

APPENDIX 12

UNITIZING PROCEDURES FOR PROPELLING CHARGES PACKED IN CYLINDRICAL METAL CONTAINERS ON 4-WAY ENTRY PALLETS

PA75 SERIES CONTAINERS

INDEX

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PALLET UNIT DATA						
ITEMS INCLUDED		HAZARD CLASSIFICATION ①				WEIGHT (LBS)
NSN	DODIC	DOT CLASS	CG CLASS	QD CLASS	COMP GROUP	
NONE ASSIGNED						1,238 TO 1,260

NOTICE: THIS APPENDIX CANNOT STAND ALONE BUT MUST BE USED IN CONJUNCTION WITH THE BASIC UNITIZATION PROCEDURES DRAWING 19-48-4042A-20PM1001.

THIS DRAWING SUPERSEDES PART OF DRAWING 19-48-4042-1-2-5-11-14PM1000, DATED 8 FEBRUARY 1965, AND REVISION 1, THERETO, DATED 29 AUGUST 1969.

- ① HAZARD CLASSIFICATION DATA CONTAINED IN THE ABOVE CHART IS FOR GUIDANCE AND INFORMATIONAL PURPOSES ONLY. VERIFICATION OF THE SPECIFIED DATA SHOULD BE MADE BY CONSULTING THE MOST RECENT JOINT HAZARD CLASSIFICATION SYSTEM LISTING OR OTHER APPROVED LISTING (S).

DO NOT SCALE

REVISIONS				DESIGNER GRG	PROJ ENG WEE/STG	DATE 10/28/77
1	JUL 86	AWK	AWK	GRG	WEE/STG	10/28/77
				APPROVED BY ORDER OF COMMANDING GENERAL, U.S. ARMY MATERIEL DEVELOPMENT AND READINESS COMMAND (DARCOM)		
				U.S. ARMY DEFENSE ACQUISITION CENTER AND SCHOOL		
				U.S. ARMY DARCOM DRAWING		
				OCTOBER 1979		
		CLASS	DIVISION	DRAWING	FILE	
		19	48	4042A/ 12	20PM 1001	

GENERAL NOTES

REVISION

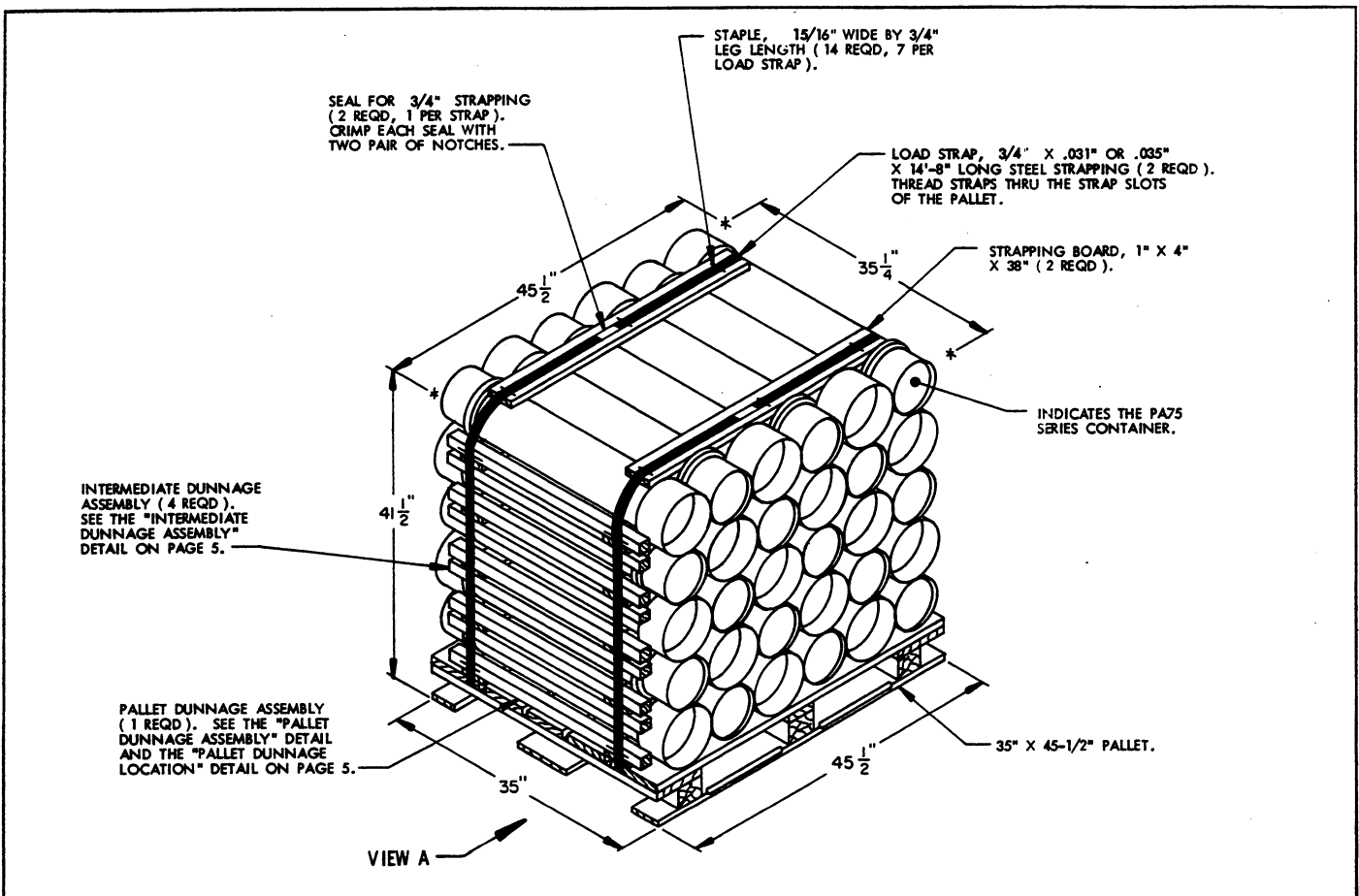
REVISION NO. 1, DATED JULY 1986, CONSISTS OF:
CHANGING 1-1/4" STRAPPING TO 3/4" STRAPPING.

- A. THIS APPENDIX CANNOT STAND ALONE BUT MUST BE USED IN CONJUNCTION WITH THE BASIC UNITIZING PROCEDURES DRAWING 19-48-4042A-20PM1001. TO PRODUCE AN APPROVED UNIT 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. DIMENSIONS, CUBE AND WEIGHT OF A PALLET UNIT WILL VARY SLIGHTLY DEPENDING UPON THE ACTUAL DIMENSIONS OF THE CONTAINER, WEIGHT OF THE SPECIFIED ITEM AND METHOD OF UNITIZATION.
- C. UNLOADING AND STORAGE OF THE ITEMS COVERED BY THIS APPENDIX SHALL BE ACCOMPLISHED IN ACCORDANCE WITH AMC (DARCOM) DRAWINGS IDENTIFIED WITHIN DA PAMPHLET 75-5.
- D. FOR METHOD OF SECURING A STRAP CUTTER TO THE PALLET UNIT, SEE DARCOM DRAWING 19-48-4127-20P1000.
- E. IF ITEMS COVERED HEREIN ARE UNITIZED PRIOR TO ISSUANCE OF THIS APPENDIX, THE CONTAINERS NEED NOT BE REUNITIZED SOLELY TO CONFORM TO THIS APPENDIX.
- F. THE UNITIZATION PROCEDURES DEPICTED HEREIN MAY ALSO BE USED FOR UNITIZING PROPELLING CHARGES WHEN IDENTIFIED BY DIFFERENT NATIONAL STOCK NUMBERS (NSN) THAN THOSE SHOWN ON THE COVER PAGE, PROVIDED THE ITEM IS PACKED IN THE PA75 SERIES CONTAINER. THE EXPLOSIVE CLASSIFICATION OF OTHER ITEMS MAY BE DIFFERENT THAN THOSE SHOWN.
- G. FOR DETAILS OF THE PA75 SERIES CONTAINER, SEE PICATINNY ARSENAL DRAWING NO. 9293460.

CONTAINER DIMENSIONS ----- 35-1/4" LONG BY 7-25/32" DIAMETER.
CONTAINER CUBE ----- 1.3 CUBIC FEET.
CONTAINER WEIGHT
(WITH CHARGE) ----- 37 POUNDS (APPROX).

