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DATE 11/9/2000

APPENDIX 44

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

SCL #44 - 105MM SMOKE WP M60A2


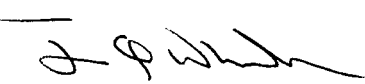
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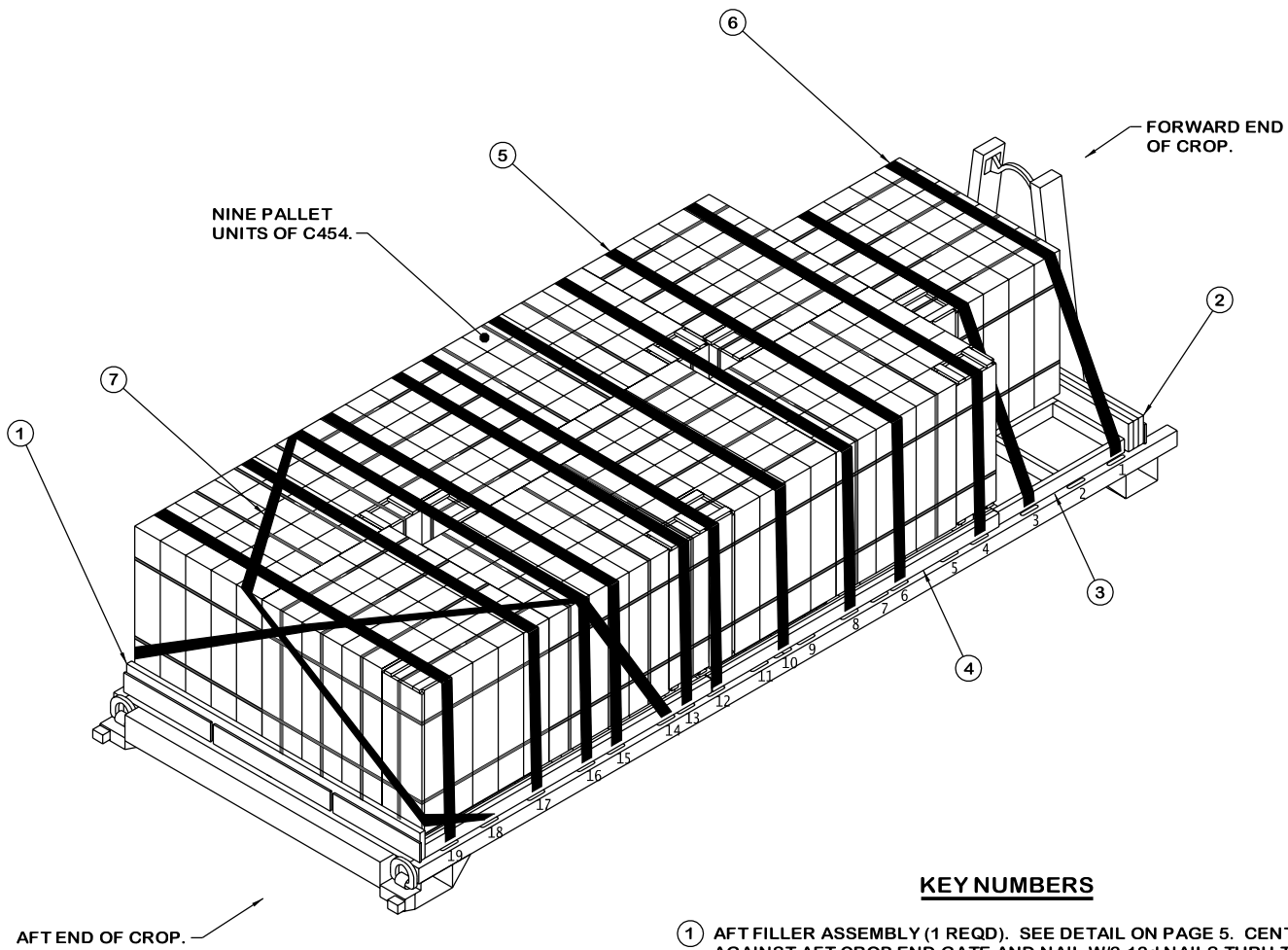
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NOTICE: THIS APPENDIX CANNOT STAND ALONE BUT MUST BE USED IN CONJUNCTION WITH THE BASIC CROP OUTLOADING PROCEDURES DRAWING 19-48-4905-CA17Q6.

