

APPENDIX 6

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

M19 SERIES CONTAINERS

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PALLET UNIT DATA						
ITEMS INCLUDED		HAZARD CLASSIFICATION				WEIGHT
NSN	DODIC	DOT CLASS	CG CLASS	QD CLASS	COMP GROUP	(LBS)
1320-00						1,872
028-4375	D676	B	II-A	1.3	C	TO
028-4378	D676	B	II-A	1.3	C	1,873
628-7741	D674	B	II-A	1.3	C	
028-4527	D677	---	---	---	---	

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

THIS DRAWING SUPERSEDES PART OF DRAWING 19-48-4042-1-2-5-11-14PM1000, DATED 8 FEBRUARY 1965, AND REVISION 1, THERETO, DATED 25 AUGUST 1969.

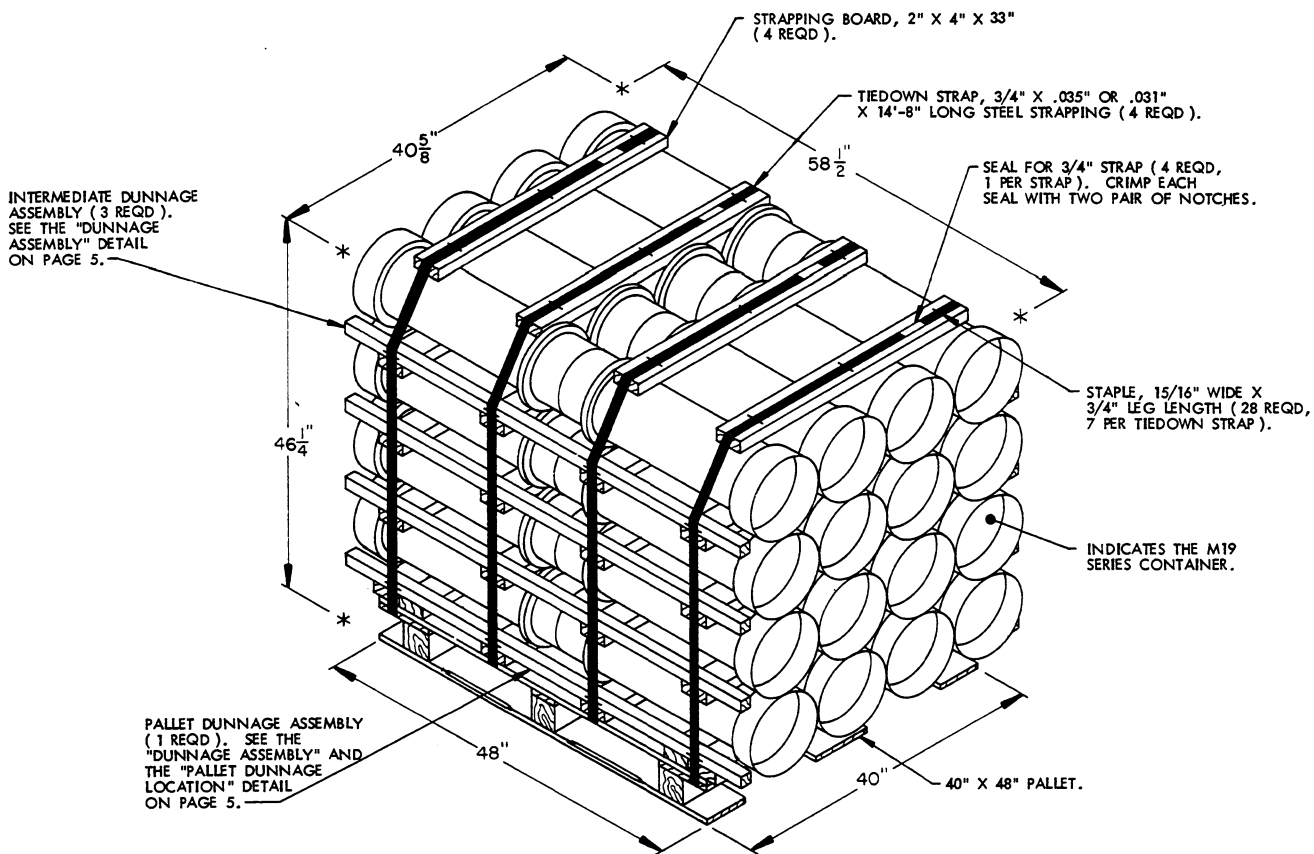
DO NOT SCALE

REVISIONS				DRAFTSMAN	PROJ ENG
				DAK	WRE/MSW
				CHECKER	LOG ENGINEER
				RSK	[Signature]
APPROVED, U. S. ARMY ARMAMENT MATERIEL READINESS COMMAND					
[Signatures]					
ORBAR-MAD			ORBAR-TMO		
APPROVED BY ORDER OF COMMANDING GENERAL, U. S. ARMY MATERIEL DEVELOPMENT AND READINESS COMMAND (DARCOM)					
[Signature]					
U. S. ARMY DEFENSE AMMUNITION CENTER AND SCHOOL					
U. S. ARMY DARCOM DRAWING					
OCTOBER 1979					
CLASS	DIVISION	DRAWING	FILE		
19	48	4042A/ 6	20PM 1001		

GENERAL NOTES

