APPROVED BY
BUREAU OF EXPLOSIVES

DATE 2/16/02

APPENDIX 37B

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

SCL #37B - 155MM HE M107 IBCT

INDEX

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

APPROVED BY ORDER OF COMMANDING GENERAL,
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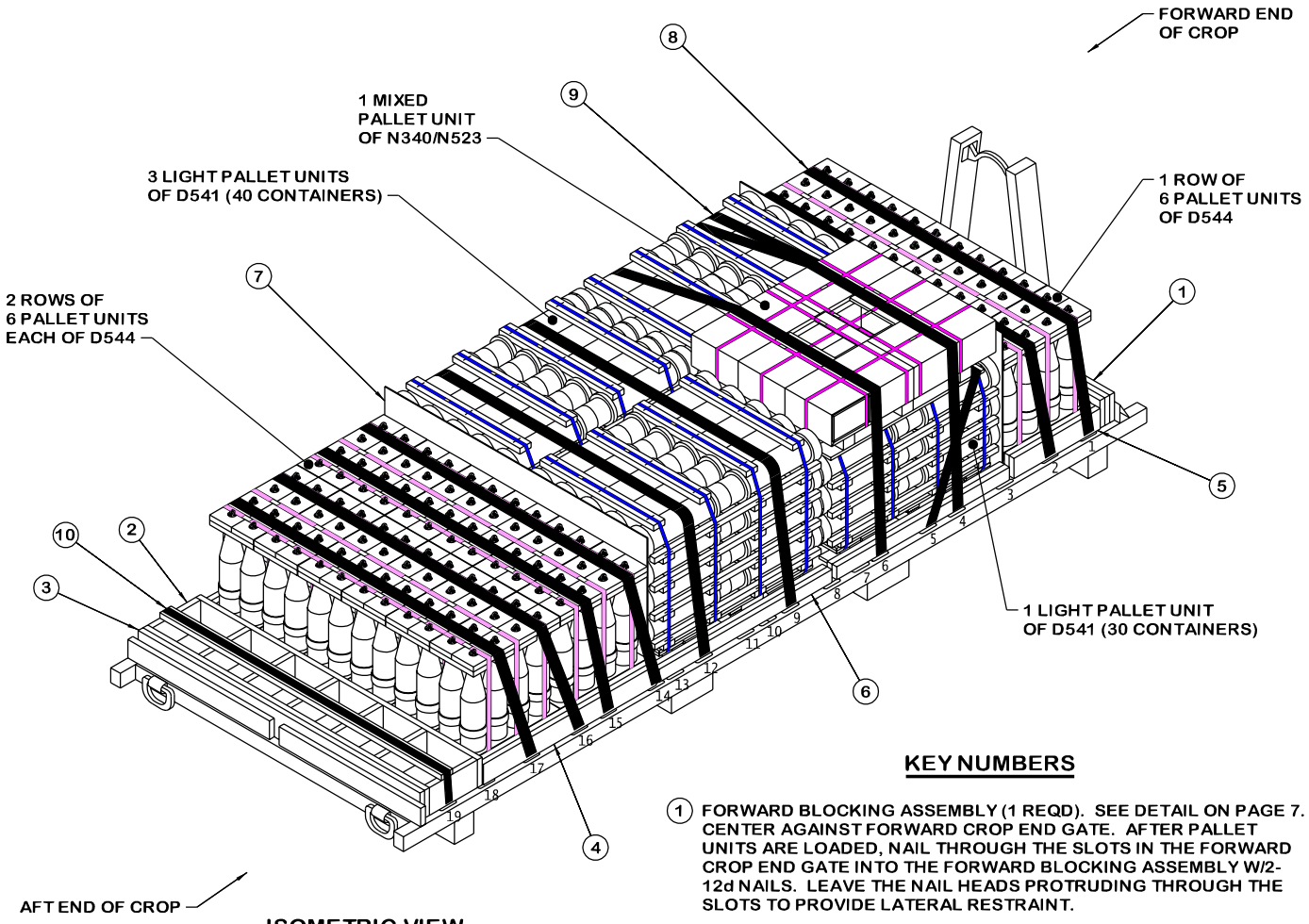
OCTOBER 2001

CLASS	DIVISION	DRAWING	FILE
19	48	4905/ 37B	CA17Q6

PROJECT CAP-TV 6/37B-01



ISOMETRIC VIEW

KEY NUMBERS

(1) FORWARD BLOCKING ASSEMBLY (1 REQD). SEE DETAIL ON PAGE 7. CENTER AGAINST FORWARD CROP END GATE. AFTER PALLET UNITS ARE LOADED, NAIL THROUGH THE SLOTS IN THE FORWARD CROP END GATE INTO THE FORWARD BLOCKING ASSEMBLY W/2-12d NAILS. LEAVE THE NAIL HEADS PROTRUDING THROUGH THE SLOTS TO PROVIDE LATERAL RESTRAINT.

