

D. L. / [Signature]

DATE *12/2/00*

APPENDIX 13

LOADING AND BRACING PROCEDURES FOR STRATEGIC CONFIGURED LOAD (SCL) ON CONTAINER ROLL IN/OUT PLATFORM (CROP)

SCL #13 - APACHE



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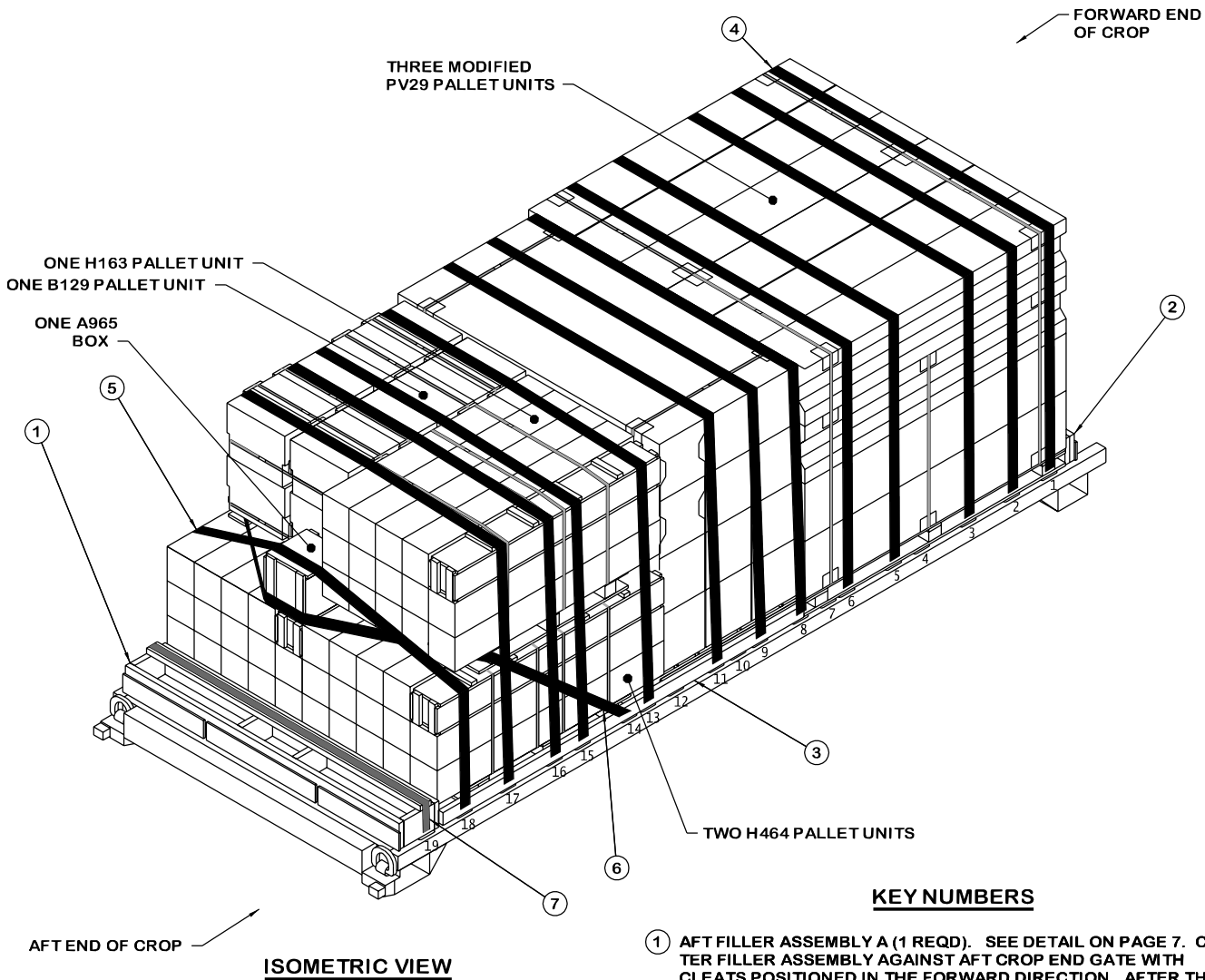
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NOTICE: THIS APPENDIX CANNOT STAND ALONE BUT MUST BE USED IN CONJUNCTION WITH THE BASIC CROP OUTLOADING PROCEDURES DRAWING 19-48-4905-CA17Q6.