- A. THIS APPENDIX CANNOT STAND ALONE BUT MUST BE USED IN CONJUNCTION WITH THE BASIC UNITIZING PROCEDURES DRAWING 19-48-4042-20PM1001. 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. FOR OUTLOADING AND STORAGE OF THE ITEMS COVERED BY THIS APPENDIX, SEE DARCOM DRAWING 19-48-4042-1-2-5-11-14PM1000, REVISION NO. 1.
- 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 M19 SERIES CONTAINER. THE EXPLOSIVE CLASSIFICATION OF OTHER ITEMS MAY BE DIFFERENT THAN THOSE SHOWN.
- G. FOR DETAILS OF THE M19 SERIES CONTAINER, SEE PICATINNY ARSENAL DRAWING NO. 8880531.
- CONTAINER DIMENSIONS -- 29-9/32" LONG BY 9-13/16" DIAMETER.
CONTAINER CUBE ----- 1.3 CUBIC FEET.
CONTAINER WEIGHT
(WITH CHARGE) ----- 52 POUNDS (APPROX).
- H. THE SPECIFIED UNITIZING PROCEDURES SHOWN HEREIN DEPICT TWO DIFFERENT METHODS FOR UNITIZING THE M19 SERIES CONTAINERS:
1. UNIT "A" DEPICTS CONTAINERS UNITIZED ON FLAT DUNNAGE. SEE DETAILS ON PAGES 4 AND 5.
 2. UNIT "B" DEPICTS CONTAINERS UNITIZED ON ROUTED DUNNAGE. SEE DETAILS ON PAGES 6 AND 7.
- BOTH 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 DELETED. FOR FURTHER UNITIZATION GUIDANCE, SEE SPECIAL NOTE 1 ON PAGES 4 AND 6.

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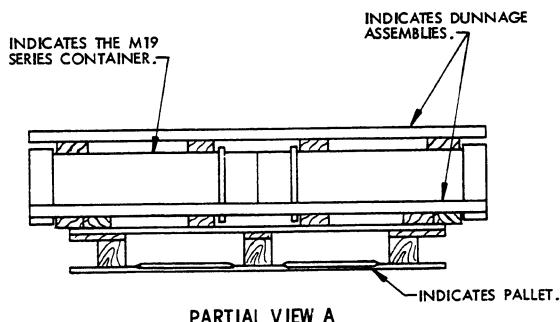