(2) AFT BLOCKING ASSEMBLY (1 REQD). SEE DETAIL ON PAGE 7. CENTER AGAINST D544 PALLET UNITS. AFTER AFT FILLER IS INSTALLED, LINE UP STRAPPING BOARD WITH THE NINETEENTH TIEDOWN ANCHOR AND NAIL TO ASSEMBLY.

(3) AFT FILLER, 1" OR 2" X 8" X 7'-4" (AS REQD). LAMINATE FIRST PIECE TO AFT BLOCKING ASSEMBLY AND ANY ADDITIONAL PIECE TO PREVIOUS PIECE W/8 NAILS OF A SUITABLE SIZE (6d NAILS FOR 1" THICK MATERIAL OR 10d NAILS FOR 2" THICK MATERIAL). CENTER AGAINST AFT CROP END GATE AND NAIL THROUGH THE SLOTS IN THE AFT CROP END GATE INTO THE AFT FILLER W/2-12d NAILS. LEAVE THE NAIL HEADS PROTRUDING THROUGH THE SLOTS TO PROVIDE LATERAL AND VERTICAL RESTRAINT.

(4) SIDE BLOCKING ASSEMBLY "A" (2 REQD). SEE DETAIL ON PAGE 8. INSTALL ONE ON EACH SIDE OF THE CROP ADJACENT TO THE AFT D544 PALLET UNITS. AFTER HOLD-DOWN STRAPS ARE INSTALLED, NAIL THROUGH THE STRAP ATTACHMENT SLOTS OF THE HOLD-DOWN STRAPS INTO THE ASSEMBLY W/1-10d PARTIALLY DRIVEN NAIL AND BEND OVER SIDE OF HOOK.

(5) SIDE BLOCKING ASSEMBLY "B" (2 REQD). SEE DETAIL ON PAGE 8. INSTALL ONE ON EACH SIDE OF THE CROP ADJACENT TO THE FORWARD D544 PALLET UNITS. AFTER HOLD-DOWN STRAPS ARE INSTALLED, NAIL THROUGH THE STRAP ATTACHMENT SLOTS OF THE HOLD-DOWN STRAPS INTO THE ASSEMBLY W/1-10d PARTIALLY DRIVEN NAIL AND BEND OVER SIDE OF HOOK.

(6) SIDE BLOCKING ASSEMBLY "C" (4 REQD). SEE DETAIL ON PAGE 8. INSTALL TWO ON EACH SIDE OF THE CROP ADJACENT TO THE D541 PALLET UNITS. AFTER HOLD-DOWN STRAPS ARE INSTALLED, NAIL THROUGH THE STRAP ATTACHMENT SLOTS OF THE HOLD-DOWN STRAPS INTO THE ASSEMBLY W/1-10d PARTIALLY DRIVEN NAIL AND BEND OVER SIDE OF HOOK.

(CONTINUED AT LEFT)

(KEY NUMBERS CONTINUED)

(7) PALLET SEPARATOR ASSEMBLY (2 REQD). SEE DETAIL ON PAGE 4. INSTALL ONE BETWEEN FORWARD ROW OF D541 PALLET UNITS AND FORWARD ROW OF D544 PALLET UNITS. INSTALL ONE BETWEEN AFT ROW OF D541 PALLET UNITS AND ADJACENT ROW OF D544 PALLET UNITS. CLEATS ON ASSEMBLY SHOULD FACE D544 PALLET UNITS.

(8) HOLD-DOWN STRAP, 3-INCH WIDE CROP STRAP (10 REQD). INSTALL EACH 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 "H" ON PAGE 3.

(9) TOP PALLET END RESTRAINT STRAP, 3-INCH WIDE CROP STRAP (1 REQD). INSTALL THE STRAP TO EXTEND FROM THE FIFTH TIEDOWN ANCHOR ON ONE SIDE OF CROP, AROUND THE FRONT PALLET POSTS OF THE N340/N523 PALLET UNIT, OVER THE TOP OF THE ADJACENT FORWARD D541 LIGHT PALLET UNIT, TO THE FIFTH TIEDOWN ANCHOR ON THE OPPOSITE SIDE OF THE CROP. ALIGN SCUFF SLEEVES OVER ALL SHARP EDGES AND FIRMLY TENSION STRAP. SEE GENERAL NOTE "H" ON PAGE 3.

(10) RETAINER STRAP, 2-INCH WIDE WEB STRAP ASSEMBLY (1 REQD). INSTALL TO EXTEND FROM THE NINETEENTH TIEDOWN ANCHOR ON ONE SIDE OF CROP, OVER TOP OF THE AFT BLOCKING ASSEMBLY STRAPPING BOARD, TO THE NINETEENTH TIEDOWN ANCHOR ON OPPOSITE SIDE OF CROP. ALIGN SCUFF SLEEVES OVER ALL SHARP EDGES AND FIRMLY TENSION STRAP. SEE GENERAL NOTE "H" ON PAGE 3.