- H. THE SPECIFIED UNITIZING PROCEDURES SHOWN HEREIN DEPICT THREE DIFFERENT METHODS FOR UNITIZING THE PA75 SERIES CONTAINER:
 - 1. UNIT "A" DEPICTS CONTAINERS UNITIZED ON FLAT DUNNAGE WITH EVERY OTHER CONTAINER ALTERNATED (BASE END, BELL END, BASE END) INDIVIDUALLY AND BY LAYERS. SEE DETAILS ON PAGES 4 AND 5.
 - 2. UNIT "B" DEPICTS CONTAINERS UNITIZED ON FLAT DUNNAGE. SEE DETAILS ON PAGES 6 AND 7.
 - 3. UNIT "C" DEPICTS CONTAINERS UNITIZED ON ROUTED DUNNAGE. SEE DETAILS ON PAGES 8 AND 9.ALTHOUGH UNIT "A" DEPICTS THE PREFERRED METHOD OF UNITIZING THE PA75 SERIES CONTAINER, ALL THREE METHODS ARE APPROVED FOR USE.
- J. IF DEEMED MORE ECONOMICAL FOR SHIPPING AND STORAGE BY THE RESPONSIBLE COMMAND, THE UNITS DEPICTED IN THE FOLLOWING PAGES MAY HAVE ONE COMPLETE LAYER OF CONTAINERS EITHER ADDED OR DELETED, WHICHEVER IS APPLICABLE. FOR FURTHER UNITIZATION GUIDANCE, SEE SPECIAL NOTE 1 ON PAGES 4, 6 AND 8.

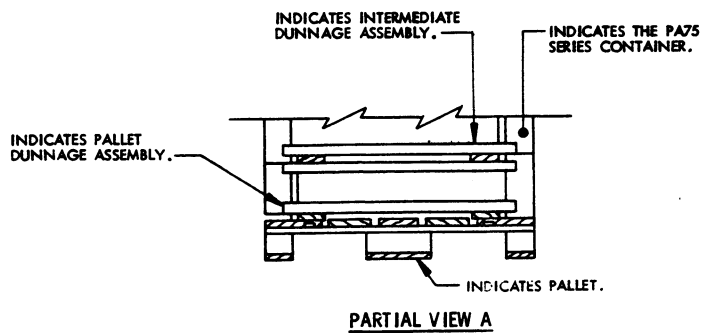
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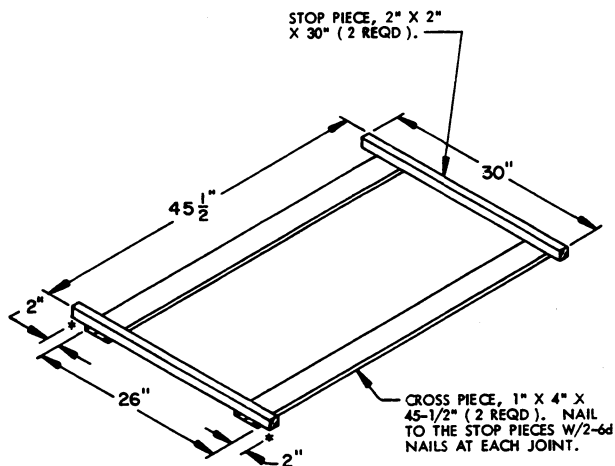
ISOMETRIC VIEW

SPECIAL NOTE:

1. THE UNIT DEPICTED ABOVE MAY BE INCREASED BY ONE COMPLETE LAYER OF CONTAINERS BY THE ADDITION OF ONE INTERMEDIATE DUNNAGE ASSEMBLY AND SIX CONTAINERS, AND BY INCREASING THE STRAP LENGTHS APPROPRIATELY. THIS WILL RESULT IN AN OVERALL UNIT HEIGHT OF 48-1/2".

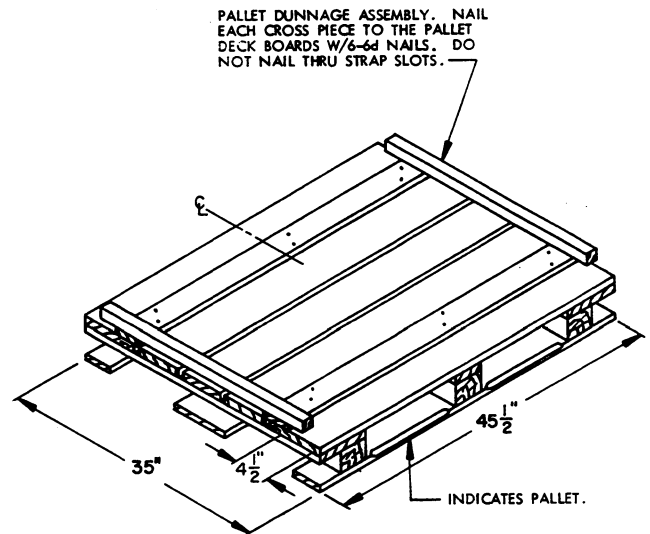


UNIT A (ALTERNATED CONTAINERS)

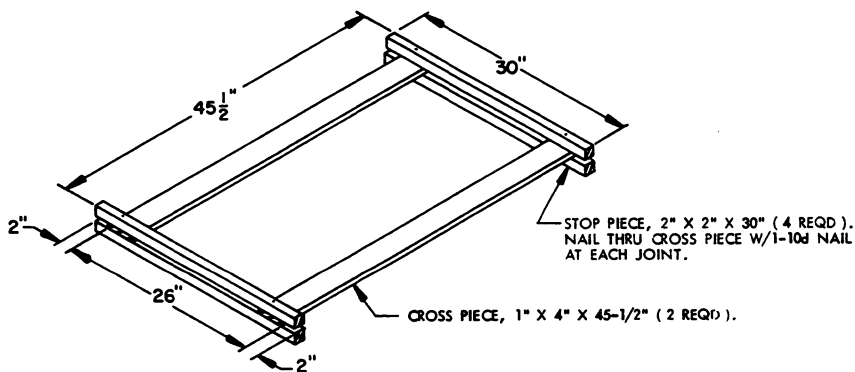


PALLET DUNNAGE ASSEMBLY

(1 REQD)



PALLET DUNNAGE LOCATION



INTERMEDIATE DUNNAGE ASSEMBLY

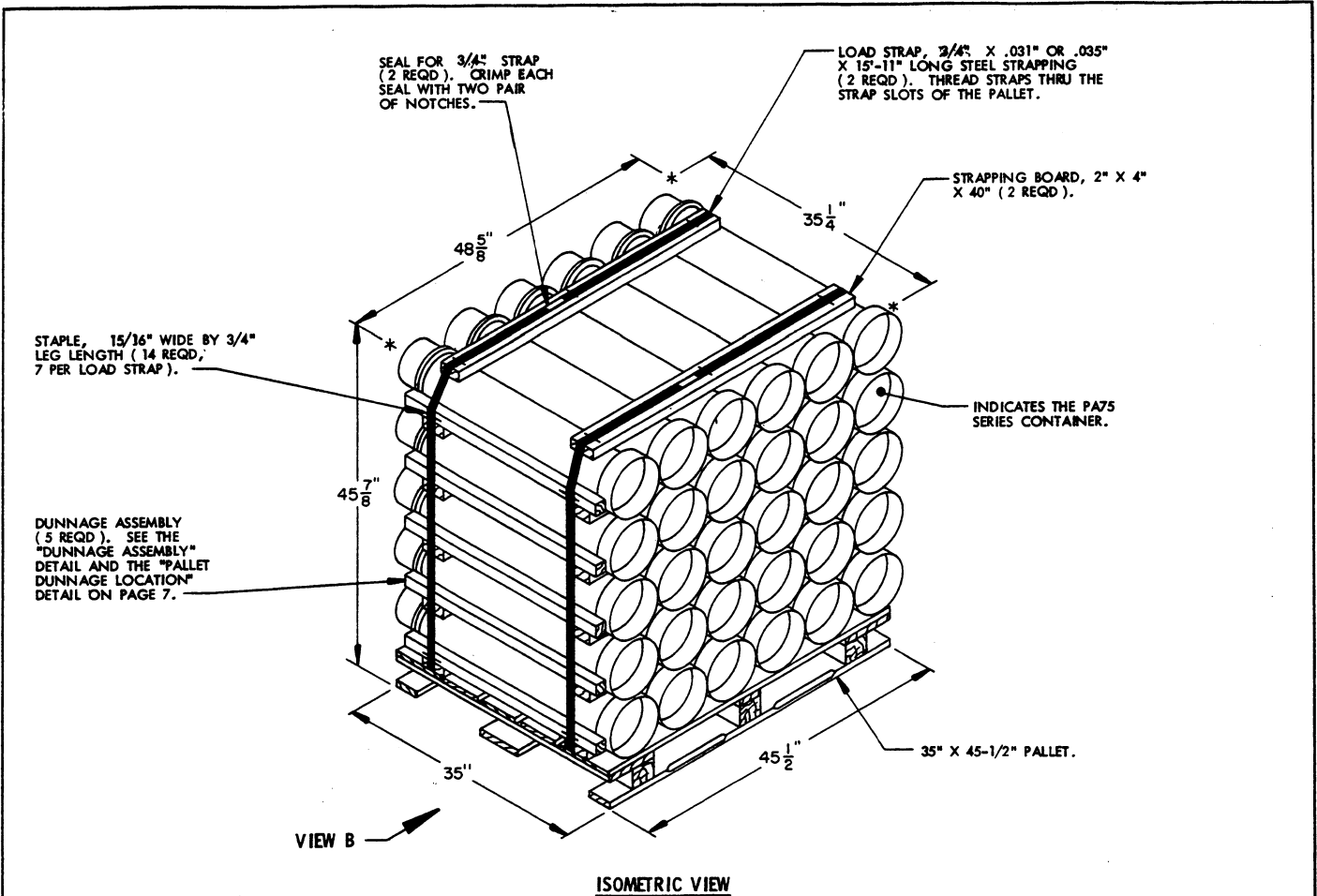
(4 REQD)