VIEW A

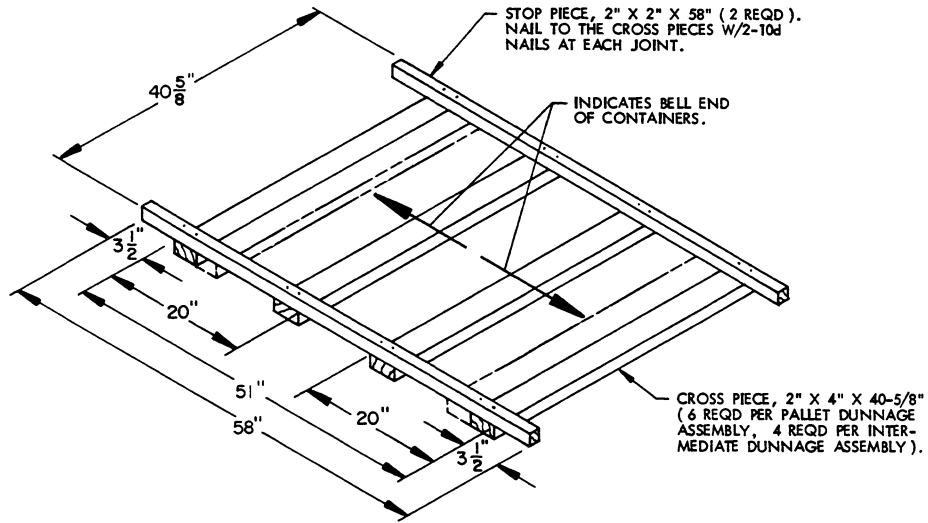
ISOMETRIC VIEW

SPECIAL NOTES:

1. THE UNIT DEPICTED ABOVE MAY BE REDUCED BY ONE COMPLETE LAYER OF CONTAINERS BY THE DELETION OF ONE INTERMEDIATE DUNNAGE ASSEMBLY AND EIGHT CONTAINERS, AND BY DECREASING STRAP LENGTHS APPROPRIATELY. THIS WILL RESULT IN AN OVERALL UNIT HEIGHT OF 36-1/2".
2. IF DESIRED, A 2" X 6" PIECE CAN BE SUBSTITUTED FOR EACH SET OF TWO (SIDE BY SIDE) 2" X 4" PIECES ON THE PALLET DUNNAGE ASSEMBLY. EACH 2" X 6" PIECE WILL BE NAILED TO THE PALLET W/6-8d NAILS.



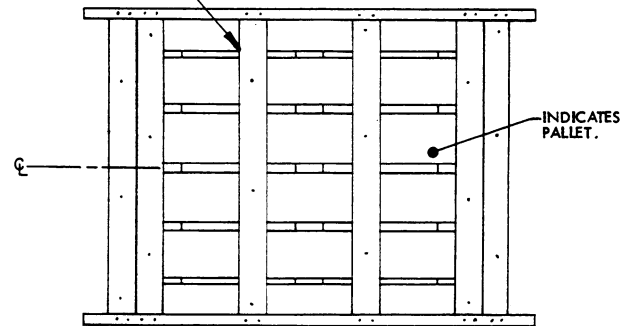
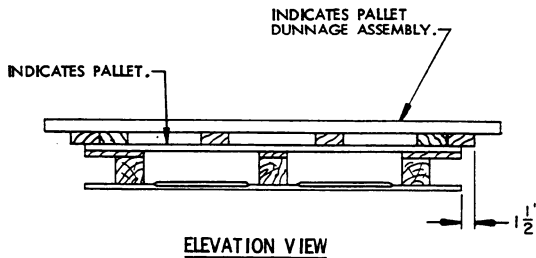
PARTIAL VIEW A



DUNNAGE ASSEMBLY

(4 REQD)

PALLET DUNNAGE ASSEMBLY. NAIL EACH
CROSS PIECE OF THE PALLET DUNNAGE ASSEMBLY
TO THE PALLET DECK BOARDS W/3-8d
NAILS.