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RECOMMENDED SEQUENTIAL PROCEDURES

1. PREFABRICATE THE FORWARD BLOCKING ASSEMBLY, AFT BLOCKING ASSEMBLY, TWO SIDE BLOCKING ASSEMBLY "A", TWO SIDE BLOCKING ASSEMBLY "B", FOUR SIDE BLOCKING ASSEMBLY "C", AND ONE FILL ASSEMBLY. ASSEMBLE THE N340/N523 LIGHT PALLET UNIT.
2. INSTALL THE FORWARD BLOCKING ASSEMBLY, AS NOTED IN KEY NUMBER ①.
3. LOAD ONE ROW OF SIX PALLET UNITS OF D544, TIGHT AGAINST THE FORWARD BLOCKING ASSEMBLY. CENTER THE ROW LATERALLY ON THE CROP.
4. LOAD ONE ROW OF TWO LIGHT PALLET UNITS OF D541, TIGHT AGAINST THE D544 PALLET UNITS. CENTER THE ROW LATERALLY ON THE CROP. THIS ROW CONSISTS OF ONE PALLET OF 30 CONTAINERS AND ONE PALLET OF 40 CONTAINERS.
5. LOAD ONE ROW OF TWO LIGHT PALLET UNITS OF D541, TIGHT AGAINST THE PREVIOUS ROW OF D541 LIGHT PALLET UNITS. CENTER THE ROW LATERALLY ON THE CROP. THIS ROW CONSISTS OF TWO PALLETS OF 40 CONTAINERS EACH.
6. LOAD TWO ROWS OF SIX PALLET UNITS OF D544 AGAINST THE D541 PALLET UNITS, TIGHT AGAINST THE D541 PALLET UNITS. CENTER THE ROWS LATERALLY ON THE CROP.
7. INSTALL THE AFT BLOCKING ASSEMBLY, AS NOTED IN KEY NUMBER ②.
8. INSTALL AFT FILLER PIECES, AS NOTED IN KEY NUMBER ③. AFTER AFT FILLER PIECES INSTALLED, LINE UP STRAPPING BOARD WITH THE NINETEENTH TIEDOWN ANCHOR AND NAIL TO ASSEMBLY.
9. LOAD THE N340/N523 LIGHT PALLET UNIT ON TOP OF THE 30 CONTAINER D541 PALLET UNIT, TIGHT TOWARD AFT AND CENTER OF CROP.
10. INSTALL ONE SIDE BLOCKING ASSEMBLY "A" ON EACH SIDE OF AFT END D544 PALLET UNITS, AS NOTED IN KEY NUMBER ④.
11. INSTALL ONE SIDE BLOCKING ASSEMBLY "B" ON EACH SIDE OF FORWARD END D544 PALLET UNITS, AS NOTED IN KEY NUMBER ⑤.
12. INSTALL TWO SIDE BLOCKING ASSEMBLY "C" ON EACH SIDE OF D541 LIGHT PALLET UNITS, ONE ASSEMBLY PER PALLET, AS NOTED IN KEY NUMBER ⑥.
13. INSTALL 13 HOLD-DOWN STRAPS, AS NOTED IN KEY NUMBER ⑦.
14. INSTALL TOP PALLET END RESTRAINT STRAP, AS NOTED IN KEY NUMBER ⑧.
15. INSTALL RETAINER STRAP, AS NOTED IN KEY NUMBER ⑨.
16. NAIL THROUGH THE STRAP ATTACHMENT SLOT OF A HOLD-DOWN STRAP INTO EACH END OF THE SIDE BLOCKING ASSEMBLIES W/1-10d PARTIALLY DRIVEN NAIL AND BEND OVER SIDE OF HOOK.
17. NAIL TWO 12d RETAINING NAILS THRU THE SLOTS IN THE AFT CROP END GATE, AS NOTED IN KEY NUMBER ③.
18. NAIL THE TWO REMAINING 12d RETAINING NAILS THRU THE SLOTS IN THE FORWARD CROP END GATE, AS NOTED IN KEY NUMBER ①.

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 #37B. SEE PAGES 4 THRU 6 FOR DETAILS OF THE PALLET UNITS. AN M3 (SUMMA) 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 M3 CROP. FOR AN M3A1 (HYUNDAI) 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. LIGHT 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.

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. 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.