- 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.						
	TECHNICIAN	BASIC	PATRICK DOUGHERTY	WEBSITE: HTTP://WWW.DAC.ARMY.MIL				
		REV.		OCTOBER 2000				
APPROVED BY ORDER OF COMMANDING GENERAL, U.S. ARMY MATERIEL COMMAND  U.S. ARMY DEFENSE AMMUNITION CENTER	TRANSPORTATION ENGINEERING DIVISION	<i>William R. French</i>						
	VALIDATION ENGINEERING DIVISION	<i>[Signature]</i>		TESTED	CLASS	DIVISION	DRAWING	FILE
	ENGINEERING DIRECTORATE				19	48	4905/ 44	CA17Q6



ISOMETRIC VIEW

KEY NUMBERS

- (KEY NUMBERS CONTINUED)
- ① AFT FILLER ASSEMBLY (1 REQD). SEE DETAIL ON PAGE 5. CENTER AGAINST AFT CROP END GATE AND 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 ASSEMBLY (1 REQD). SEE DETAIL ON PAGE 5. POSITION HEADER WITH CLEATS UNDER THE FORWARD PALLET UNIT AND CENTERED ON THE CROP. LAMINATE A 1" OR 2" X 8" X 7'-4" FILL PIECE AS REQUIRED TO THE HEADER W/8 NAILS OF SUITABLE SIZE. LAMINATE EACH PIECE TO THE PREVIOUS IN A SIMILAR MANNER. AFTER THE PALLET UNITS ARE LOADED, NAIL THROUGH THE HOLES IN THE FORWARD CROP END GATE W/2-12d NAILS INTO THE FORWARD FILLER PIECES, LEAVING THE NAIL HEADS PROTRUDING THROUGH THE HOLES TO PROVIDE LATERAL AND VERTICAL RESTRAINT.
 - ③ SPACER ASSEMBLY (2 REQD). SEE DETAIL ON PAGE 5. POSITION A SPACER ASSEMBLY ON EACH SIDE OF FRONT PALLET UNIT. NAIL THROUGH THE STRAP ATTACHMENT SLOTS OF THE FORWARD END RESTRAINT STRAPS W/1-10d PARTIALLY DRIVEN NAIL AT EACH LOCATION AND BEND OVER SIDE OF HOOK.
 - ④ SIDE BLOCKING, 2" X 4" X 7'-2" AND 1" X 4" X 7'-2" (4 EACH REQD). LAMINATE THE 1" PIECE ONTO THE 2" PIECE W/8-6d NAILS. POSITION AGAINST THE CHIMNEY STACKED PALLET UNITS ON BOTH SIDES OF THE CROP AS SHOWN.
 - ⑤ HOLD-DOWN STRAP, 3-INCH WIDE WEB STRAP TIEDOWN ASSEMBLY FOR CROP (10 REQD). INSTALL EACH HOLD-DOWN STRAP TO EXTEND FROM THE DESIGNATED TIEDOWN ANCHOR ON ONE SIDE OF CROP, OVER THE TOP OF THE C454 PALLET UNITS, AND DOWN 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.
 - ⑥ FORWARD END RESTRAINT STRAP, 3-INCH WIDE WEB STRAP TIEDOWN ASSEMBLY FOR CROP (2 REQD). INSTALL STRAPS FROM THE FIRST AND THIRD TIEDOWN ANCHOR ON ONE SIDE OF THE CROP OVER THE FORWARD C454 PALLET UNIT AND BACK DOWN 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.
 - ⑦ AFT END RESTRAINT STRAP, 3-INCH WIDE WEB STRAP TIEDOWN ASSEMBLY FOR CROP (2 REQD). INSTALL EACH STRAP FROM THE FOURTEENTH TIEDOWN ANCHOR ON ONE SIDE OF THE CROP, OVER AND AROUND THE C454 PALLET UNITS, 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 "F" ON PAGE 3.

(CONTINUED AT LEFT)

