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DATE *1/10/01*

APPENDIX 42

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

SCL #42 - 81MM HE SMOKE & ILLUM

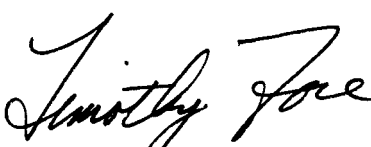
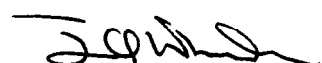
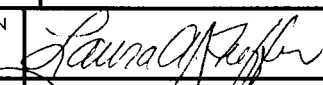
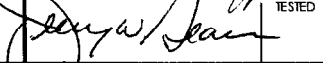
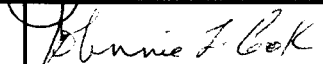
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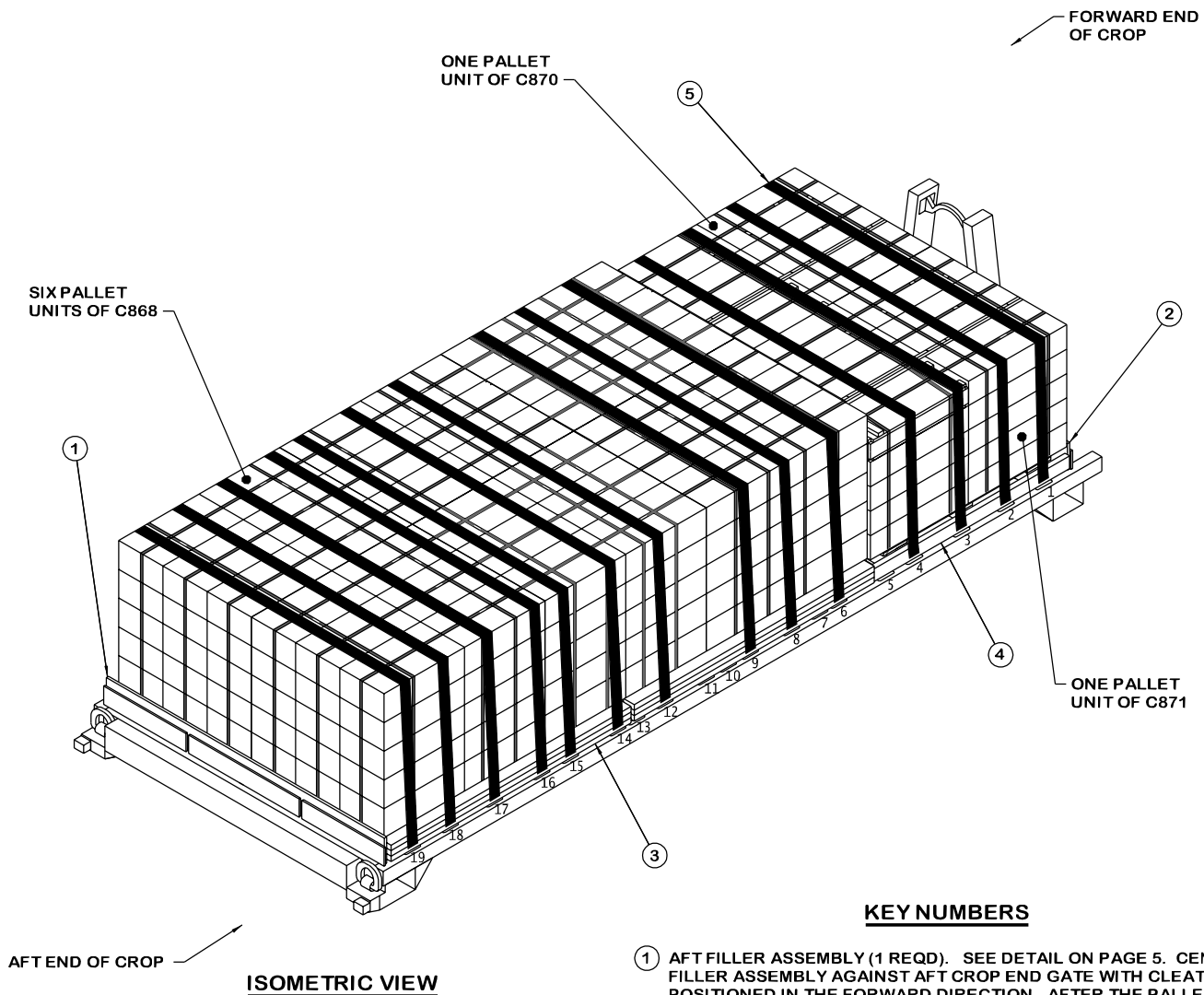
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NOTICE: THIS APPENDIX CANNOT STAND ALONE BUT MUST BE USED IN CONJUNCTION WITH THE BASIC CROP OUTLOADING PROCEDURES DRAWING 19-48-4905-CA17Q6.