H. 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.

J. 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"	4	2
1" X 8"	8	5
2" X 3" (ACTUAL)	13	9
2" X 4"	17	11
2" X 6"	27	27
2" X 8"	59	79
NAILS	**NO. REQD**	**POUNDS**
6d (2")	8	NIL
10d (3")	177	2-3/4
12d (3-1/4")	4	NIL
PLYWOOD, 1/4" - - - 22 SQ FT REQD - - - - - - - 16 LBS		

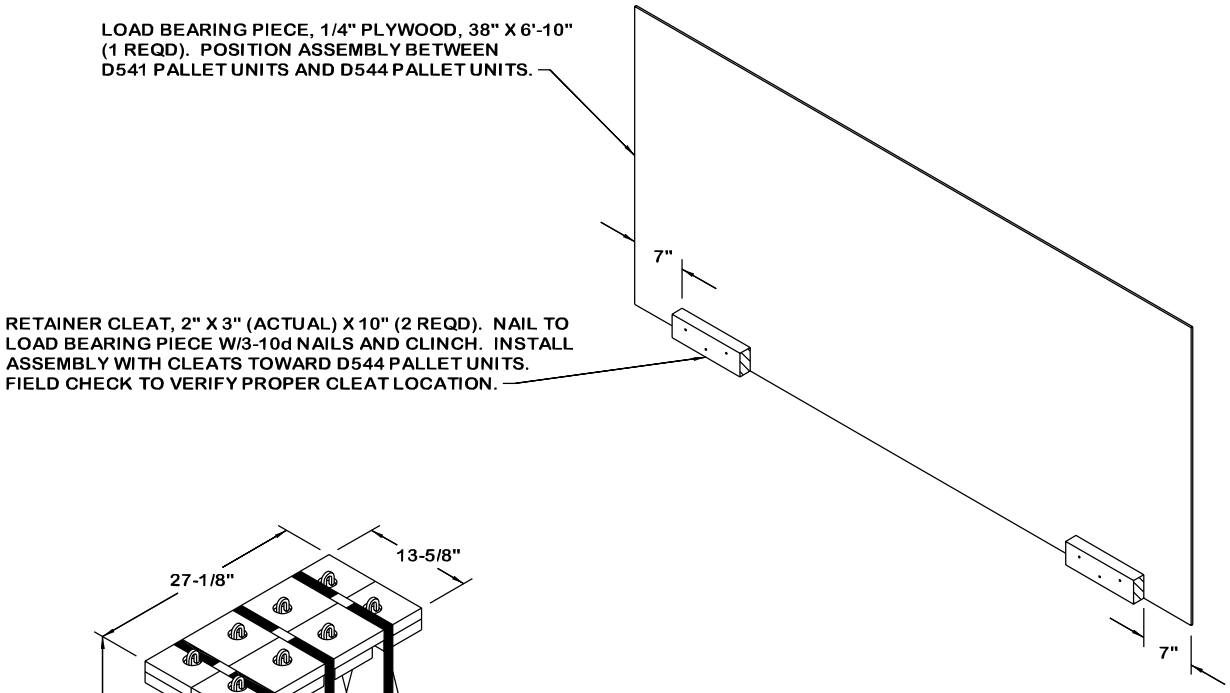
LOAD AS SHOWN

ITEM	QUANTITY	WEIGHT (APPROX)
D544 PALLET UNIT	18	14,346 LBS
30 CNTR D541 PALLET UNIT	1	1,073 LBS
40 CNTR D541 PALLET UNIT	3	4,194 LBS
N340/N523 PALLET UNIT	1	524 LBS
DUNNAGE		285 LBS
CROP		3,800 LBS
TOTAL WEIGHT		24,222 LBS (APPROX)

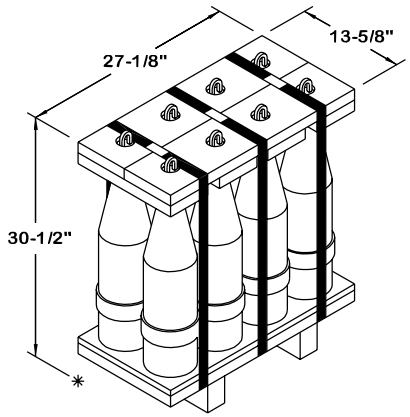
SCL #37B COMPOSITION CHART

DODIC	NSN	NOMENCLATURE	UNIT DWG	REQD	UNITS REQD	HC
D541	1320-00-935-1923	CHG, PROPELLING 155MM WB M4A2	4042A/2	150	4 LT PLTS	1.3C
D544 *	1320-00-926-9319	PROJ, 155MM HE M107	9362569	144	18 PLTS	1.1D
N340 ▲	1390-01-132-7481	FUZE, PD W/O BOOSTER M737A1	4116/156	144	9 BOXES	1.2D
N523	1390-01-481-2024	PRIMER, PERCUSSION M82	4116/158G	150	1 LT BOX	1.4S
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.						
D544 *	1320-01-257-4222	PROJ, 155MM HE M107	9362569			1.1D

▲ REPLACE WITH 1390-NA08, MOFA FUZES WHEN AVAILABLE.