BILL OF MATERIAL			
LUMBER	NO. REQD	LINEAR FEET	BOARD FEET
1" X 4" X 38"	2	6.33	2.11
1" X 4" X 45-1/2"	10	37.92	12.64
2" X 2" X 30"	18	45.00	15.00
NAILS	NO. REQD	POUNDS	
6d (2")	20	0.12	
10d (3")	32	0.49	
PALLET, 35" X 45-1/2" ----- 1 REQD --- 65 LBS			
STEEL STRAPPING, 3/4" X .031" OR .035" --- 29.33' REQD --- 2.10 LBS			
SEAL FOR 3/4" STRAPPING ----- 2 REQD --- NIL			
STAPLE, 15/16" X 3/4" ----- 14 REQD --- NIL			

UNIT DATA

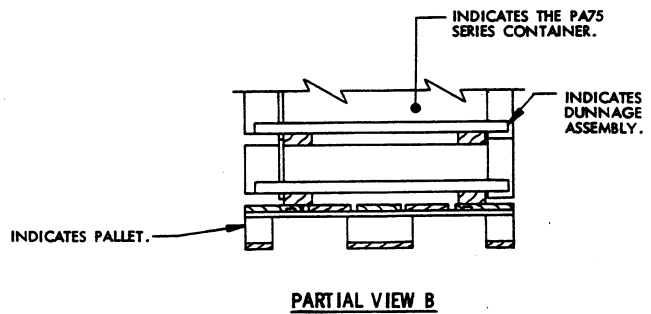
WEIGHT

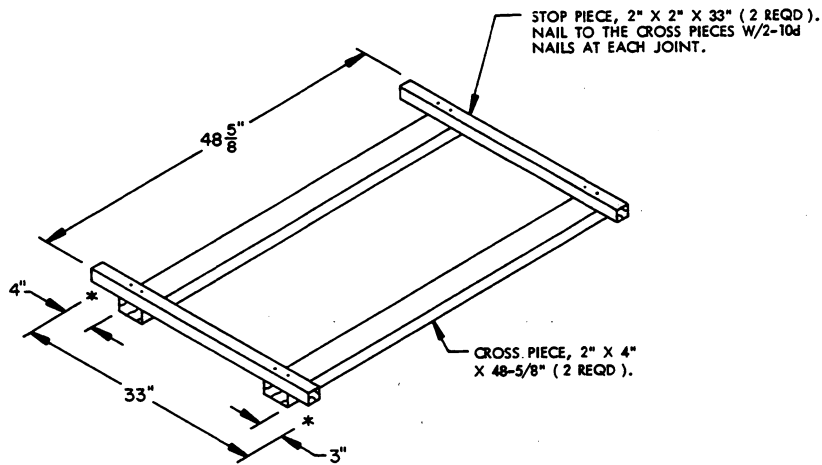
CUBE -----	38.5 CUBIC FEET (APPROX)	
CONTAINER, PA75 SERIES -----	30 EA @ 37 LBS -----	1,110 LBS (APPROX)
DUNNAGE -----		63 LBS
PALLET -----		65 LBS
TOTAL WEIGHT -----		1,238 LBS (APPROX)



SPECIAL NOTE:

1. THE UNIT DEPICTED ABOVE MAY BE REDUCED BY ONE COMPLETE LAYER OF CONTAINERS BY THE DELETION OF ONE DUNNAGE ASSEMBLY AND SIX CONTAINERS, AND BY DECREASING STRAP LENGTHS APPROPRIATELY. THIS WILL RESULT IN AN OVERALL UNIT HEIGHT OF 38-1/8".

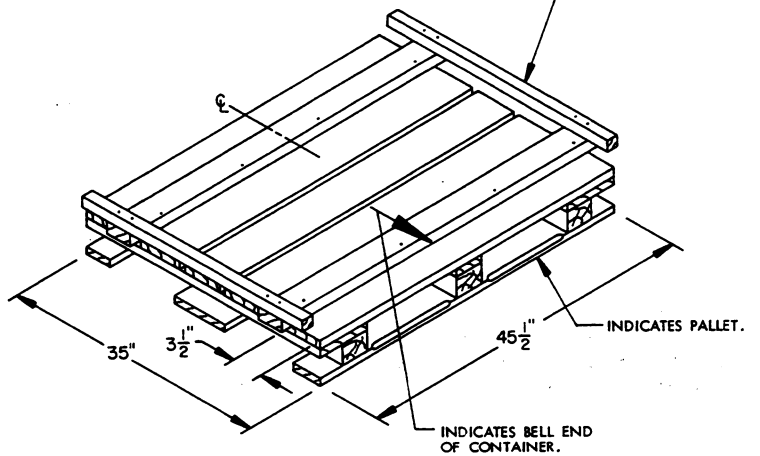




DUNNAGE ASSEMBLY

(5 REQD)

DUNNAGE ASSEMBLY. NAIL EACH
CROSS PIECE TO THE PALLET DECK
BOARDS W/4-8d NAILS. DO NOT
NAIL THRU STRAP SLOTS.