- 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 OPERATIONS SUPPORT COMMAND 	ENGINEER	BASIC		DO NOT SCALE			
		REV.		WEBSITE: HTTP://WWW.DAC.ARMY.MIL			
	TECHNICIAN	BASIC	PATRICK DOUGHERTY		OCTOBER 2000		
	REV.						
	DRAFTSMAN	BASIC					
		REV.					
APPROVED BY ORDER OF COMMANDING GENERAL, U.S. ARMY MATERIEL COMMAND 	TRANSPORTATION ENGINEERING DIVISION	<i>Kaura J. Zeffler</i>					
	VALIDATION ENGINEERING DIVISION	<i>George Dean</i>		CLASS	DIVISION	DRAWING	FILE
	ENGINEERING DIRECTORATE	<i>Shirley L. Collett</i>		19	48	4905/ 13	CA17Q6
U.S. ARMY DEFENSE AMMUNITION CENTER							



ISOMETRIC VIEW

(KEY NUMBERS CONTINUED)

- ⑤ BOX RESTRAINT STRAP STRAP, 3-INCH WIDE WEB STRAP TIEDOWN ASSEMBLY FOR CROP (1 REQD). INSTALL THE STRAP FROM THE EIGHTEENTH TIEDOWN ANCHOR ON ONE SIDE OF THE CROP, OVER THE H464 PALLET UNITS AND THE A965 BOX, AND BACK DOWN TO EIGHTEENTH TIEDOWN ANCHOR ON THE OPPOSITE SIDE OF THE CROP. ALIGN SCUFF SLEEVES OVER ALL SHARP EDGES AND FIRMLY TENSION STRAP. SEE GENERAL NOTE "G" ON PAGE 3.
- ⑥ AFT END RESTRAINT STRAP, 3-INCH WIDE WEB STRAP TIEDOWN ASSEMBLY FOR CROP (1 REQD). INSTALL STRAP AT AN ANGLE FROM THE FOURTEENTH TIEDOWN ANCHOR ON ONE SIDE OF THE CROP AROUND THE POST OF THE H163 PALLET UNIT, THE AFT END OF THE A965 BOX, AND THE POST OF THE B129 PALLET UNIT, AND BACK DOWN TO THE FOURTEENTH TIEDOWN ANCHOR ON THE OPPOSITE SIDE OF THE CROP. ALIGN SCUFF SLEEVES OVER ALL SHARP EDGES AND FIRMLY TENSION STRAP. SEE GENERAL NOTE "G" ON PAGE 3.
- ⑦ AFT RETAINER STRAP, 2" WIDE WEB STRAP TIEDOWN ASSEMBLY (1 REQD). SECURE STRAP TO THE NINETEENTH TIEDOWN RING OVER THE AFT BLOCKING ASSEMBLY STRAPPING BOARD TO THE CORRESPONDING TIEDOWN RING ON THE OPPOSITE SIDE OF THE CROP. ALIGN SCUFF SLEEVES OVER ALL SHARP EDGES AND FIRMLY TENSION STRAP. SEE GENERAL NOTE "G" ON PAGE 3.

KEY NUMBERS

- ① AFT FILLER ASSEMBLY A (1 REQD). SEE DETAIL ON PAGE 7. CENTER FILLER ASSEMBLY AGAINST AFT CROP END GATE WITH CLEATS POSITIONED IN THE FORWARD DIRECTION. AFTER THE PALLET UNITS ARE LOADED, NAIL W/2-12d NAILS THRU THE SLOTS IN THE AFT CROP END GATE INTO THE AFT FILLER ASSEMBLY, LEAVING THE NAIL HEADS PROTRUDING THRU THE SLOTS TO PROVIDE LATERAL RESTRAINT.
- ② FORWARD FILLER, 1" OR 2" X 8" X 7'-4" (AS REQD). LAMINATE BOARDS W/8 NAILS OF SUITABLE SIZE (6d NAILS FOR 1" THICK MATERIAL). POSITION FILLER PIECE AGAINST THE FORWARD CROP END GATE AND CENTER ON THE CROP. AFTER THE PALLET UNITS ARE LOADED, NAIL THROUGH THE HOLES IN THE FORWARD CROP END GATE W/2-12d NAILS INTO THE FORWARD FILLER PIECE, LEAVING THE NAIL HEADS PROTRUDING THROUGH THE HOLES TO PROVIDE LATERAL AND VERTICAL RESTRAINT.
- ③ SIDE BLOCKING, 2" X 4" X 9'-8" AND 1" X 4" X 44" (2 REQD). LAMINATE BY PLACING THE ENDS OF THE BOARDS FLUSH AND NAILING THROUGH THE 1" BOARD INTO THE 2" BOARD W/7-6d NAILS. POSITION AGAINST THE H464 AND PV29 PALLET UNITS ON BOTH SIDES OF THE CROP AS SHOWN WITH THE 1" BOARD AGAINST THE PV29 PALLET. NOTE: NAIL THROUGH THE STRAP ATTACHMENT SLOTS OF THE WEB STRAPS INTO THE SIDE BLOCKING ASSEMBLY AT TIEDOWN ANCHOR LOCATIONS 9, 13, AND 17 ON BOTH SIDES OF THE CROP W/1-10d PARTIALLY DRIVEN NAIL AND BEND OVER SIDE OF HOOK.
- ④ HOLD-DOWN STRAP, 3-INCH WIDE WEB STRAP TIEDOWN ASSEMBLY FOR CROP (12 REQD). INSTALL EACH HOLD-DOWN STRAP TO EXTEND FROM THE DESIGNATED TIEDOWN ANCHOR ON ONE SIDE OF CROP, OVER THE TOP OF THE PALLET UNITS TO THE CORRESPONDING TIEDOWN ANCHOR ON THE OPPOSITE SIDE OF THE CROP. ALIGN SCUFF SLEEVES OVER ALL SHARP EDGES AND FIRMLY TENSION STRAP. SEE GENERAL NOTE "G" ON PAGE 3.

