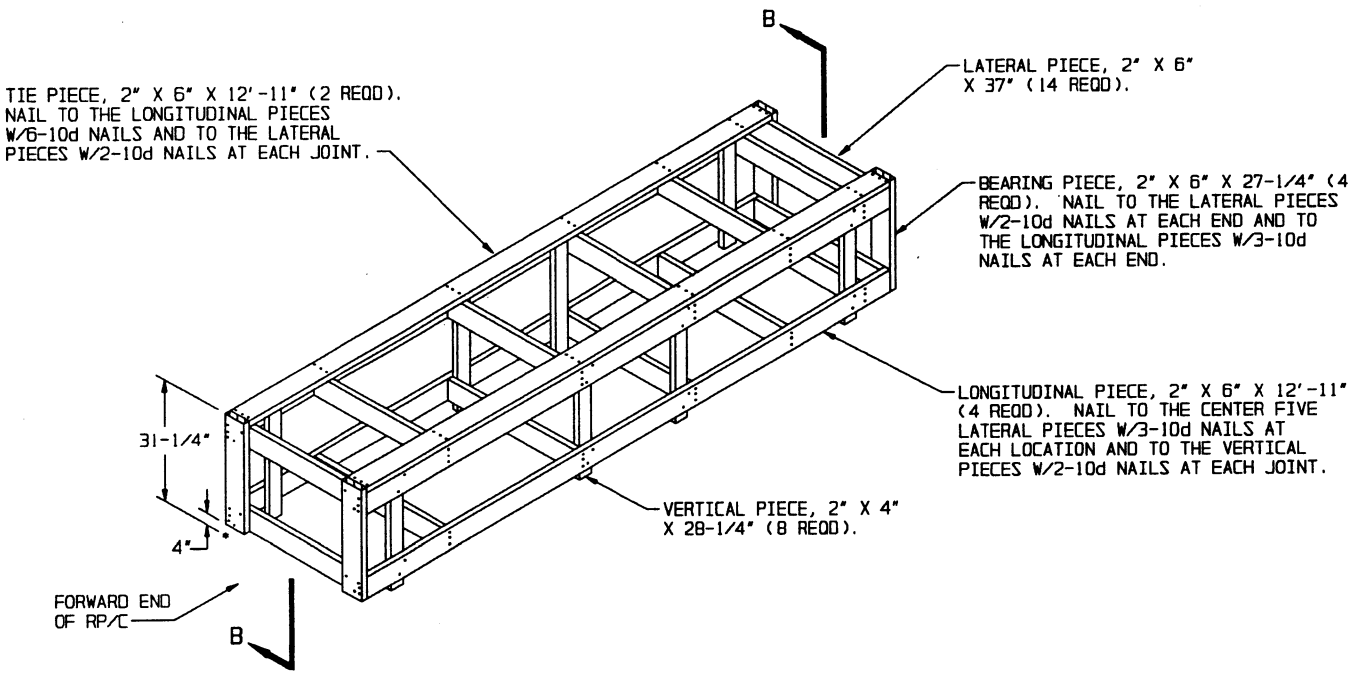
DETAIL B

METHOD OF INSTALLING 2" STRAPPING AND STAKE POCKET PROTECTORS (ALT PAD).

VIEW B

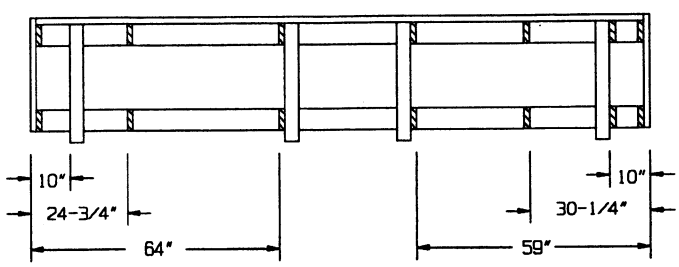
TWO SEALS WITH TWO PAIR OF CRIMPS EACH.

HOLD-DOWN STRAP ANCHORING DETAILS



FILLER ASSEMBLY

NOTE: FILLER ASSEMBLY IS TO BE INSTALLED TO REPLACE AN RP/C IN AN UPPER LAYER ONLY. INSTALL NO MORE THAN SEVEN FILLER ASSEMBLIES IN ONE LOAD.



SECTION B-B

PROJECT GM 835-90