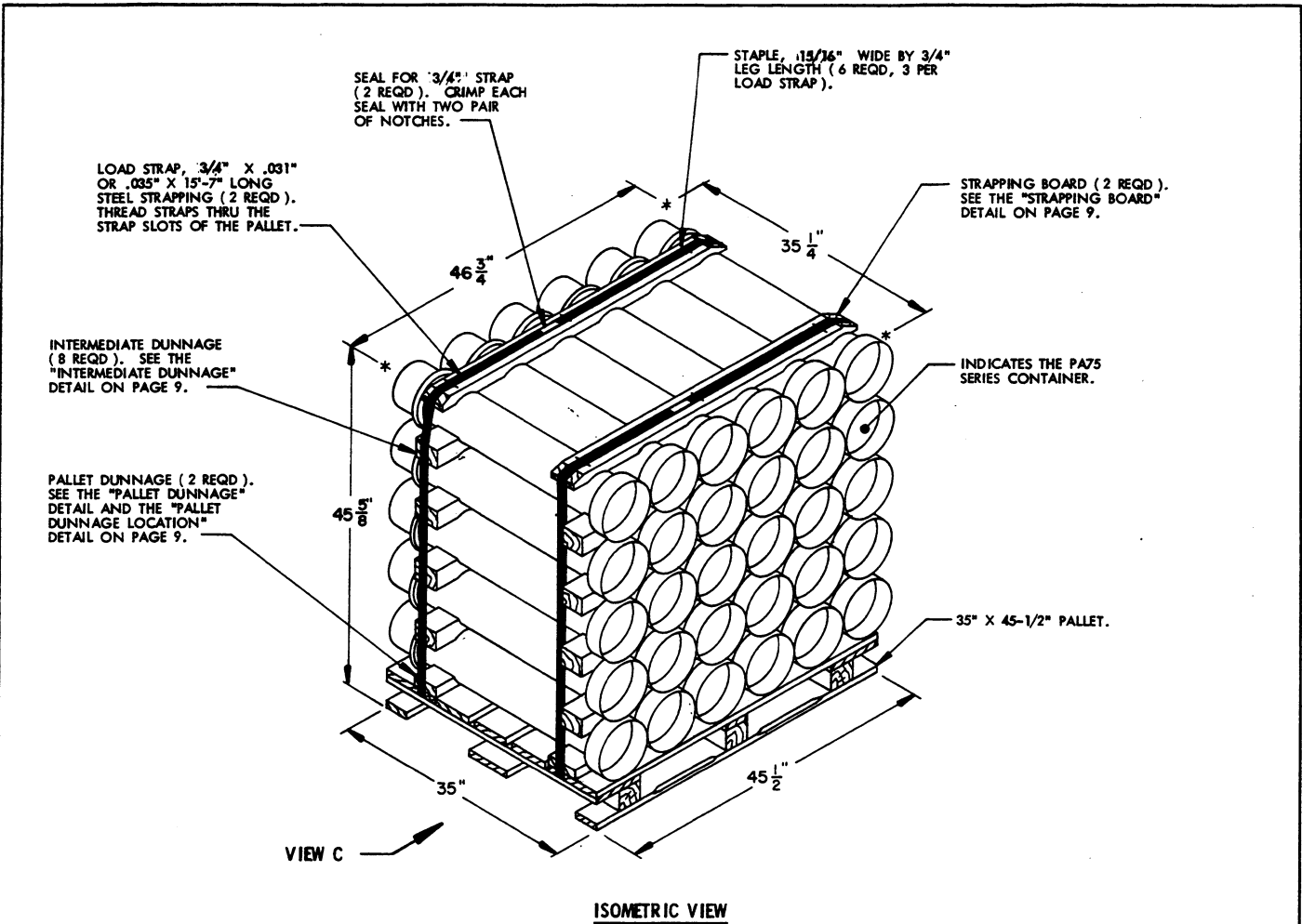
PALLET DUNNAGE LOCATION

BILL OF MATERIAL			
LUMBER	NO. REQD	LINEAR FEET	BOARD FEET
2" X 2" X 33"	10	77.50	9.17
2" X 4" X 40"	2	6.67	4.45
2" X 4" X 48-5/8"	10	40.52	77.01
NAILS		POUNDS	
8d (2-1/2")	8	0.08	
10d (3")	40	0.62	
PALLET, 35" X 45-1/2"		1 REQD	65 LBS
STEEL STRAPPING, 3/4" X .031" OR .035"		31.83' REQD	2.27 LBS
SEAL FOR 3/4" STRAPPING		2 REQD	NIL
STAPLE, 15/16" X 3/4"		14 REQD	NIL

UNIT DATA

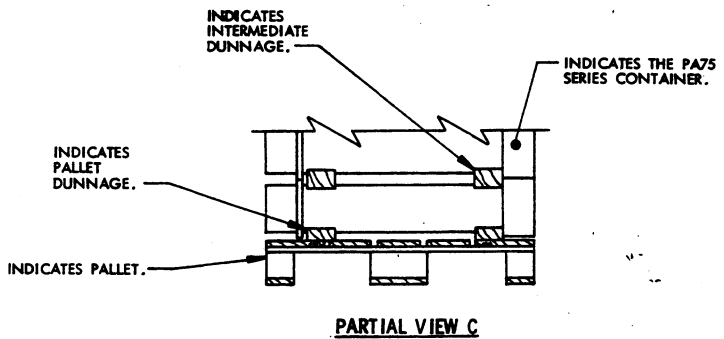
WEIGHT

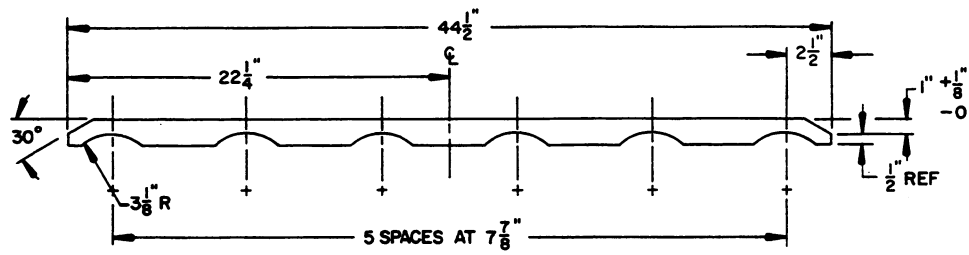
CUBE	45.5 CUBIC FEET (APPROX)	
CONTAINER, PA75 SERIES	30 EA @ 37 LBS	1,110 LBS (APPROX)
DUNNAGE		85 LBS
PALLET		65 LBS
TOTAL WEIGHT		1,260 LBS (APPROX)



SPECIAL NOTE:

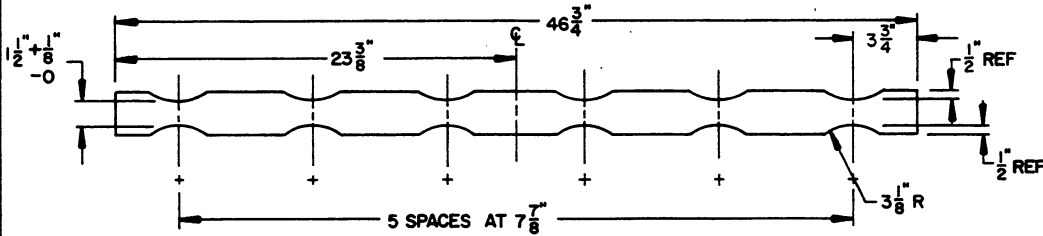
1. THE UNIT DEPICTED ABOVE MAY BE REDUCED BY ONE COMPLETE LAYER OF CONTAINERS BY THE DELETION OF TWO INTERMEDIATE DUNNAGE PIECES AND SIX CONTAINERS, AND BY DECREASING STRAP LENGTHS APPROPRIATELY. THIS WILL RESULT IN AN OVERALL UNIT HEIGHT OF $37-3/4$ ".





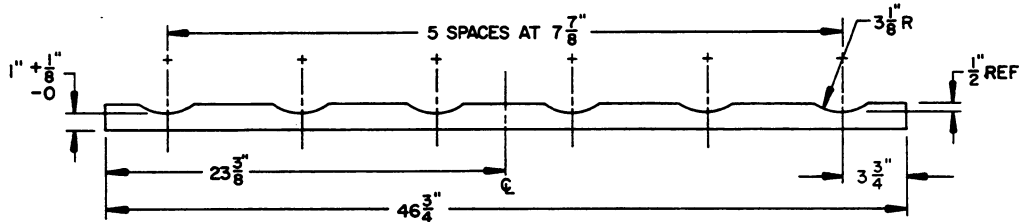
STRAPPING BOARD

2" X 4" MATERIAL
(2 REQD)



INTERMEDIATE DUNNAGE

3" X 4" MATERIAL (8 REQD)

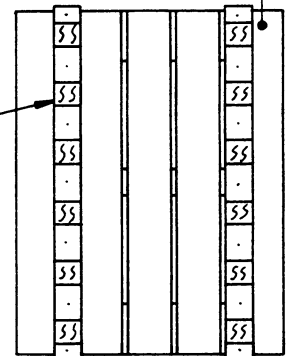


PALLET DUNNAGE

2" X 4" MATERIAL
(2 REQD)

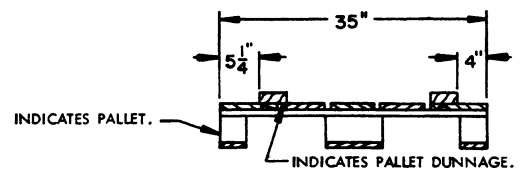
PALLET DUNNAGE. NAIL EACH PIECE TO THE PALLET DECK BOARDS W/7-8d NAILS. DO NOT NAIL THRU THE STRAP SLOTS.

BELL END OF CONTAINERS.



PLAN VIEW

BILL OF MATERIAL			
LUMBER	NO. REQD	LINEAR FEET	BOARD FEET
2" X 4" X 44-1/2"	2	7.42	4.95
2" X 4" X 46-3/4"	2	7.79	5.19
3" X 4" X 46-3/4"	8	31.17	31.17
NAILS	NO. REQD	POUNDS	
8d (2-1/2")	14	0.15	
PALLET, 35" X 45-1/2" ----- 1 REQD --- 65 LBS			
STEEL STRAPPING, 3/4" X .031" OR .035" --- 31.17" REQD --- 2,23 LBS			
SEAL FOR 3/4" STRAP ----- 2 REQD --- NIL			
STAPLE, 15/16" X 3/4" ----- 6 REQD --- NIL			