- 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	NOVEMBER 2000			
		REV.					
	DRAFTSMAN	BASIC					
		REV.					
APPROVED BY ORDER OF COMMANDING GENERAL, U.S. ARMY MATERIEL COMMAND 	TRANSPORTATION ENGINEERING DIVISION			CLASS	DIVISION	DRAWING	FILE
	VALIDATION ENGINEERING DIVISION			19	48	4905/ 42	CA17Q6
	ENGINEERING DIRECTORATE						



ISOMETRIC VIEW

(KEY NUMBERS CONTINUED)

- ⑤ HOLD-DOWN STRAP, 3-INCH WIDE WEB STRAP TIEDOWN ASSEMBLY FOR CROP (14 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 "F" ON PAGE 3.

KEY NUMBERS

- ① AFT FILLER ASSEMBLY (1 REQD). SEE DETAIL ON PAGE 5. 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 (10d NAILS FOR 2" 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 A, 2" X 4" X 7'-4" (TRIPLED) (4 REQD). LAMINATE THE SECOND BOARD TO THE FIRST BOARD W/8-10d NAILS. LAMINATE THE THIRD BOARD TO THE SECOND BOARD IN A SIMILAR MANNER. POSITION THE SIDE BLOCKING AGAINST THE BASE OF THE C868 PALLET UNITS AT TWO LOCATIONS ON EITHER SIDE OF THE CROP AS SHOWN. **NOTE:** NAIL THROUGH THE STRAP ATTACHMENT SLOTS OF THE WEB STRAPS INTO THE SIDE BLOCKING AT TIEDOWN ANCHOR LOCATIONS 6, 9, 12, 14, 16, AND 19 ON BOTH SIDES OF THE CROP W/1-10d PARTIALLY DRIVEN NAIL AND BEND OVER SIDE OF HOOK.
- ④ SIDE BLOCKING B, 2" X 4" X 62" (2 REQD). POSITION THE SIDE BLOCKING AGAINST THE BASE OF THE C870 AND C871 PALLET UNITS ON EITHER SIDE OF THE CROP AS SHOWN. **NOTE:** NAIL THROUGH THE STRAP ATTACHMENT SLOTS OF THE WEB STRAPS INTO THE SIDE BLOCKING AT TIEDOWN ANCHOR LOCATIONS 1 AND 4 ON BOTH SIDES OF THE CROP W/1-10d PARTIALLY DRIVEN NAIL AND BEND OVER SIDE OF HOOK.

(CONTINUED AT LEFT)

RECOMMENDED SEQUENTIAL PROCEDURES

1. PREFABRICATE THE AFT FILLER ASSEMBLY.
2. POSITION THE AFT FILLER ASSEMBLY, PIECE MARKED ①, TIGHT AGAINST THE AFT CROP END GATE WITH THE CLEATS FACING FORWARD. CENTER THE FILLER ASSEMBLY ON THE GATE.
3. PLACE TWO C868 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. LOAD TWO C868 PALLET UNITS SO THAT THE PALLET UNITS ARE CENTERED ON THE CROP AND TIGHT AGAINST THE PREVIOUSLY LOADED C868 PALLET UNITS.
5. REPEAT STEP 4.
6. PLACE ONE C870 PALLET UNIT AND ONE C871 PALLET UNIT ON THE CROP. PALLET UNITS SHALL BE CENTERED ON THE CROP AND TIGHT AGAINST THE C868 PALLET UNITS.
7. 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.
8. INSTALL THE FOUR SIDE BLOCKING PIECES "A" AS NOTED IN KEY NUMBER ③.
9. INSTALL THE TWO SIDE BLOCKING PIECES "B" AS NOTED IN KEY NUMBER ④.
10. INSTALL THE 14 HOLD-DOWN STRAPS AS NOTED IN KEY NUMBER ⑤.