(CONTINUED AT LEFT)

RECOMMENDED SEQUENTIAL PROCEDURES

1. PREFABRICATE ONE AFT FILLER ASSEMBLY AND TWO SIDE BLOCKING ASSEMBLIES.
2. POSITION THE AFT FILLER ASSEMBLY, PIECE MARKED ①, TIGHT AGAINST THE AFT CROP END GATE. CENTER THE FILLER ASSEMBLY ON THE GATE.
3. PLACE TWO H464 PALLET UNITS ON THE CROP AS SHOWN ON PAGE 2. PALLET UNITS SHALL BE CENTERED ON THE CROP AND TIGHT AGAINST THE AFT FILLER ASSEMBLY WITH THE CLEATS ON THE FILLER ASSEMBLY PROTRUDING UNDER THE TWO PALLET UNITS. NAIL TWO 12d RETAINER NAILS INTO THE AFT FILLER ASSEMBLY AS INSTRUCTED IN KEY NUMBER ①.
4. CENTER ONE MODIFIED PV29 PALLET UNIT Laterally ON THE CROP AS SHOWN ON PAGE 2.
5. PLACE TWO MODIFIED PV29 PALLET UNITS LONGITUDINALLY ON THE CROP AS SHOWN ON PAGE 2.
6. CENTER THE FORWARD FILLER AGAINST THE FRONT PALLET UNITS. LAMINATE FILLER PIECES AS REQUIRED. NAIL TWO 12d RETAINER NAILS INTO THE FORWARD FILLER AS INSTRUCTED IN KEY NUMBER ②.
7. PLACE ONE B129 PALLET UNIT AND ONE H163 PALLET UNIT SIDE BY SIDE ON TOP OF THE H464 PALLET UNITS. CENTER THE PALLET UNITS Laterally AND TIGHT AGAINST THE PV29 PALLET UNIT.
8. PLACE AN A965 BOX ON TOP OF AN H464 PALLET UNIT AS SHOWN ON PAGE 2.
9. POSITION THE SIDE BLOCKING ASSEMBLIES, PIECE MARKED ③, AGAINST THE SIDES OF THE LONGITUDINAL PV29 PALLET UNIT AND THE H464 PALLET UNITS ON EACH SIDE OF THE CROP.
10. INSTALL THE 12 HOLD-DOWN STRAPS AS NOTED IN KEY NUMBER ④.
11. INSTALL THE ONE BOX RESTRAINT STRAP AS NOTED IN KEY NUMBER ⑤.
12. INSTALL THE ONE AFT END RESTRAINT STRAP AS NOTED IN KEY NUMBER ⑥.
13. INSTALL THE ONE AFT RETAINER STRAP AS NOTED IN KEY NUMBER ⑦.