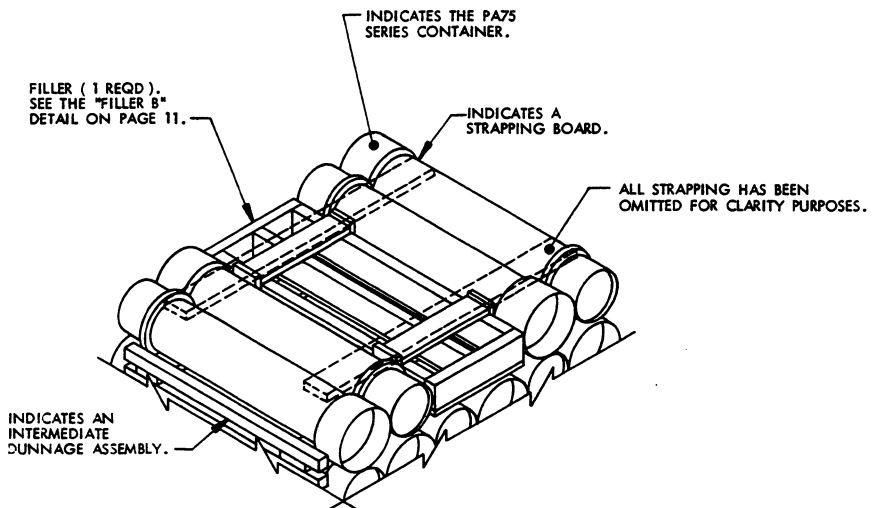
ELEVATION VIEW

PALLET DUNNAGE LOCATION

UNIT DATA

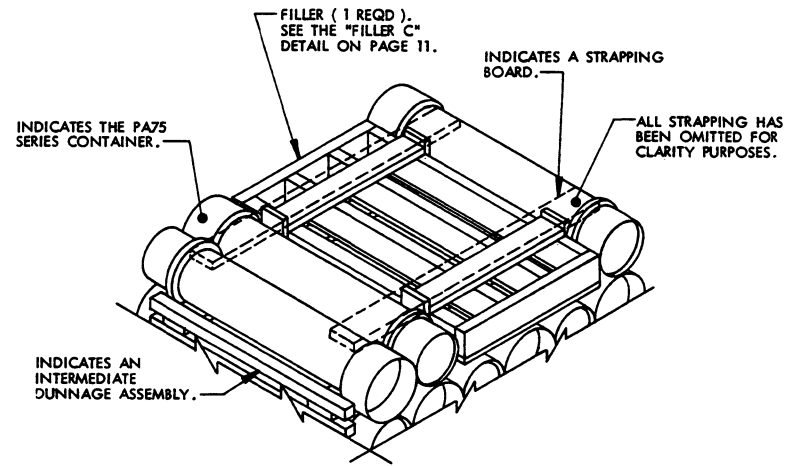
WEIGHT

CUBE -----	43.5 CUBIC FEET (APPROX)	
CONTAINER, PA75 SERIES -----	30 EA @ 37 LBS -----	1,110 LBS (APPROX)
DUNNAGE -----		85 LBS
PALLET -----		65 LBS
TOTAL WEIGHT -----		1,260 LBS (APPROX)



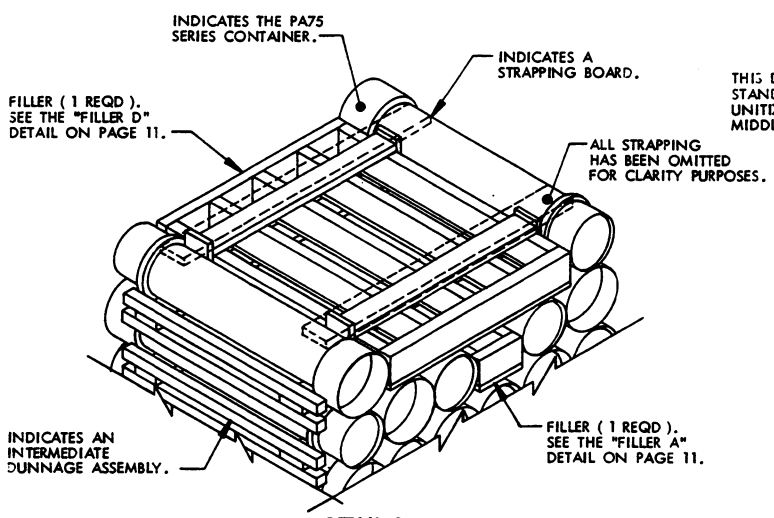
DETAIL A

THIS DETAIL DEPICTS PROCEDURES TO BE USED WHEN A STANDARD UNIT MINUS TWO CONTAINERS IS TO BE UNITIZED. THIS ASSEMBLY MUST BE INSTALLED IN THE MIDDLE OF THE TOP LAYER OF THE PALLET UNIT.



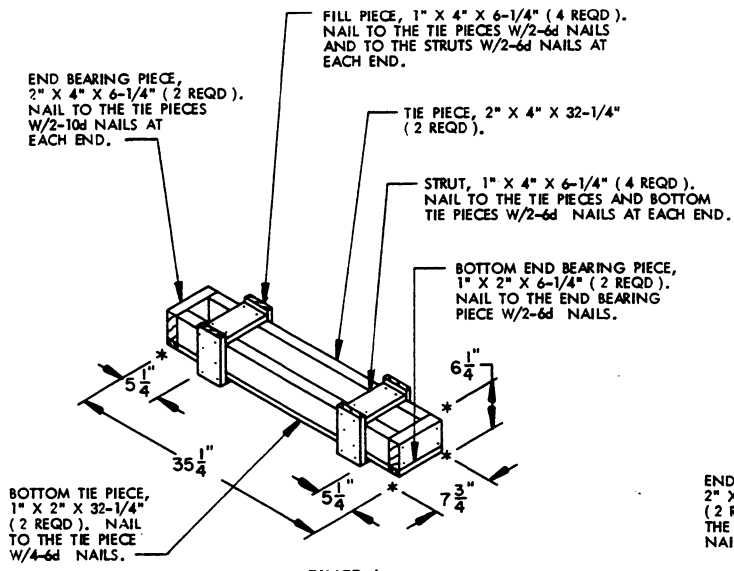
DETAIL B

THIS DETAIL DEPICTS PROCEDURES TO BE USED WHEN A STANDARD UNIT MINUS THREE CONTAINERS IS TO BE UNITIZED. THIS ASSEMBLY MUST BE INSTALLED IN THE MIDDLE OF THE TOP LAYER OF THE PALLET UNIT.



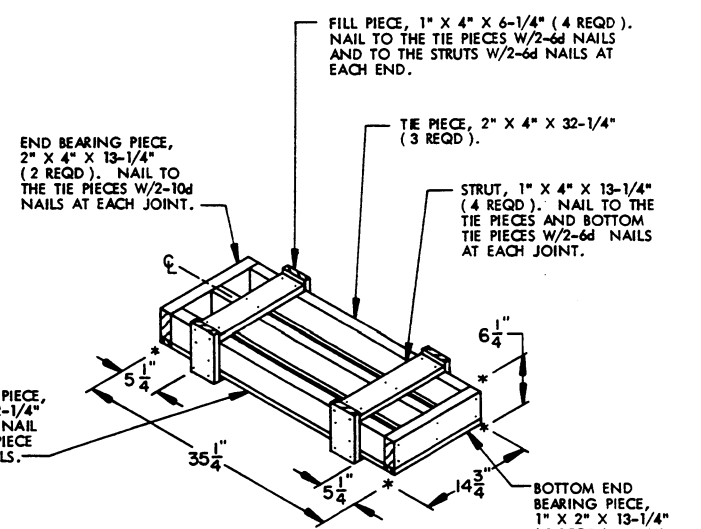
DETAIL C

THIS DETAIL DEPICTS PROCEDURES TO BE USED WHEN A STANDARD UNIT MINUS FIVE CONTAINERS IS TO BE UNITIZED. WHEN SIX CONTAINERS ARE TO BE OMITTED FROM A PALLET UNIT, A COMPLETE LAYER OF CONTAINERS MUST BE OMITTED. A COMBINATION OF FILLERS MUST BE USED WHEN FIVE CONTAINERS ARE TO BE OMITTED FROM A PALLET UNIT. A COMBINATION OF FILLERS OR ONE OF THE FILLERS DEPICTED ON PAGE 11 MAY BE USED WHEN FOUR OR LESS CONTAINERS ARE TO BE OMITTED FROM A PALLET UNIT. ALL FILLER ASSEMBLIES MUST BE INSTALLED IN THE MIDDLE OF THE TOP LAYER OR LAYERS OF A PALLET UNIT.



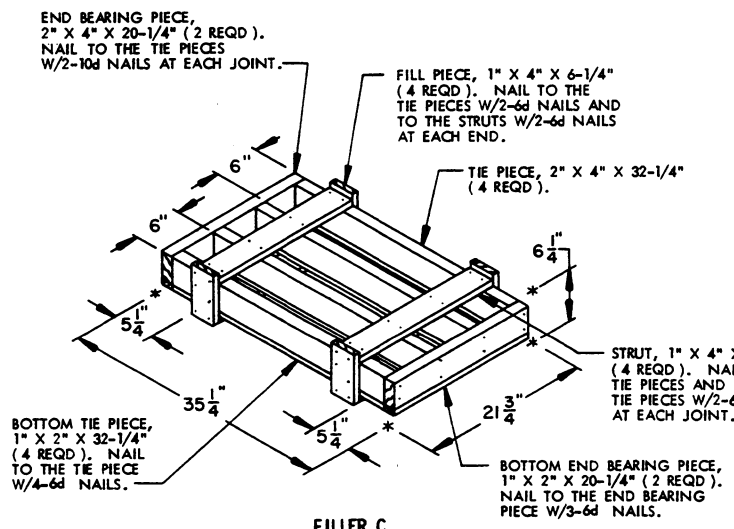
FILLER A

THIS FILLER IS TO BE USED WHEN ONE CONTAINER IS TO BE OMITTED FROM A PALLET UNIT, OR IN COMBINATION WITH OTHER FILLER ASSEMBLIES.