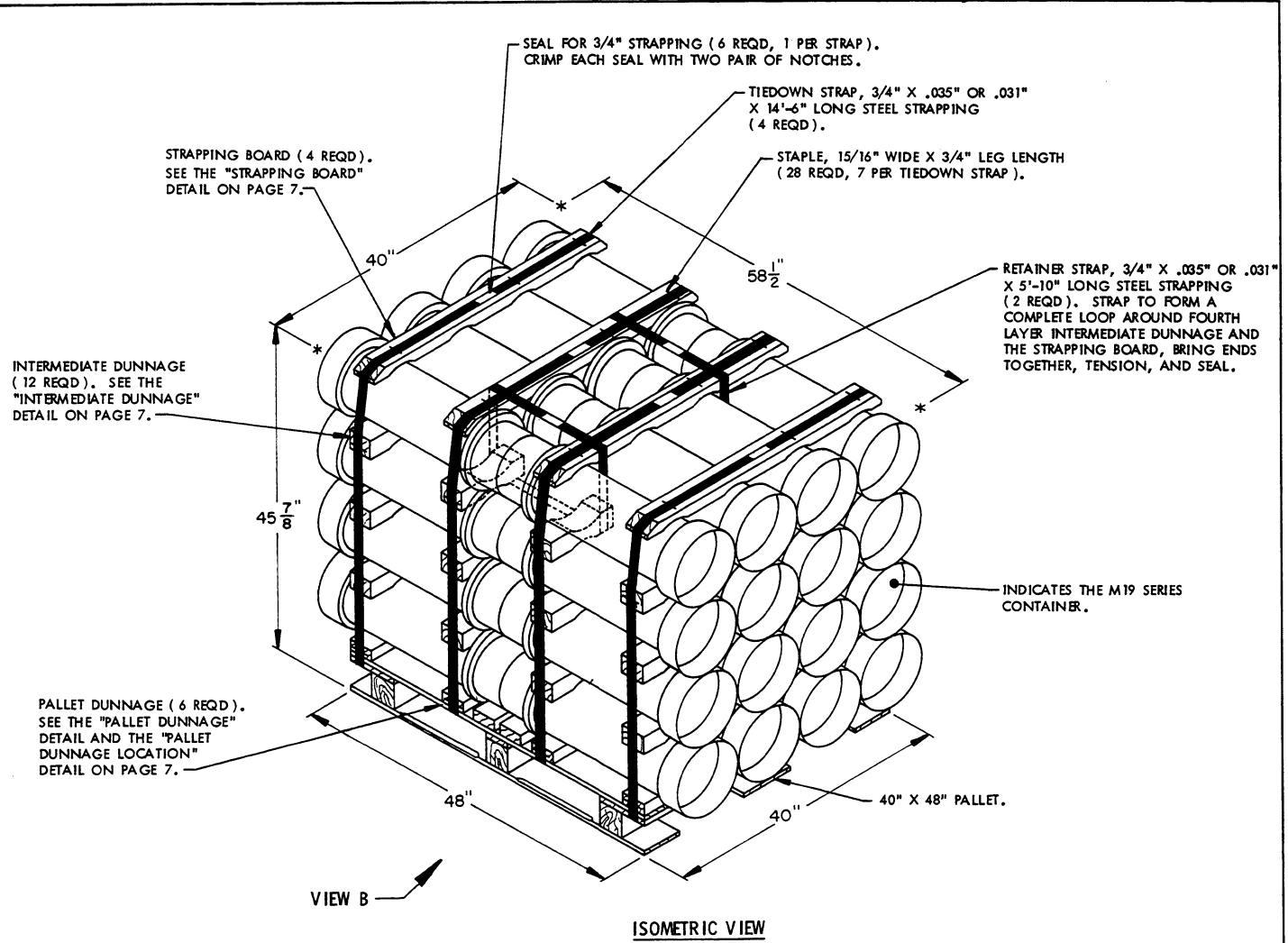
PALLET DUNNAGE LOCATION

BILL OF MATERIAL			
LUMBER	NO. REQD	LINEAR FEET	BOARD FEET
2" X 2" X 58"	8	38.67	12.89
2" X 4" X 33"	4	11.00	7.33
2" X 4" X 40-5/8"	18	60.94	40.63
NAILS		NO. REQD	POUNDS
8d (2-1/2")		18	0.19
10d (3")		72	1.11
PALLET, 40" X 48"		1 REQD	80 LBS
STEEL STRAPPING, 3/4" X .035" OR .031"		58.67' REQD	4.19 LBS
SEAL FOR 3/4" STRAP		4 REQD	NIL
STRAP STAPLE, 15/16" X 3/4"		28 REQD	NIL