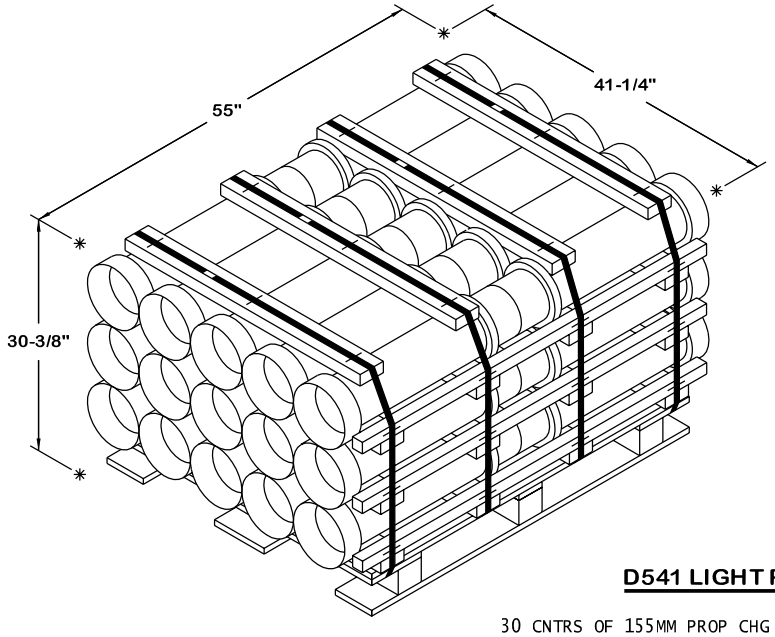


PALLET SEPARATOR ASSEMBLY



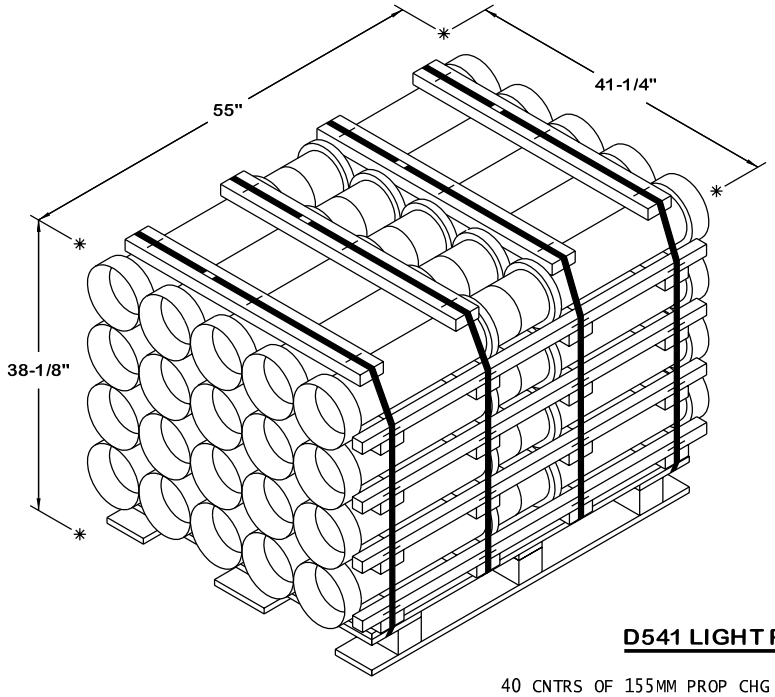
D544 PALLET UNIT DETAIL

8 155MM CTG @ 95 LBS	760 LBS (APPROX)
DUNNAGE AND PALLET	37 LBS
TOTAL WEIGHT	797 LBS (APPROX)
CUBE	6.8 CU FT (APPROX)



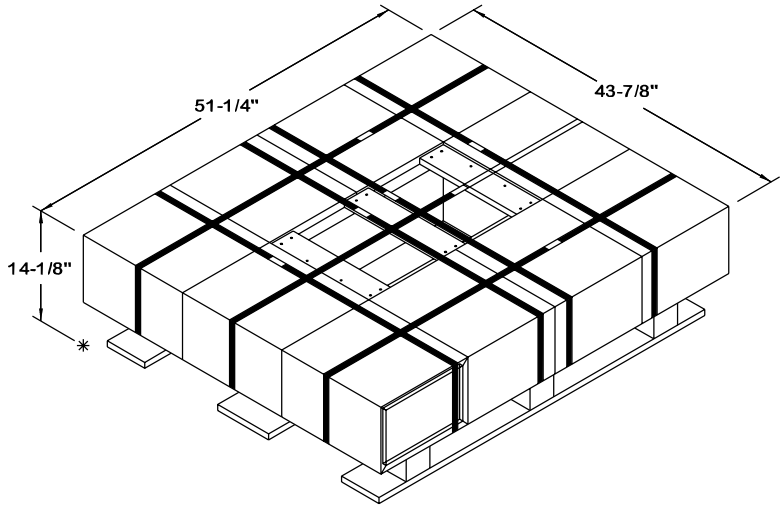
D541 LIGHT PALLET UNIT DETAIL

30 CNTRS OF 155MM PROP CHG (1 PER CNTR) AT 30 LBS	900 LBS (APPROX)
DUNNAGE	93 LBS
PALLET	80 LBS
TOTAL WEIGHT	1,073 LBS (APPROX)
CUBE	39.9 CU FT (APPROX)