RECOMMENDED SEQUENTIAL PROCEDURES

1. PREFABRICATE THE FORWARD AND AFT FILLER ASSEMBLIES, TWO SPACER ASSEMBLIES, AND FOUR SIDE BLOCKING PIECES.
2. POSITION THE AFT FILLER ASSEMBLY, PIECE MARKED ①, TIGHT AGAINST THE AFT CROP END GATE. CENTER THE FILL ASSEMBLY ON THE GATE.
3. PLACE TWO C454 PALLET UNITS ON THE CROP WITH THE SHORT SIDE OF ONE PALLET AGAINST THE LONG SIDE OF THE OTHER PALLET UNIT 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 TWO C454 PALLET UNITS ON THE CROP WITH THE PALLET UNITS ORIENTATION OPPOSITE FROM THE FIRST TWO PALLET UNITS SO THAT THE FOUR PALLET UNITS COMBINED FORM A CHIMNEY PATTERN. ENSURE ALL PALLETS ARE TIGHT AGAINST EACH OTHER.
5. PLACE FOUR C454 PALLET UNITS IN A CHIMNEY PATTERN TIGHT AGAINST THE PREVIOUSLY LOADED PALLET UNITS.
6. CENTER ONE C454 PALLET UNIT CROSSWISE ON THE CROP, TIGHT AGAINST THE FORWARD CHIMNEY STACK.
7. CENTER THE FORWARD FILL ASSEMBLY, PIECE MARKED ②, AGAINST THE FRONT PALLET UNIT WITH THE CLEATS PROTRUDING UNDER THE PALLET. NOTE: THE FORWARD FILLER ASSEMBLY MAY NEED TO BE FABRICATED IN THE FIELD WITH THE CLEATS NAILED TO THE HEADER AND PLACED IN POSITION WITH THE CLEATS UNDER THE FRONT PALLET. LAMINATE FILL PIECES TO THE HEADER AS REQUIRED. SEE THE FORWARD FILLER ASSEMBLY DETAIL ON PAGE 5. NAIL TWO 12d RETAINER NAILS INTO THE FORWARD FILLER ASSEMBLY AS INSTRUCTED IN KEY NUMBER ②.
8. PLACE A SPACER ASSEMBLY, PIECE MARKED ③, ON BOTH SIDES OF THE FRONT PALLET UNIT.
9. POSITION THE SIDE BLOCKING PIECES, MARKED ④, AGAINST THE SIDES OF THE CHIMNEY PATTERNED PALLET UNITS AS SHOWN ON PAGE 2.
10. INSTALL THE 10 HOLD-DOWN STRAPS AS NOTED IN KEY NUMBER ⑤.
11. INSTALL THE TWO FORWARD END RESTRAINT STRAPS AS NOTED IN KEY NUMBER ⑥ AND NAIL THROUGH WEB STRAP HOOKS AS NOTED IN KEY NUMBER ③.
12. INSTALL THE AFT END RESTRAINT STRAPS 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 #44. SEE PAGE 4 FOR THE DETAIL OF THE PALLET UNIT. 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

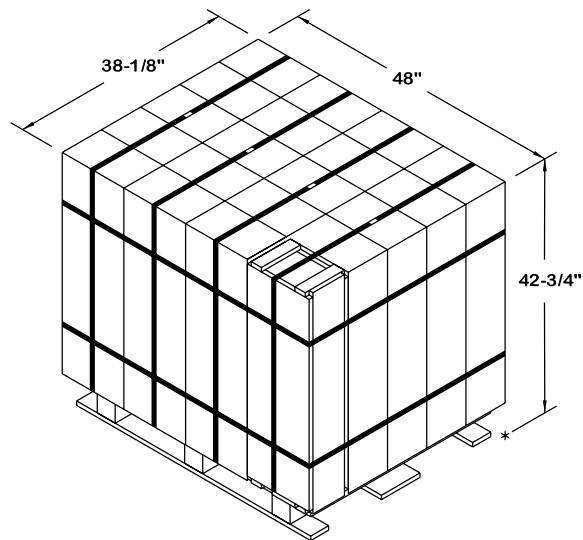
LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	29	10
2" X 3"	4	2
2" X 4"	51	34
2" X 8"	30	40
NAILS	NO. REQD	POUNDS
6d (2")	32	1/4
10d (3")	52	3/4
12d (3-1/4")	4	1/4

LOAD AS SHOWN

ITEM	QUANTITY	WEIGHT (APPROX)
C454 PALLET UNIT	9	22,248 LBS
DUNNAGE		174 LBS
CROP		3,800 LBS
TOTAL WEIGHT		26,222 LBS (APPROX)

SCL #44 COMPOSITION CHART

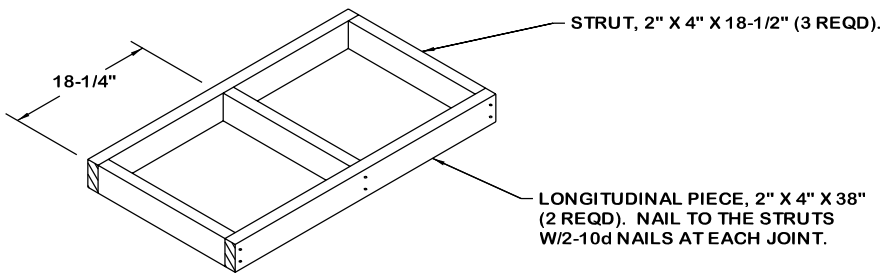
DODIC	NSN	NOMENCLATURE	UNIT DWG	REQD	UNITS REQD	HC
C454	1315-00-113-5741	CARTRIDGE, 105MM SMOKE WP M60A2 W/FUZE	4015/7	360	9 PALLETS	1.2H