UNIT DATA

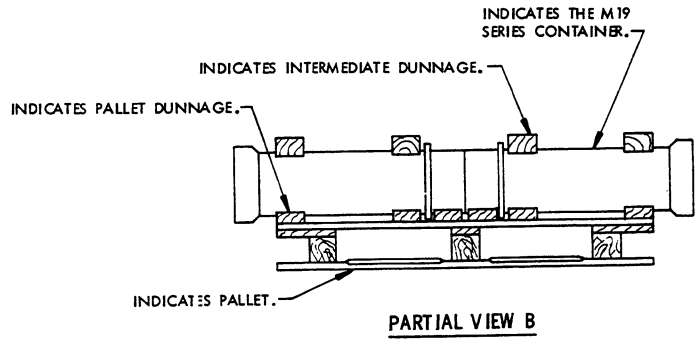
WEIGHT

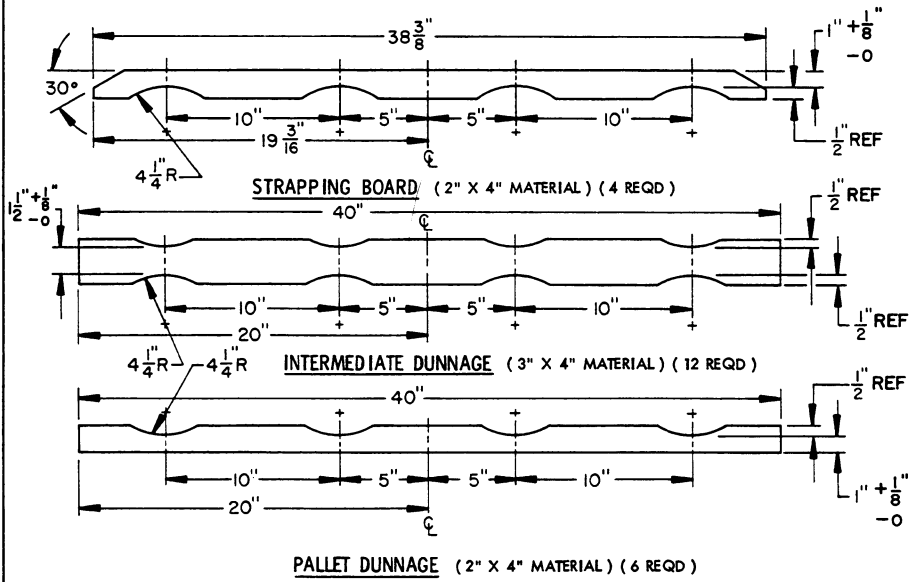
CUBE	63.6 CUBIC FEET (APPROX)	
CONTAINER, M19 SERIES	32 EACH @ 52 LBS	1,664 LBS (APPROX)
DUNNAGE		128 LBS
PALLET		80 LBS
TOTAL WEIGHT		1,872 LBS (APPROX)



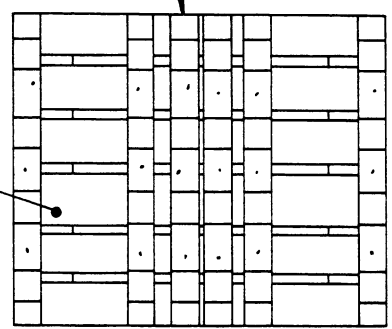
SPECIAL NOTE:

1. THE UNIT DEPICTED ABOVE MAY BE REDUCED BY ONE COMPLETE LAYER OF CONTAINERS BY THE DELETION OF FOUR INTERMEDIATE DUNNAGE PIECES AND EIGHT CONTAINERS, AND BY DECREASING STRAP LENGTHS APPROPRIATELY. THIS WILL RESULT IN AN OVERALL UNIT HEIGHT OF 36".

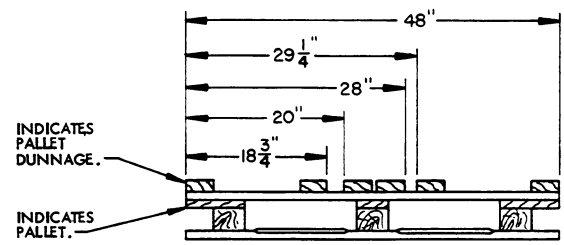




PALLET DUNNAGE (6 REQD). NAIL EACH PIECE TO THE PALLET DECK BOARDS W/3-8d NAILS.