D541 LIGHT PALLET UNIT DETAIL

40 CNTRS OF 155MM PROP CHG (1 PER CNTR) AT 30 LBS	1,200 LBS (APPROX)
DUNNAGE	118 LBS
PALLET	80 LBS
TOTAL WEIGHT	1,398 LBS (APPROX)
CUBE	50.1 CU FT (APPROX)



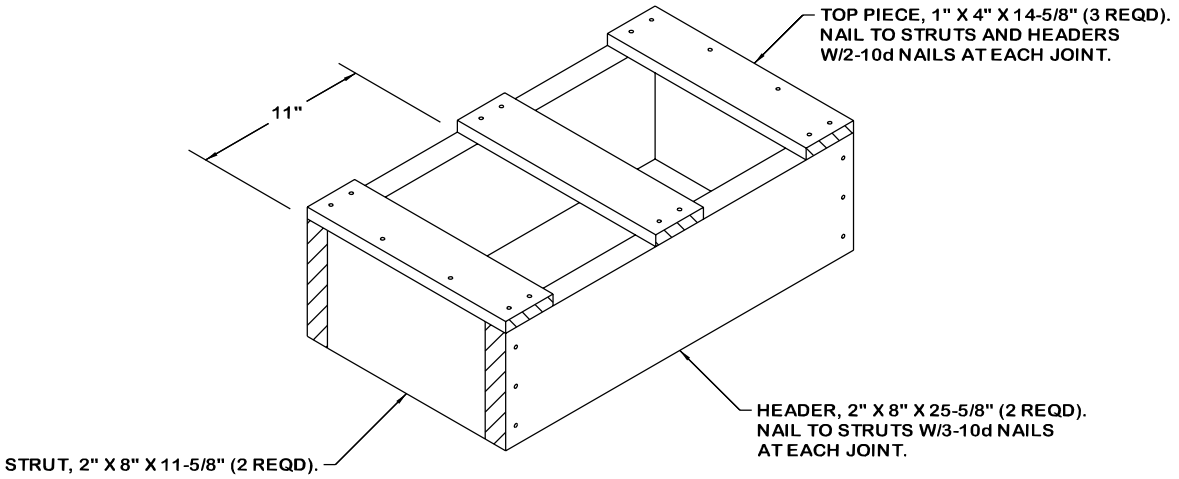
THE N340/N523 LIGHT PALLET UNIT SHOULD BE CONSTRUCTED IAW THE N340 DRAWING LISTED ON PAGE 4 WITH THE FOLLOWING CHANGES:

1. ELIMINATE TWO LAYERS OF BOXES (24 BOXES).
2. ELIMINATE THREE BOXES FROM REMAINING LAYER.
3. ADD ONE BOX OF N523 CONTAINING 150 ROUNDS.
4. ADD FILL ASSEMBLY IN CENTER OF LAYER.
5. REDUCE THE LOAD STRAP LENGTH TO 11'-1".
6. REDUCE THE TIEDOWN STRAP LENGTH TO 9'-11".