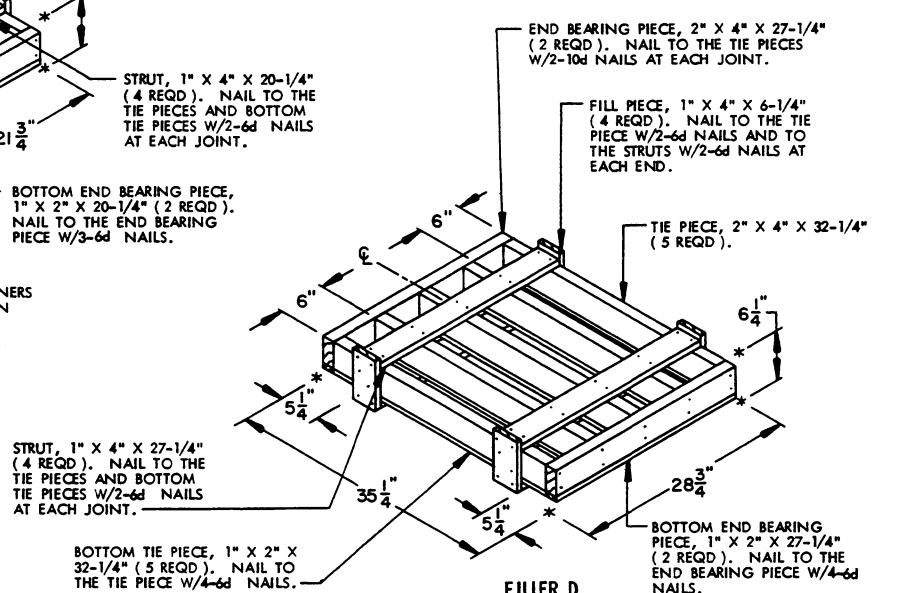
FILLER B

THIS FILLER IS TO BE USED WHEN TWO CONTAINERS ARE TO BE OMITTED FROM A PALLET UNIT, OR IN COMBINATION WITH OTHER FILLER ASSEMBLIES.



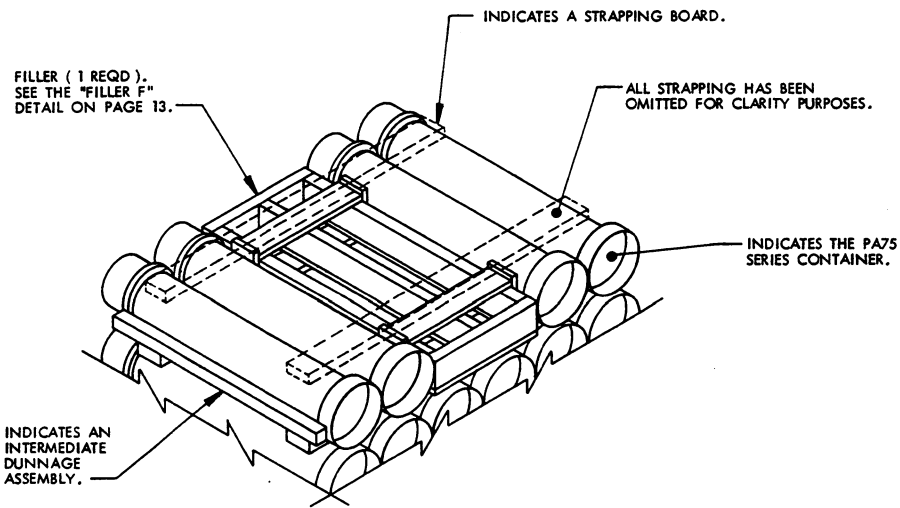
FILLER C

THIS FILLER IS TO BE USED WHEN THREE CONTAINERS ARE TO BE OMITTED FROM A PALLET UNIT, OR IN COMBINATION WITH OTHER FILLER ASSEMBLIES.



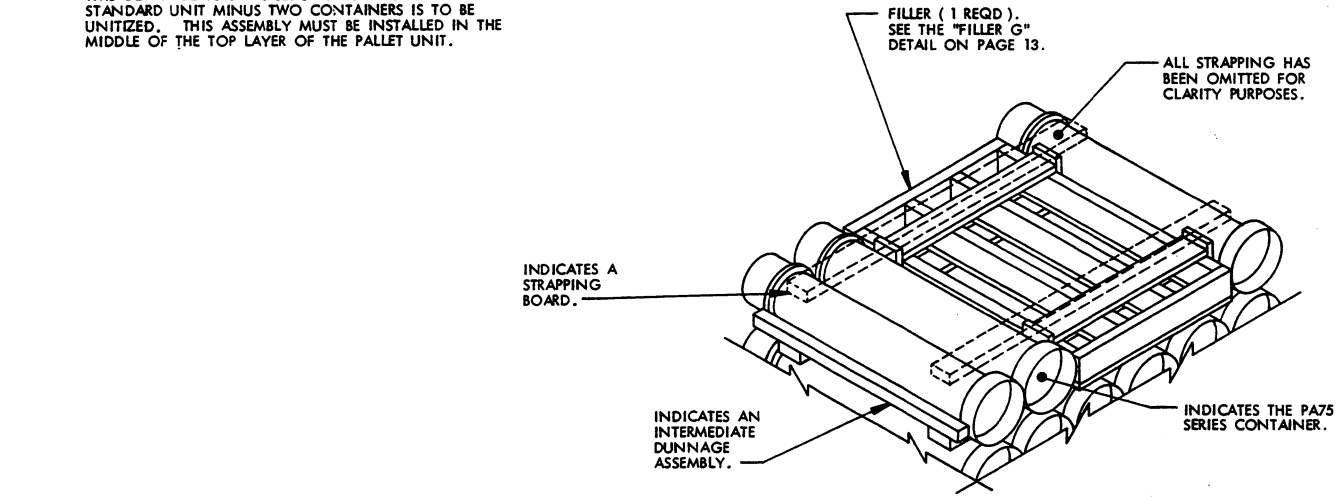
FILLER D

THIS FILLER IS TO BE USED WHEN FOUR CONTAINERS ARE TO BE OMITTED FROM A PALLET UNIT, OR IN COMBINATION WITH OTHER FILLER ASSEMBLIES.



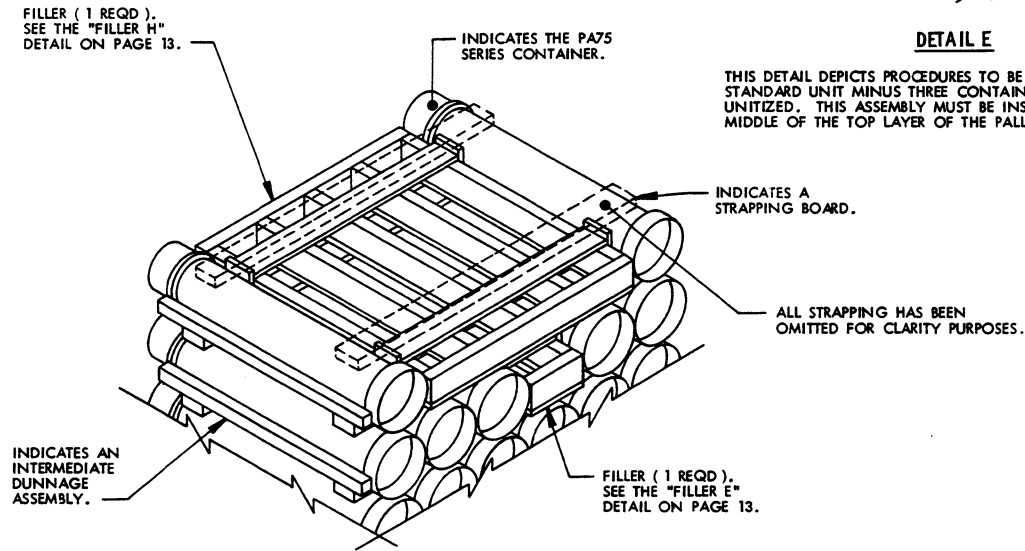
DETAIL D

THIS DETAIL DEPICTS PROCEDURES TO BE USED WHEN A STANDARD UNIT MINUS TWO CONTAINERS IS TO BE UNITIZED. THIS ASSEMBLY MUST BE INSTALLED IN THE MIDDLE OF THE TOP LAYER OF THE PALLET UNIT.