PLAN VIEW



ELEVATION VIEW

PALLET DUNNAGE LOCATION

BILL OF MATERIAL			
LUMBER	NO. REQD	LINEAR FEET	BOARD FEET
2" X 4" X 38-3/8"	4	12.79	8.53
2" X 4" X 40"	6	20.00	13.33
3" X 4" X 40"	12	40.00	40.00
NAILS	NO. REQD	POUNDS	
8d (2-1/2")	18	0.19	
PALLET, 40" X 48"	1	REQD	80 LBS
STEEL STRAPPING, 3/4" X .035" OR .031"	69.67	REQD	4.98 LBS
SEAL FOR 3/4" STRAP	6	REQD	NIL
STAPLE, 15/16" X 3/4"	28	REQD	NIL

UNIT DATA

WEIGHT

CUBE	62.1 CUBIC FEET (APPROX)	
CONTAINER, M19 SERIES	32 EACH @ 52 LBS	1,664 LBS (APPROX)
DUNNAGE		129 LBS
PALLET		80 LBS
TOTAL WEIGHT		1,873 LBS (APPROX)

INDICATES A STRAPPING BOARD.

ALL STRAPPING HAS BEEN OMITTED FOR CLARITY PURPOSES.

FILLER (1 REQD). SEE THE "FILLER A" DETAIL ON PAGE 9.

INDICATES THE M19 SERIES CONTAINER

INDICATES AN INTERMEDIATE DUNNAGE ASSEMBLY.

FILLER (2 REQD). SEE THE "FILLER B" DETAIL ON PAGE 9.

INDICATES A STRAPPING BOARD.

ALL STRAPPING HAS BEEN OMITTED FOR CLARITY PURPOSES.

INDICATES THE M19 SERIES CONTAINER.

DETAIL A

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

INDICATES AN INTERMEDIATE DUNNAGE ASSEMBLY

FILLER (2 REQD). SEE THE "FILLER B" DETAIL ON PAGE 9.

INDICATES A STRAPPING BOARD.

ALL STRAPPING HAS BEEN OMITTED FOR CLARITY PURPOSES.

INDICATES THE M19 SERIES CONTAINER.

INDICATES AN INTERMEDIATE DUNNAGE ASSEMBLY.

DETAIL B

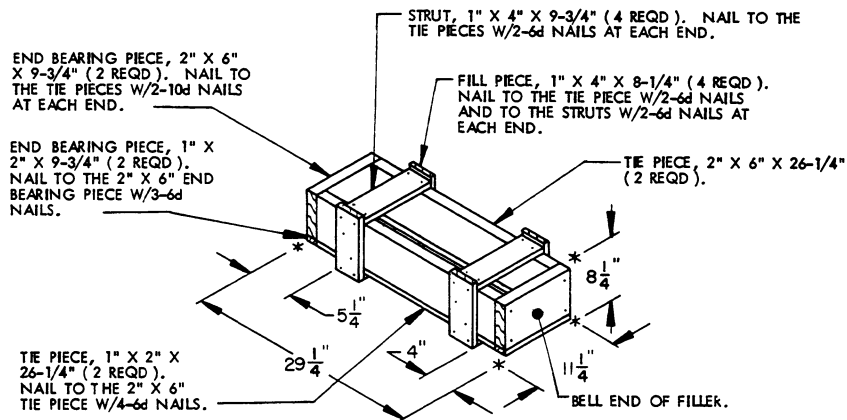
THIS DETAIL DEPICTS PROCEDURES TO BE USED WHEN A STANDARD PALLET UNIT MINUS FOUR CONTAINERS IS TO BE UNITIZED. THESE ASSEMBLIES MUST BE INSTALLED IN THE MIDDLE OF THE TOP LAYER OF A PALLET UNIT.

FILLER (1 REQD). SEE THE "FILLER A" DETAIL ON PAGE 9.