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 #42. SEE PAGES 4 AND 5 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 7 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. 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.
- E. DIMENSIONS GIVEN FOR DUNNAGE ASSEMBLIES WILL BE FIELD CHECKED PRIOR TO THEIR ASSEMBLY. PALLET UNITS MUST FIT SNUGLY AGAINST THE DUNNAGE ASSEMBLIES. THIS GUIDANCE MUST BE APPLIED PRIOR TO BEGINNING AN OUTLOADING OPERATION. ALSO, DUE TO VARIATION OF PALLET UNIT DIMENSIONS, ADJUSTMENTS MAY BE REQUIRED AS TO THE LOCATION OF CERTAIN PIECES ON DUNNAGE ASSEMBLIES.
- F. 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.
- G. 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

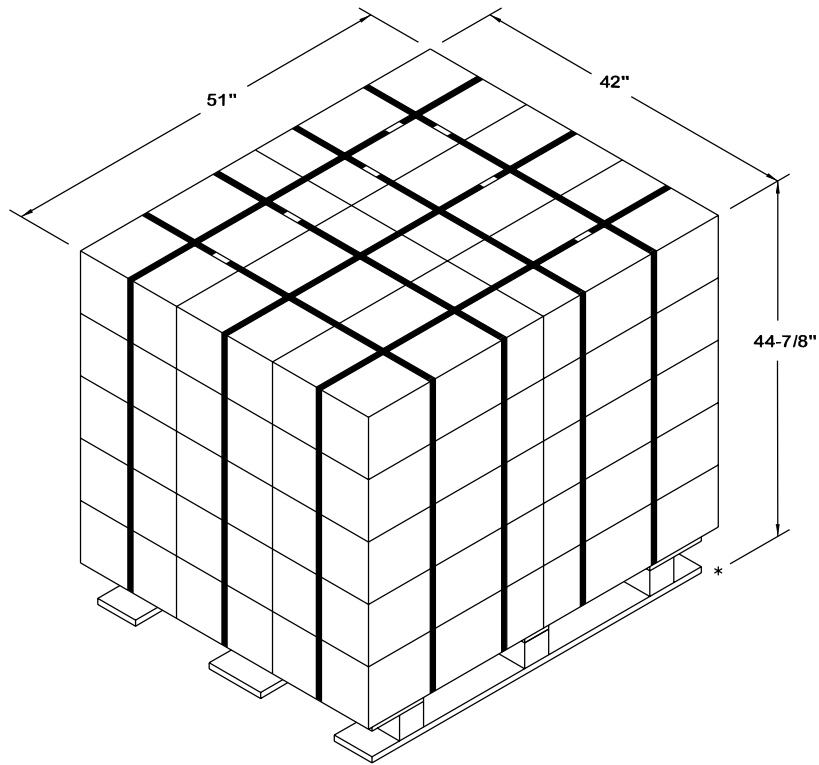
LUMBER	LINEAR FEET	BOARD FEET
2" X 3"	2	1
2" X 4"	85	57
1" X 8"	15	20
NAILS	NO. REQD	POUNDS
6d (2")	6	1/4
10d (3")	64	1
12d (3-1/4")	4	1/4

LOAD AS SHOWN

ITEM	QUANTITY	WEIGHT (APPROX)
C868 PALLET UNIT	6	10,788 LBS
C870 PALLET UNIT	1	2,008 LBS
C871 PALLET UNIT	1	1,858 LBS
DUNNAGE		158 LBS
CROP		3,800 LBS
TOTAL WEIGHT		18,612 LBS (APPROX)