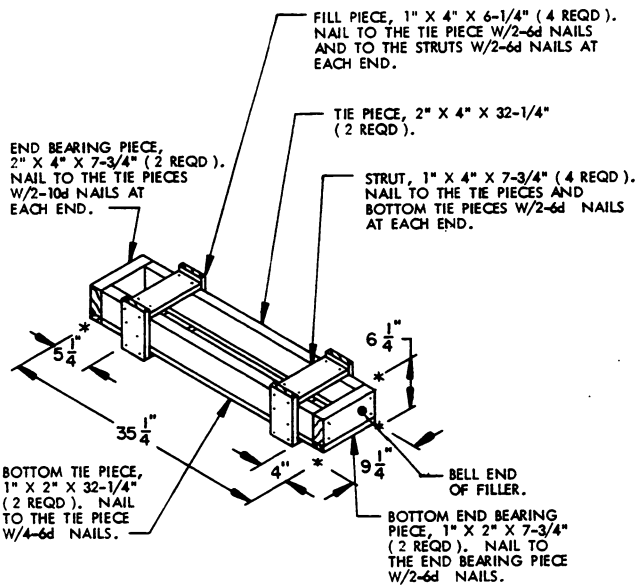
DETAIL E

THIS DETAIL DEPICTS PROCEDURES TO BE USED WHEN A STANDARD UNIT MINUS THREE CONTAINERS IS TO BE UNITIZED. THIS ASSEMBLY MUST BE INSTALLED IN THE MIDDLE OF THE TOP LAYER OF THE PALLET UNIT.

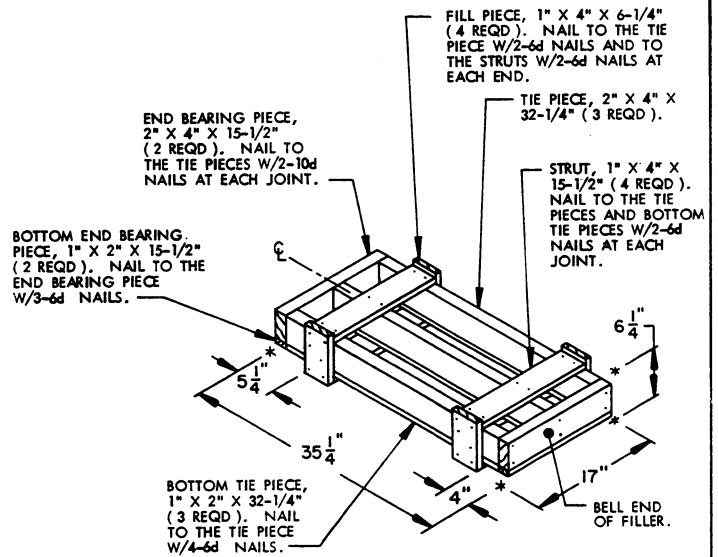


DETAIL F

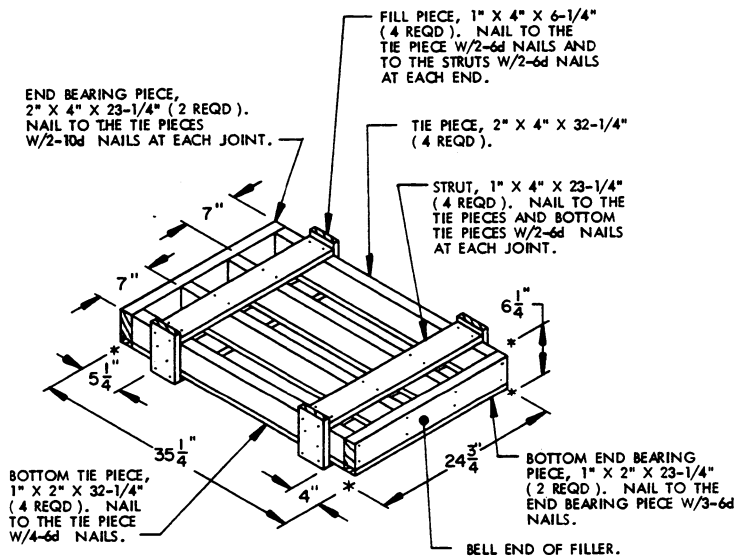
THIS DETAIL DEPICTS PROCEDURES TO BE USED WHEN A STANDARD UNIT MINUS FIVE CONTAINERS IS TO BE UNITIZED. WHEN SIX CONTAINERS ARE TO BE OMITTED FROM A PALLET UNIT, A COMPLETE LAYER OF CONTAINERS MUST BE OMITTED. A COMBINATION OF FILLERS MUST BE USED WHEN FIVE CONTAINERS ARE TO BE OMITTED FROM A PALLET UNIT. A COMBINATION OF FILLERS OR ONE OF THE FILLERS DEPICTED ON PAGE 13 MAY BE USED WHEN FOUR OR LESS CONTAINERS ARE TO BE OMITTED FROM A PALLET UNIT. ALL FILLER ASSEMBLIES MUST BE INSTALLED IN THE MIDDLE OF THE TOP LAYER OR LAYERS OF A PALLET UNIT.



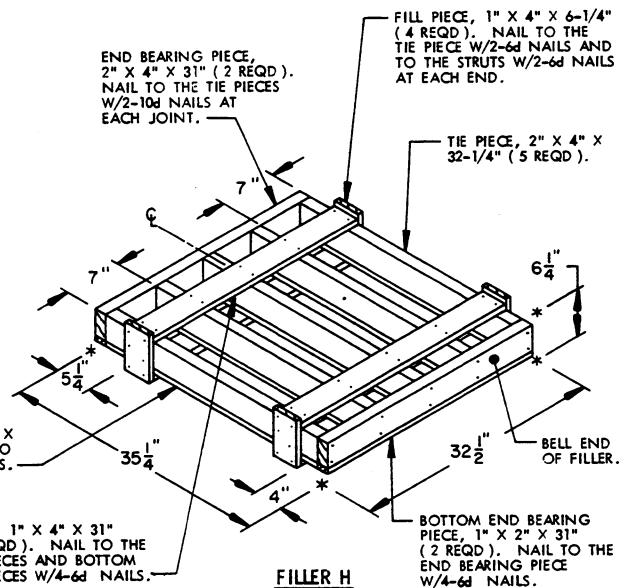
THIS FILLER IS TO BE USED WHEN ONE CONTAINER IS TO BE OMITTED FROM A PALLET UNIT, OR IN COMBINATION WITH OTHER FILLER ASSEMBLIES.



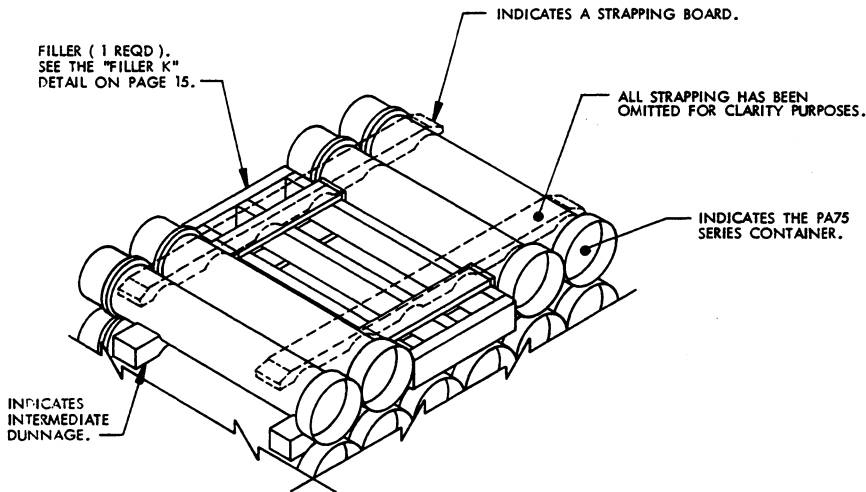
THIS FILLER IS TO BE USED WHEN TWO CONTAINERS ARE TO BE OMITTED FROM A PALLET UNIT, OR IN COMBINATION WITH OTHER FILLER ASSEMBLIES.



THIS FILLER IS TO BE USED WHEN THREE CONTAINERS ARE TO BE OMITTED FROM A PALLET UNIT, OR IN COMBINATION WITH OTHER FILLER ASSEMBLIES.

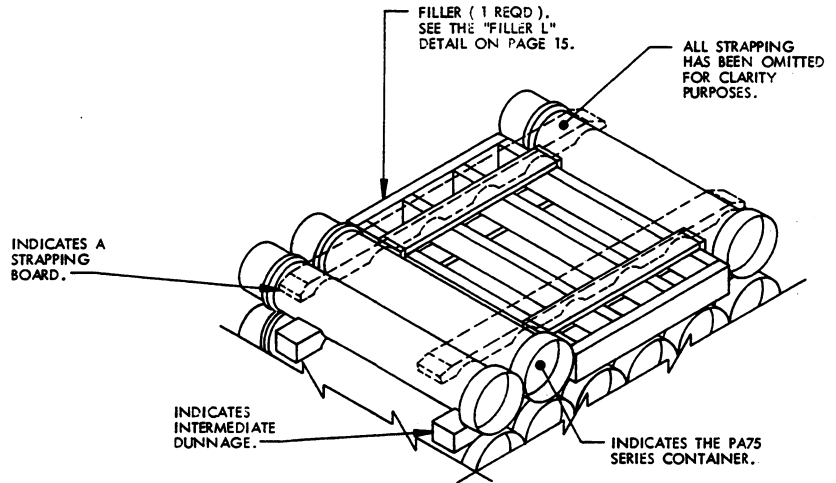


THIS FILLER IS TO BE USED WHEN FOUR CONTAINERS ARE TO BE OMITTED FROM A PALLET UNIT, OR IN COMBINATION WITH OTHER FILLER ASSEMBLIES.