C454 PALLET UNIT DETAIL

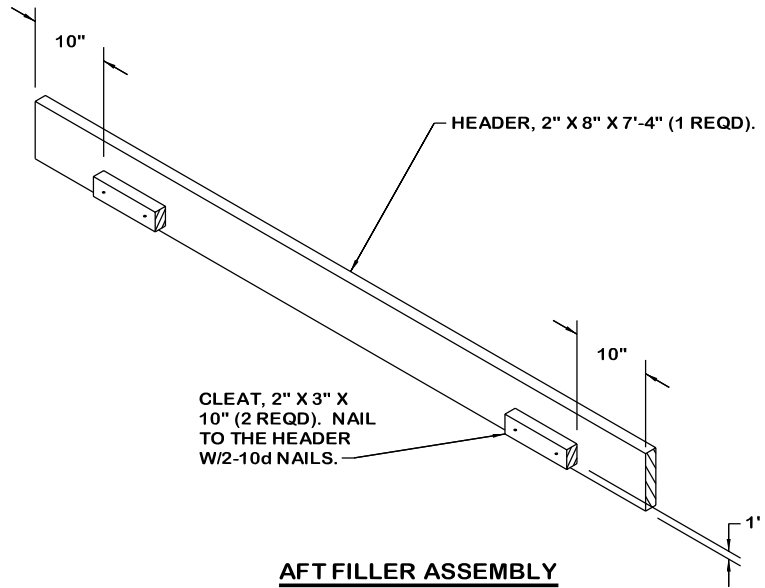
20 BOXES OF 105MM CARTRIDGES	
(2 PER BOX) AT 120 LBS - - - - -	2,400 LBS (APPROX)
DUNNAGE - - - - -	7 LBS
PALLET - - - - -	65 LBS

TOTAL WEIGHT - - - - -	2,472 LBS (APPROX)
CUBE - - - - -	45.3 CU FT (APPROX)



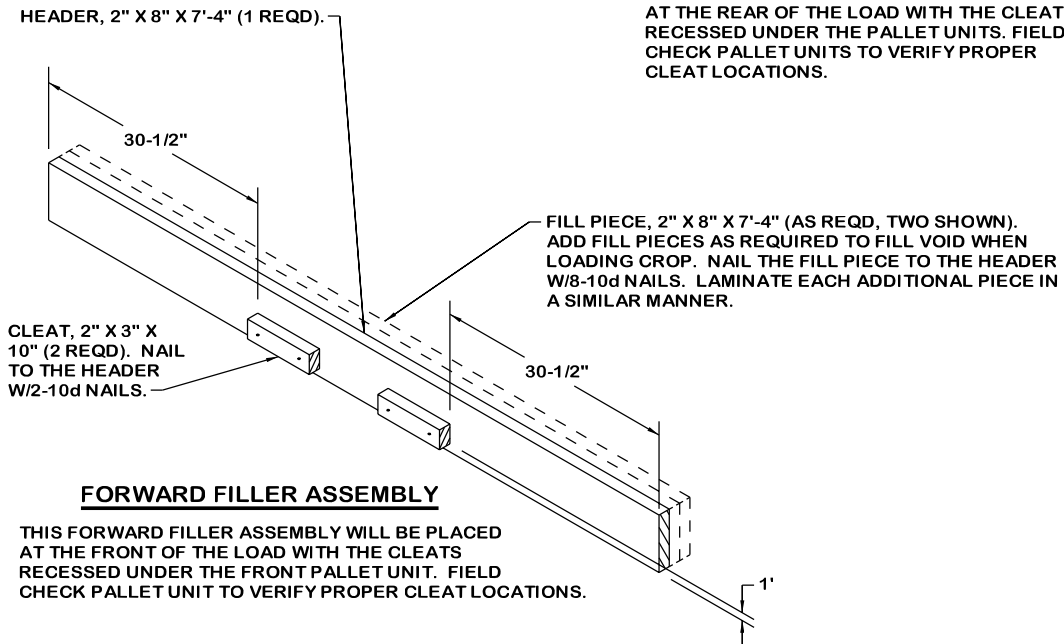
SPACER ASSEMBLY

THIS SPACER ASSEMBLY WILL BE USED TO STABILIZE THE PALLET UNIT AT THE FRONT OF THE CROP AS SHOWN ON PAGE 2.



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.



FORWARD FILLER ASSEMBLY

THIS FORWARD FILLER ASSEMBLY WILL BE PLACED AT THE FRONT OF THE LOAD WITH THE CLEATS RECESSED UNDER THE FRONT PALLET UNIT. FIELD CHECK PALLET UNIT TO VERIFY PROPER CLEAT LOCATIONS.

DETAILS