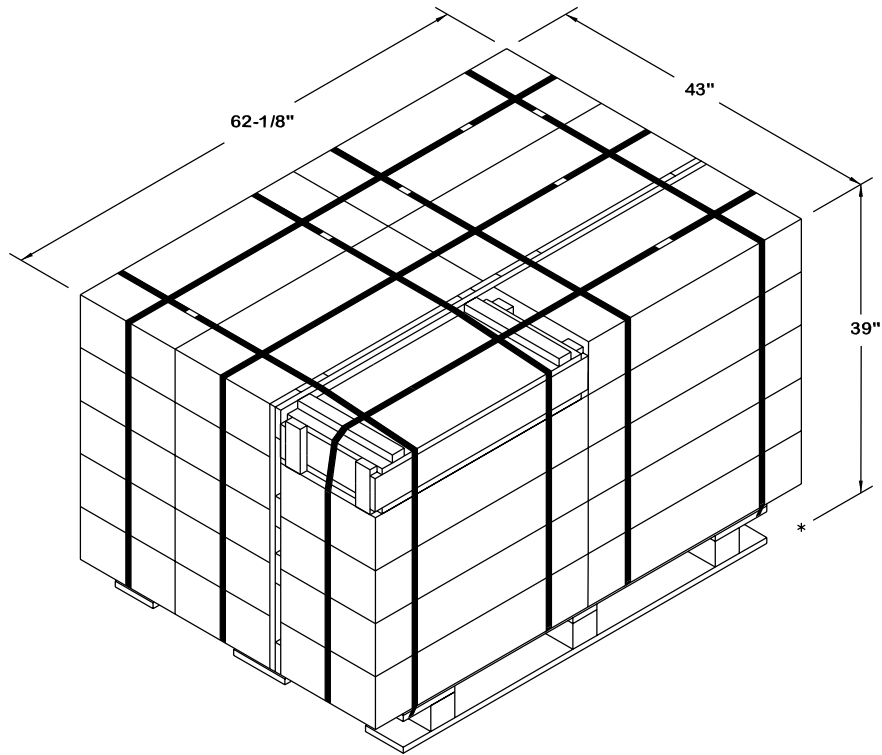
SCL #42 COMPOSITION CHART

DODIC	NSN	NOMENCLATURE	UNIT DWG	REQD	UNITS REQD	HC
C868	1315-01-158-8199	CTG, 81MM HE M821 W/FUZE M734	4116/43H	540	6 PALLETS	1.2E
C870	1315-01-199-8688	CTG, 81MM M819 SMOKE RP W/FUZE MTSQ M772	4116/43J	90	1 PALLET	1.3G
C871	1315-01-289-9789	CTG, 81MM ILLUMINATING M853A1 W/FUZE MTSQ M772	4116/43J	90	1 PALLET	1.2G



C868 PALLET UNIT DETAIL

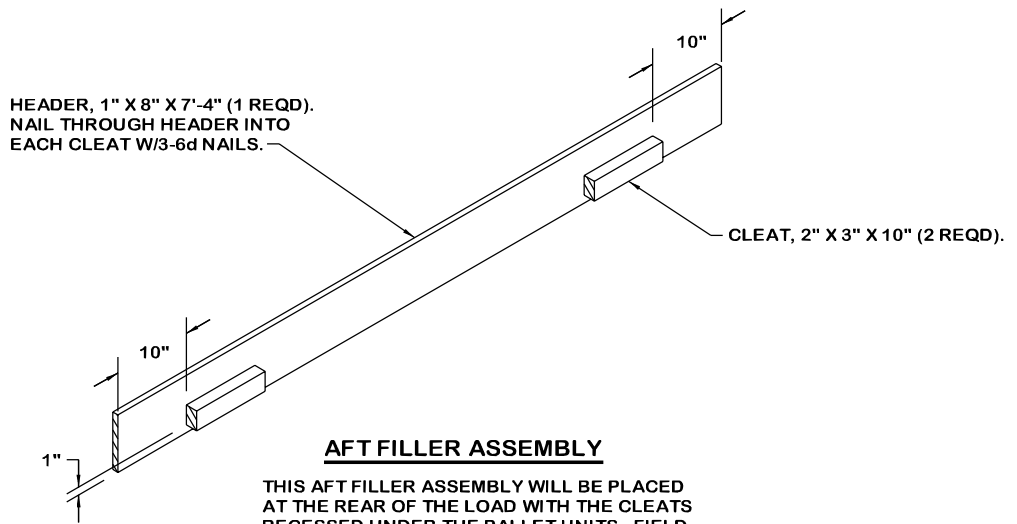
30 BOXES OF 81MM MORTAR (3 PER BOX) AT 57 LBS	-----	1,710 LBS (APPROX)
DUNNAGE	-----	8 LBS
PALLET	-----	80 LBS
TOTAL WEIGHT	-----	1,798 LBS (APPROX)
CUBE	-----	55.6 CU FT (APPROX)



C870/C871 PALLET UNIT DETAIL *

30 BOXES OF 81MM CARTRIDGES (3 PER BOX) AT 63 LBS	- - -	1,890 LBS (APPROX)
DUNNAGE	- - - - -	28 LBS
PALLET	- - - - -	90 LBS
<hr/>		
TOTAL WEIGHT	- - - - -	2,008 LBS (APPROX)
CUBE	- - - - -	60.3 CU FT (APPROX)

* C870 PALLET UNIT SHOWN. WEIGHT OF C871 PALLET UNIT IS 1,858 LBS (APPROX).



AFT FILLER ASSEMBLY

THIS AFT FILLER ASSEMBLY WILL BE PLACED AT THE REAR OF THE LOAD WITH THE CLEATS RECESSED UNDER THE PALLET UNITS. FIELD CHECK PALLET UNITS TO VERIFY PROPER CLEAT LOCATIONS.