GENERAL NOTES

- A. THIS APPENDIX CANNOT STAND ALONE BUT MUST BE USED IN CONJUNCTION WITH THE BASIC LOADING PROCEDURES DRAWING 19-48-4905-CA17Q6. TO PRODUCE AN APPROVED LOAD, ALL PERTINENT PROCEDURES, SPECIFICATIONS AND CRITERIA SET FORTH WITHIN THE BASIC DRAWING WILL APPLY TO THE PROCEDURES DELINEATED IN THIS APPENDIX. ANY EXCEPTIONS TO THE BASIC PROCEDURES ARE SPECIFIED IN THIS APPENDIX.
- B. THE OUTLOADING PROCEDURES DEPICTED IN THIS DRAWING ARE APPLICABLE TO LOADS OF SCL #13. SEE PAGES 4 THRU 6 FOR DETAILS OF THE PALLET UNITS. AN M3A1 (HYUNDAI) CROP IS SHOWN AS TYPICAL. OTHER MANUFACTURER'S CROPS CAN BE USED FOR THE LOAD SHOWN ON PAGE 2. THE SEQUENTIAL LOADING PROCEDURES DEPICTED AT LEFT DESCRIBE THE SEQUENCE USED TO LOAD AN M3A1 CROP. FOR AN M3 (SUMMA) CROP, SEQUENTIAL LOADING PROCEDURES 2 THROUGH 6 MUST BE REVERSED. ACTUAL CROP CONFIGURATION WILL DETERMINE WHETHER THE SEQUENTIAL LOADING STARTS AT THE AFT OR THE FORWARD END OF THE CROP.
- C. THE LOADING PROCEDURES DEPICTED HEREIN MAY ALSO BE USED FOR OUTLOADING SIMILAR SCL LOADS WHEN IDENTIFIED BY DIFFERENT NATIONAL STOCK NUMBERS (NSN) THAN WHAT IS SHOWN ON PAGE 4, PROVIDED THE OVERALL PALLET UNIT DIMENSIONS DO NOT VARY FROM WHAT IS DELINEATED HEREIN.
- D. MODIFIED PALLET UNITS MUST BE CONSTRUCTED IN ACCORDANCE WITH THE GUIDELINES DELINEATED IN THE BASIC UNITIZATION PROCEDURES DRAWING APPLICABLE TO THAT PALLET UNIT.
- E. DIMENSIONS, CUBE AND WEIGHT OF THE PALLET UNITS WILL VARY SLIGHTLY DEPENDING UPON THE ACTUAL DIMENSIONS OF THE BOXES AND THE WEIGHT OF THE SPECIFIC ITEM BEING UNITIZED. NOTE: THE HELLFIRE MISSILES HAVE BEEN PACKED IN TWO DIFFERENT LENGTH PALLET UNITS (7'-0" FOR PV29 AND 6'-4" FOR THE ALTERNATE DODICS PD68 AND PV30). ENSURE THAT ALL PALLET UNITS ON EACH LOAD ARE THE SAME SIZE. THE PV29 PALLET UNIT IS SHOWN. WHEN USING THE ALTERNATE PD68 OR PV30 PALLET UNITS THE FOLLOWING CHANGES APPLY: USE THE REAR BLOCKING ASSEMBLY "B", ELIMINATE THE SIDE BLOCKING ASSEMBLIES, USE THE SPACER ASSEMBLIES SHOWN ON PAGE 8, AND CHANGE STRAP ANCHOR POSITIONS SO THAT THE STRAPS CONTACT THE PALLETS AT THE LOCATIONS AS SHOWN ON PAGE 2.
- F. ALTERNATE NSN/DODIC COMBINATIONS ARE SHOWN IN THE CHART ON PAGE 4. THESE ALTERNATES MAY BE SUBSTITUTED FOR SOME OR ALL THE DEPICTED NSN/DODICS IF NECESSARY DUE TO THE ITEMS OR QUANTITIES ON HAND.
- G. ALL WEB STRAP TIEDOWN ASSEMBLIES MUST HAVE THE EXCESS LENGTH OF THE STRAP SECURED. ROLL UP AND BUNDLE THE EXCESS LENGTH OF WEB STRAP, SECURING WITH CABLE TIES. SEE THE "STRAP END SECUREMENT" DETAIL AND GENERAL NOTE "K.12" IN THE BASIC PROCEDURE DRAWING 19-48-4905-CA17Q6.
- H. 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.

BILL OF MATERIAL		
LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	8	3
2" X 4"	29	19
2" X 8"	33	44
NAILS	NO. REQD	POUNDS
6d (2")	14	1/4
10d (3")	44	3/4
12d (3-1/4")	4	1/4
2" WEB STRAP TIEDOWN ASSY -- 1 REQD -- -- 6 LBS		

LOAD AS SHOWN

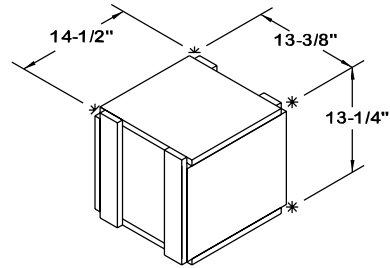
ITEM	QUANTITY	WEIGHT (APPROX)
A965 BOX - - - - -	1 - - - - -	67 LBS
B129 PALLET UNIT - - -	1 - - - - -	3,064 LBS
H163 PALLET UNIT - - -	1 - - - - -	2,215 LBS
H464 PALLET UNIT - - -	2 - - - - -	5,648 LBS
MODIFIED PV29 PALLET UNIT - - - - -	3 - - - - -	7,602 LBS
DUNNAGE - - - - -	- - - - -	140 LBS
CROP - - - - -	- - - - -	3,800 LBS
TOTAL WEIGHT - - - - -		22,536 LBS (APPROX)