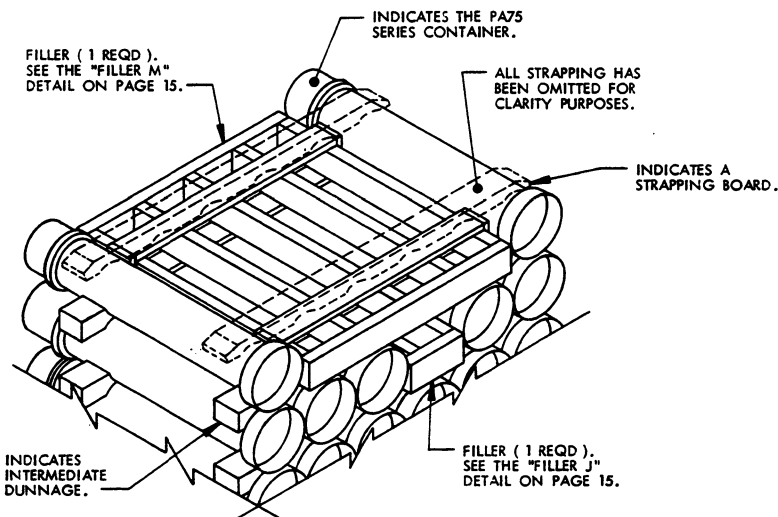
DETAIL G

THIS DETAIL DEPICTS PROCEDURES TO BE USED WHEN A STANDARD UNIT MINUS TWO CONTAINERS IS TO BE UNITIZED. THIS ASSEMBLY MUST BE INSTALLED IN THE MIDDLE OF THE TOP LAYER OF THE PALLET UNIT.



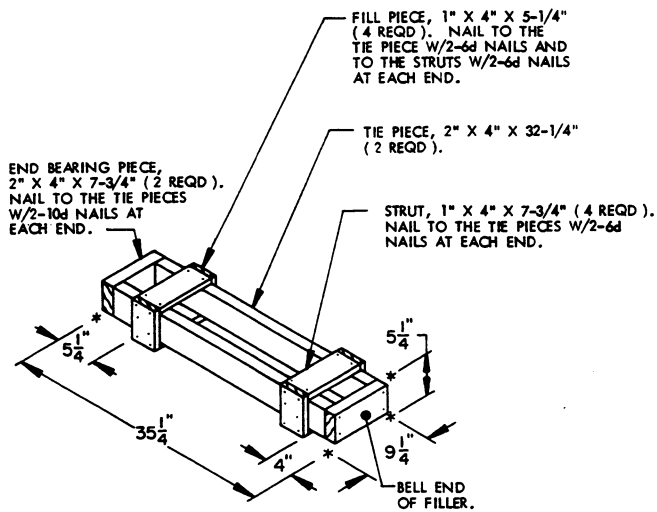
DETAIL H

THIS DETAIL DEPICTS PROCEDURES TO BE USED WHEN A STANDARD UNIT MINUS THREE CONTAINERS IS TO BE UNITIZED. THIS ASSEMBLY MUST BE INSTALLED IN THE MIDDLE OF THE TOP LAYER OF THE PALLET UNIT.



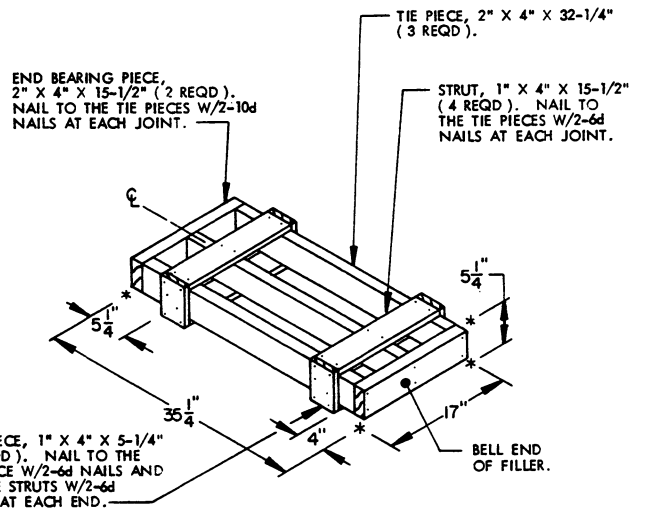
DETAIL J

THIS DETAIL DEPICTS PROCEDURES TO BE USED WHEN A STANDARD UNIT MINUS FIVE CONTAINERS IS TO BE UNITIZED. WHEN SIX CONTAINERS ARE TO BE OMITTED FROM A PALLET UNIT, A COMPLETE LAYER OF CONTAINERS MUST BE OMITTED. A COMBINATION OF FILLERS MUST BE USED WHEN FIVE CONTAINERS ARE TO BE OMITTED FROM A PALLET UNIT. A COMBINATION OF FILLERS OR ONE OF THE FILLERS DEPICTED ON PAGE 15 MAY BE USED WHEN FOUR OR LESS CONTAINERS ARE TO BE OMITTED FROM A PALLET UNIT. ALL FILLER ASSEMBLIES MUST BE INSTALLED IN THE MIDDLE OF THE TOP LAYER OR LAYERS OF A PALLET UNIT.



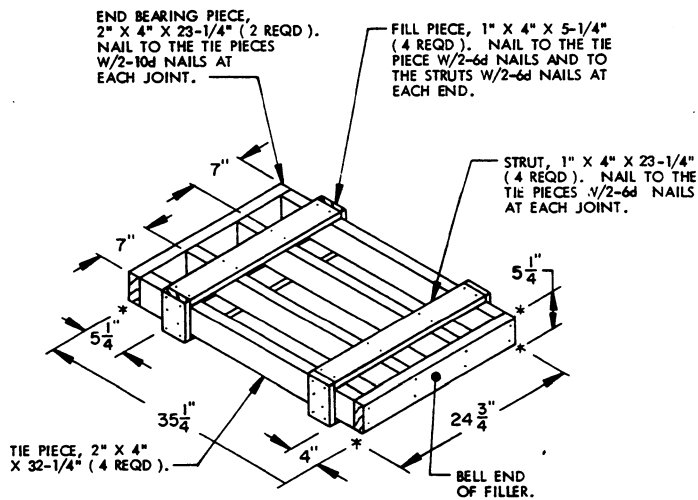
FILLER J

THIS FILLER IS TO BE USED WHEN ONE CONTAINER IS TO BE OMITTED FROM A PALLET UNIT, OR IN COMBINATION WITH OTHER FILLER ASSEMBLIES.



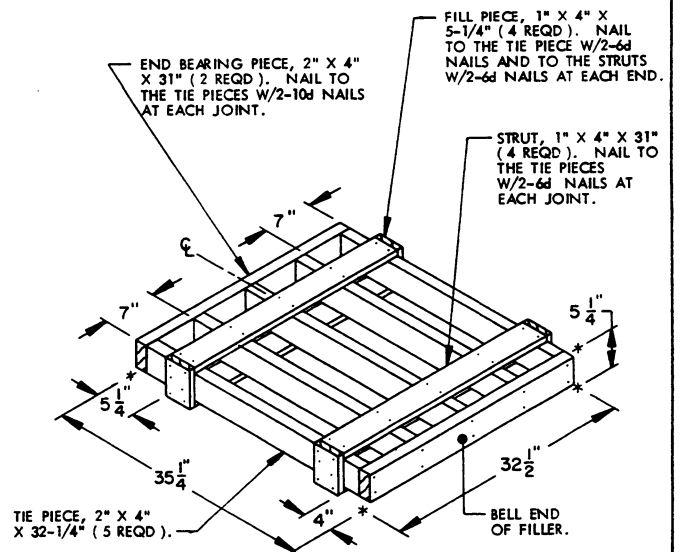
FILLER K

THIS FILLER IS TO BE USED WHEN TWO CONTAINERS ARE TO BE OMITTED FROM A PALLET UNIT, OR IN COMBINATION WITH OTHER FILLER ASSEMBLIES.



FILLER L

THIS FILLER IS TO BE USED WHEN THREE CONTAINERS ARE TO BE OMITTED FROM A PALLET UNIT, OR IN COMBINATION WITH OTHER FILLER ASSEMBLIES.



FILLER M

THIS FILLER IS TO BE USED WHEN FOUR CONTAINERS ARE TO BE OMITTED FROM A PALLET UNIT, OR IN COMBINATION WITH OTHER FILLER ASSEMBLIES.