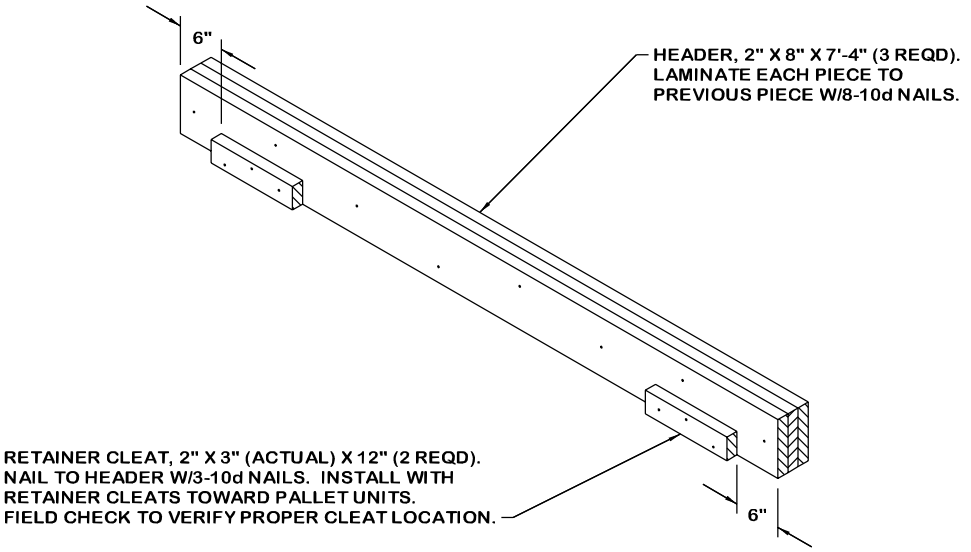
N340/N523 LIGHT PALLET UNIT DETAIL

9 BOXES OF N340 FUZES (16 PER BOX) AT 46 LBS	414 LBS (APPROX)
1 LIGHT BOX OF N523 PRIMERS (150 PER BOX) AT 20 LBS	20 LBS (APPROX)
DUNNAGE	10 LBS
PALLET	80 LBS
TOTAL WEIGHT	524 LBS (APPROX)
CUBE	18.2 CU FT (APPROX)

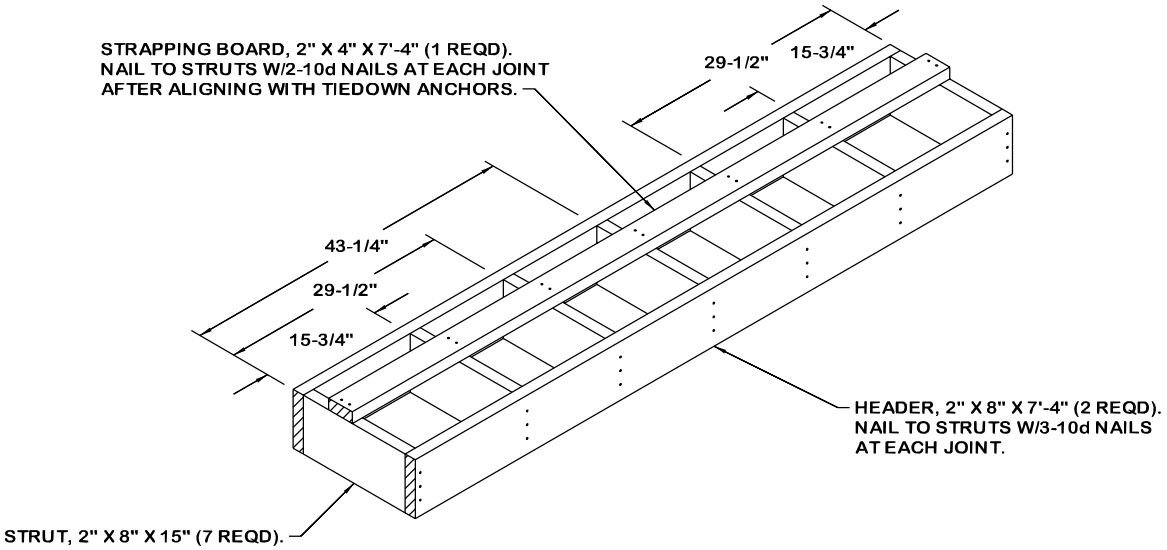
THIS FILL ASSEMBLY WILL BE USED TO PROVIDE FILLER SPACE FOR THE TWO OMITTED BOXES IN THE CENTER OF THE N340/N523 LIGHT PALLET UNIT.