SCL #13 COMPOSITION CHART

DODIC	NSN	NOMENCLATURE	UNIT DWG	REQD	UNITS REQD	HC
A965	1305-01-082-8986	CARTRIDGE, 25.4MM DECOY M839	4116/115A	100	1 BOX	1.4S
B129	1305-01-268-9373	CARTRIDGE, 30MM HEDP M789 BULK PACKAGED	4116/18	2,640	1 PALLET	1.2E
H163	1340-01-108-8851	ROCKET, 2.75" W/M151 WARHEAD M423 FUZE	4116/80N	60	1 PALLET	1.1E
H464	1340-01-108-8850	ROCKET, 2.75" (HYDRA 70) MPSM W/M261 WARHEAD	4116/80D	120	2 PALLETS	1.2E
PV29*	1410-01-332-2471	GUIDED MISSILE, AGM-114F IMPROVED HELLFIRE	5250	27	3 PALLETS	1.1E
PV29*	1410-01-332-2471	GUIDED MISSILE, AGM-114F IMPROVED HELLFIRE	5250	9	9 BOXES	1.1E

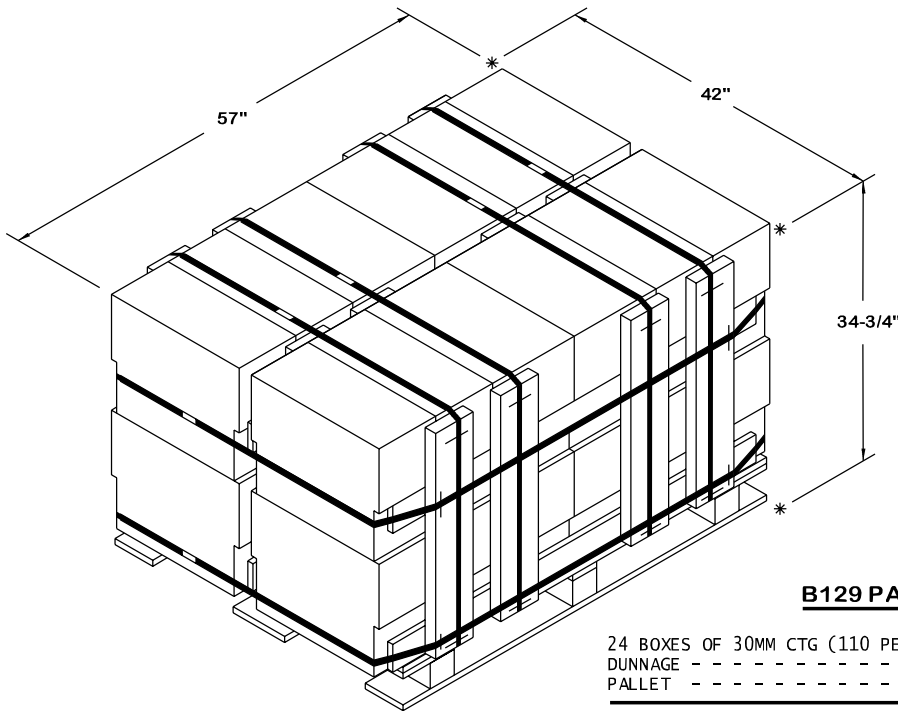
NOTE: THE DODICS LISTED BELOW MAY BE USED AS ALTERNATES FOR THE DODICS WITH MATCHING SYMBOLS SHOWN ABOVE IF THE QUANTITY OF THE DODICS SHOWN ABOVE IS INSUFFICIENT.

PD68*	1410-01-192-0293	GUIDED MISSILE, HELLFIRE MINIMUM SMOKE	5250			1.1E
PV30*	1410-01-381-0715	GUIDED MISSILE, HELLFIRE II AGM-114K	5250			1.1E



A965 BOX DETAIL

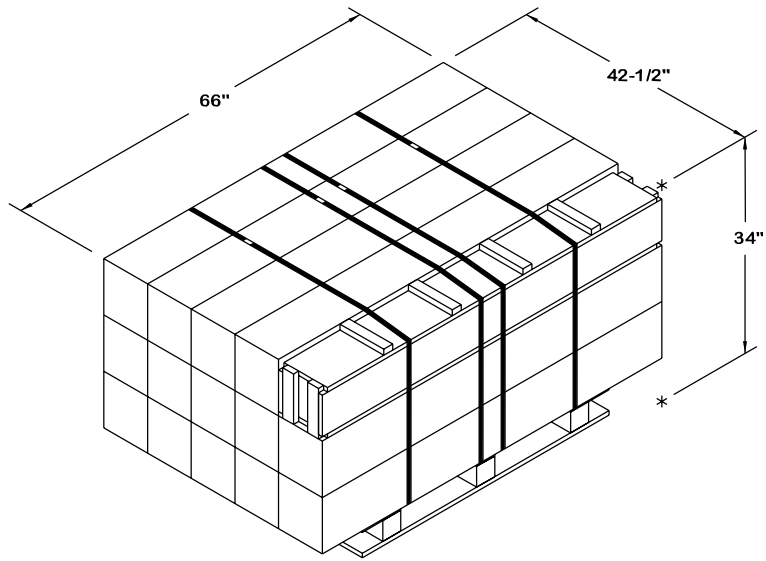
GROSS WEIGHT - - - - - 67 LBS (APPROX)
 CUBE - - - - - 1.5 CU FT (APPROX)



B129 PALLET UNIT DETAIL

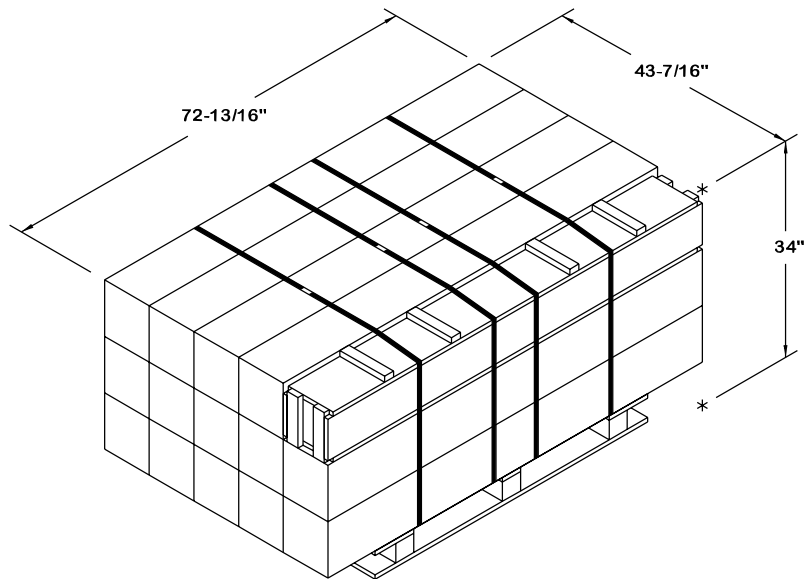
24 BOXES OF 30MM CTG (110 PER BOX) AT 120 LBS - - - 2,880 LBS (APPROX)
 DUNNAGE - - - - - 94 LBS
 PALLET - - - - - 90 LBS

TOTAL WEIGHT - - - - - 3,064 LBS (APPROX)
 CUBE - - - - - 48.1 CU FT (APPROX)



H163 PALLET UNIT DETAIL

15 BOXES OF 2.75" ROCKETS AT 142 LBS	-----	2,130 LBS (APPROX)
DUNNAGE	-----	5 LBS
PALLET	-----	80 LBS
<hr/>		
TOTAL WEIGHT	-----	2,215 LBS (APPROX)
CUBE	-----	55.2 CU FT (APPROX)



H464 PALLET UNIT DETAIL

15 BOXES OF 2.75" ROCKETS AT 182 LBS	-----	2,730 LBS (APPROX)
DUNNAGE	-----	4 LBS
PALLET	-----	90 LBS
<hr/>		
TOTAL WEIGHT	-----	2,824 LBS (APPROX)
CUBE	-----	62.2 CU FT (APPROX)

SEAL FOR 3/4" STRAPPING
(2 REQD). CRIMP EACH SEAL
WITH TWO PAIR OF NOTCHES.

EDGE PROTECTOR,
STEEL (4 REQD).

THREE PV29 CONTAINERS
POSITIONED ON TOP OF
PV29 PALLET UNIT AND SECURED
WITH TWO BUNDLING STRAPS .

44-3/8"

7'-0"

BUNDLING STRAP, 3/4' X
.035" OR .031" X 19'-2"
LONG STEEL STRAPPING.