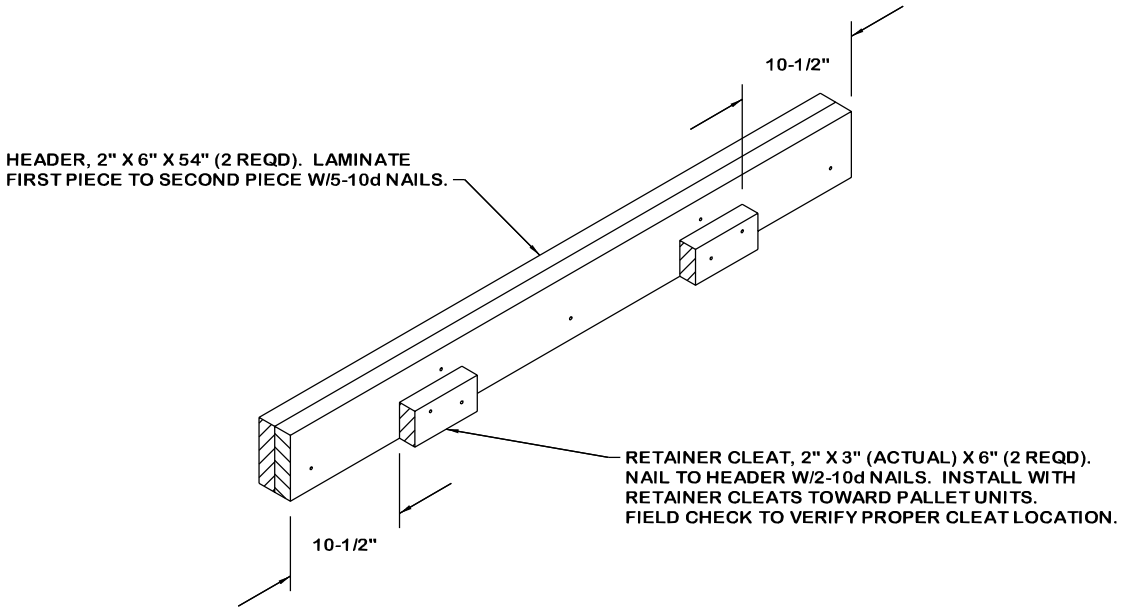
FILL ASSEMBLY



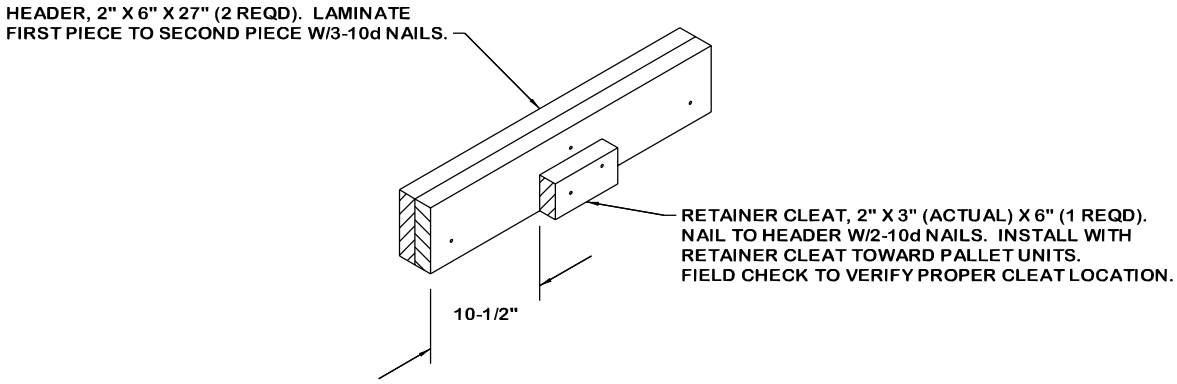
FORWARD BLOCKING ASSEMBLY



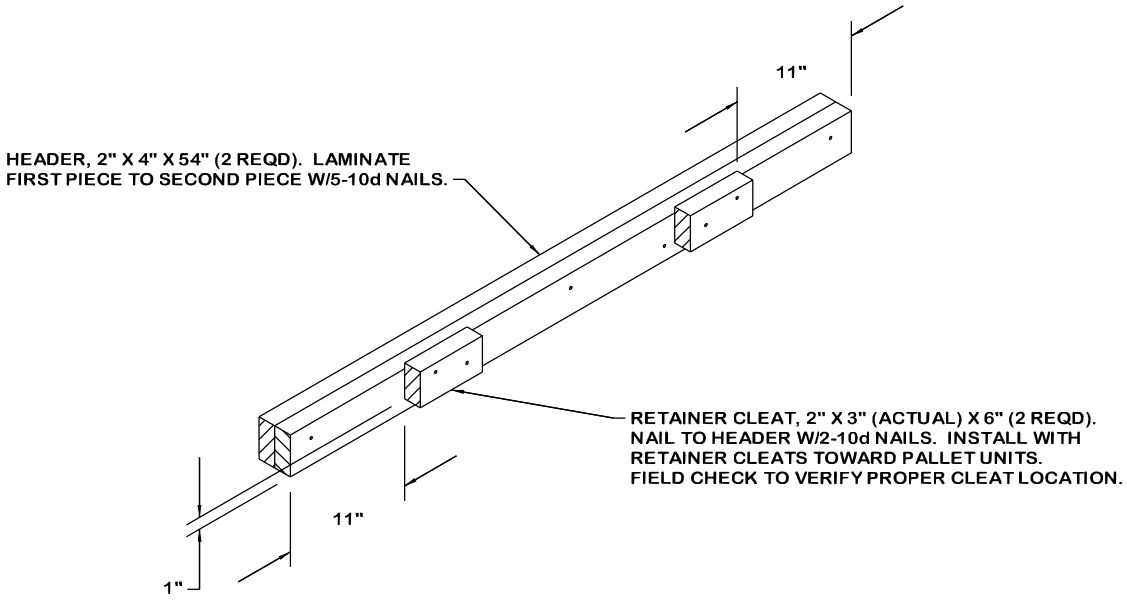
AFT BLOCKING ASSEMBLY



SIDE BLOCKING ASSEMBLY A



SIDE BLOCKING ASSEMBLY B



SIDE BLOCKING ASSEMBLY C