69"

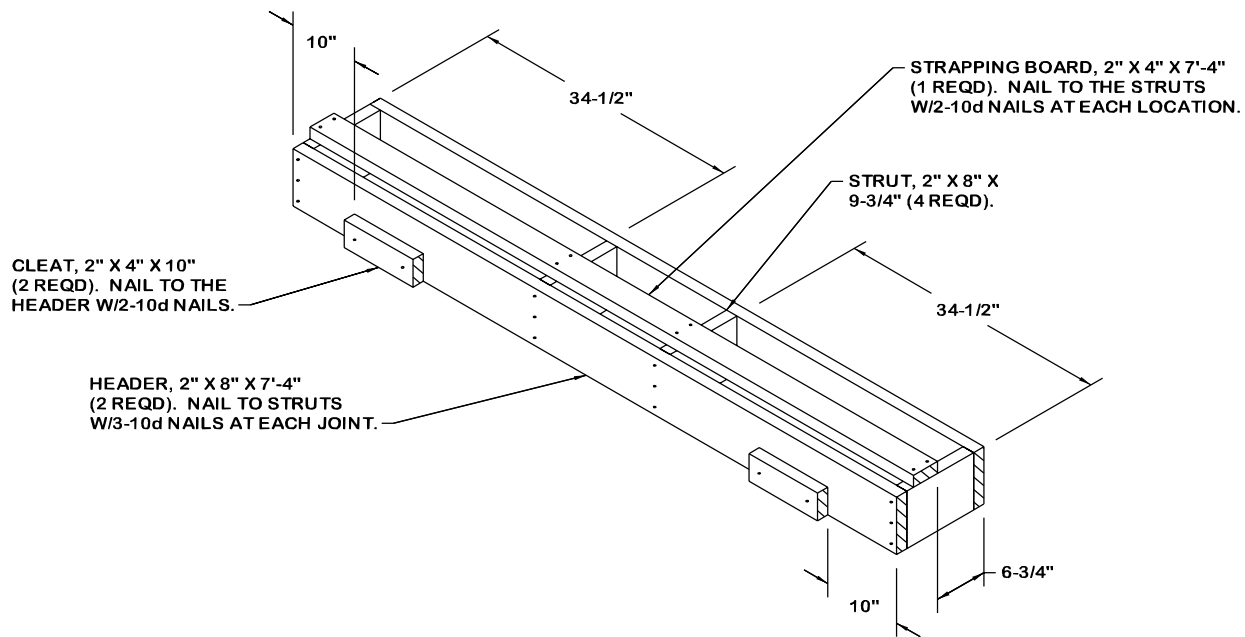
PV29 PALLET UNIT.

MODIFIED PV29 PALLET UNIT DETAIL

**SHOWN WITH THREE ADDITIONAL HELLFIRE MISSILES
IN CONTAINERS ON TOP OF A PV29 PALLET UNIT.**

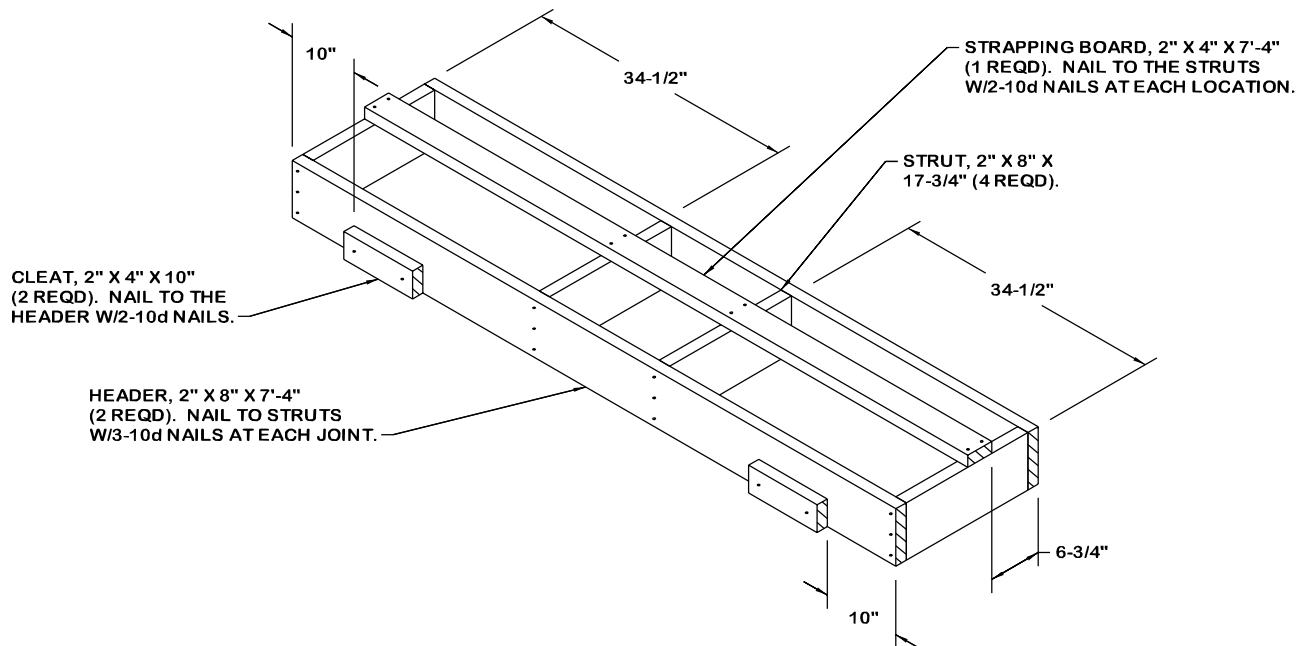
12 CONTAINERS OF HELLFIRE MISSILES AT 203 LBS	-----	2,436 LBS (APPROX)
DUNNAGE	-----	8 LBS
PALLET	-----	90 LBS

TOTAL WEIGHT	-----	2,534 LBS (APPROX)
CUBE	-----	148.9 CU FT (APPROX)



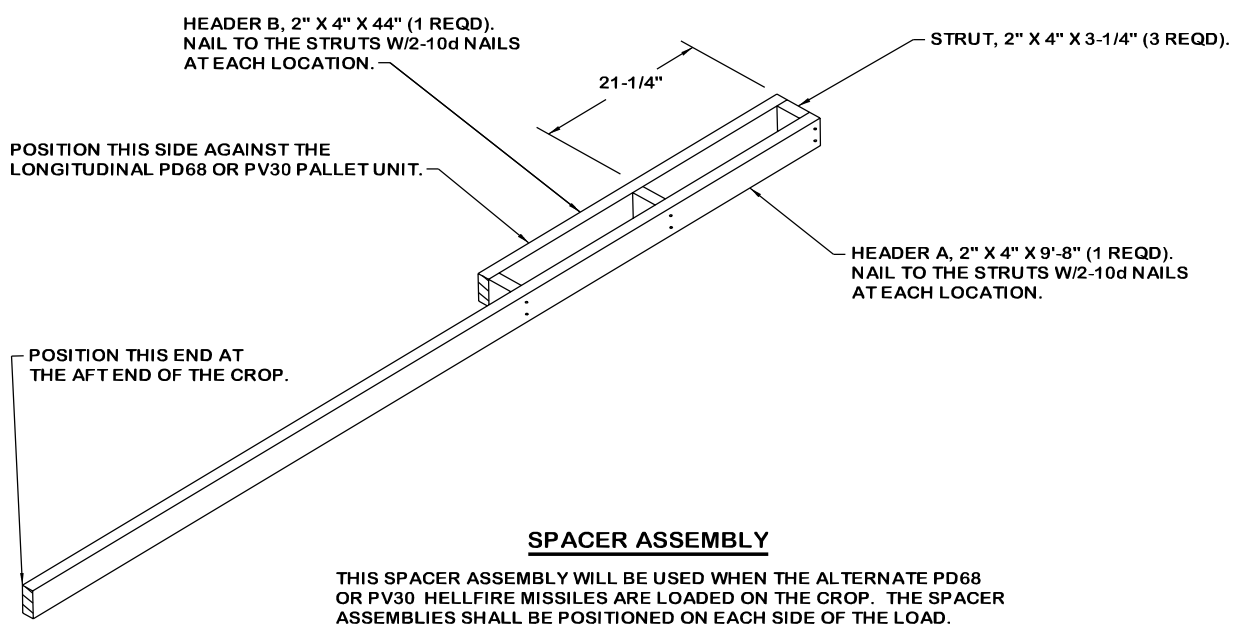
AFT FILLER ASSEMBLY A

THIS AFT FILLER ASSEMBLY WILL USED WITH THE PV29 HELLFIRE MISSILES PACKED IN THE LONG (7'-0") CONTAINERS. PLACE THE AFT FILLER ASSEMBLY AT THE REAR OF THE LOAD WITH THE CLEATS RECESSED UNDER THE PALLET UNITS. FIELD CHECK PALLET UNITS TO VERIFY PROPER CLEAT LOCATIONS.



AFT FILLER ASSEMBLY B

THIS AFT FILLER ASSEMBLY WILL USED WITH THE ALTERNATE PD68 OR PV30 HELLFIRE MISSILES PACKED IN THE SHORT (6'-4") CONTAINERS. PLACE THE AFT FILLER ASSEMBLY AT THE REAR OF THE LOAD WITH THE CLEATS RECESSED UNDER THE PALLET UNITS. FIELD CHECK PALLET UNITS TO VERIFY PROPER CLEAT LOCATIONS.



SPACER ASSEMBLY

THIS SPACER ASSEMBLY WILL BE USED WHEN THE ALTERNATE PD68 OR PV30 HELLFIRE MISSILES ARE LOADED ON THE CROP. THE SPACER ASSEMBLIES SHALL BE POSITIONED ON EACH SIDE OF THE LOAD.