DETAIL C

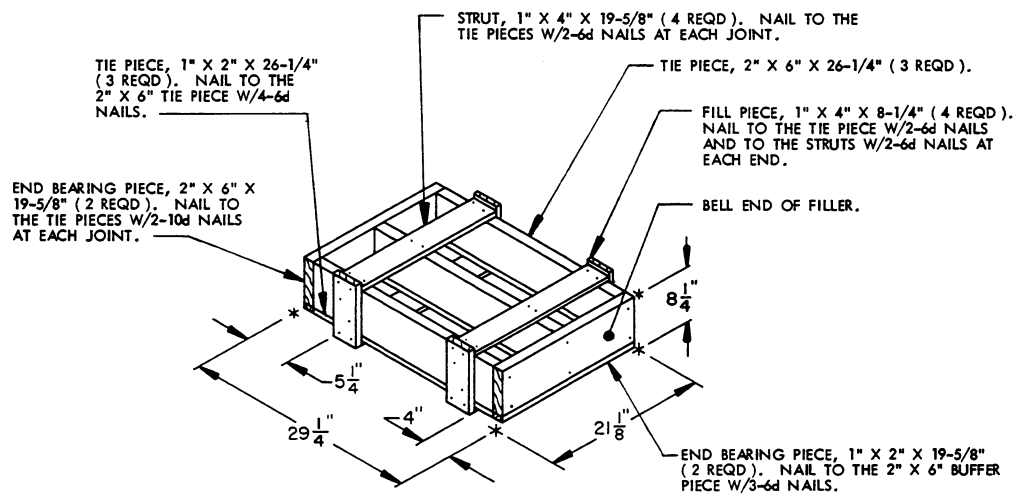
THIS DETAIL DEPICTS PROCEDURES TO BE USED WHEN A STANDARD PALLET UNIT MINUS FIVE CONTAINERS IS TO BE UNITIZED. WHEN EIGHT CONTAINERS ARE TO BE OMITTED FROM A PALLET UNIT, A COMPLETE LAYER OF CONTAINERS MUST BE OMITTED. A COMBINATION OF FILLERS OR ONE OF THE FILLERS DEPICTED ON PAGE 9 MAY BE USED WHEN SEVEN 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.

FILLERS AND INSTALLATION PROCEDURES FOR OMITTED CONTAINERS (FLAT DUNNAGE UNITS)



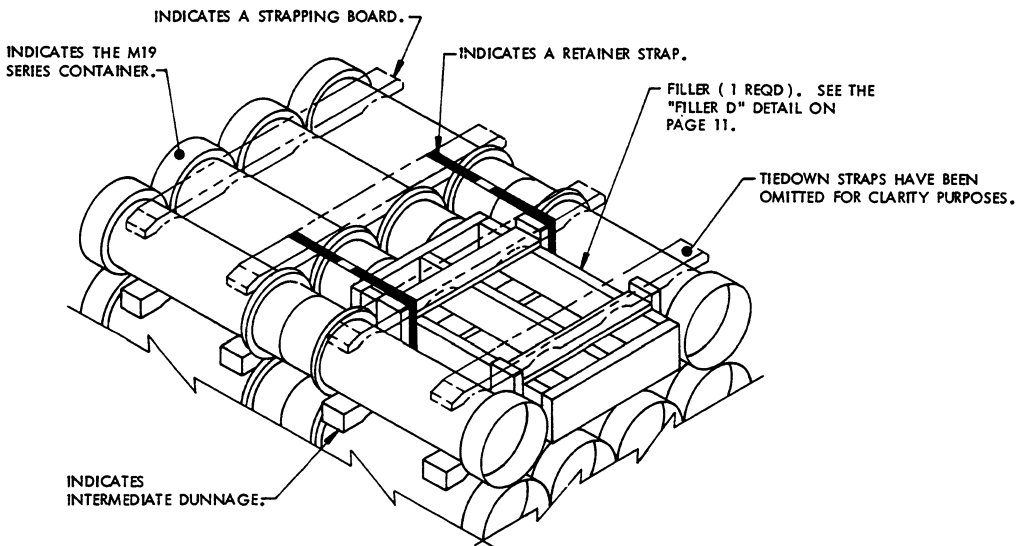
FILLER A

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



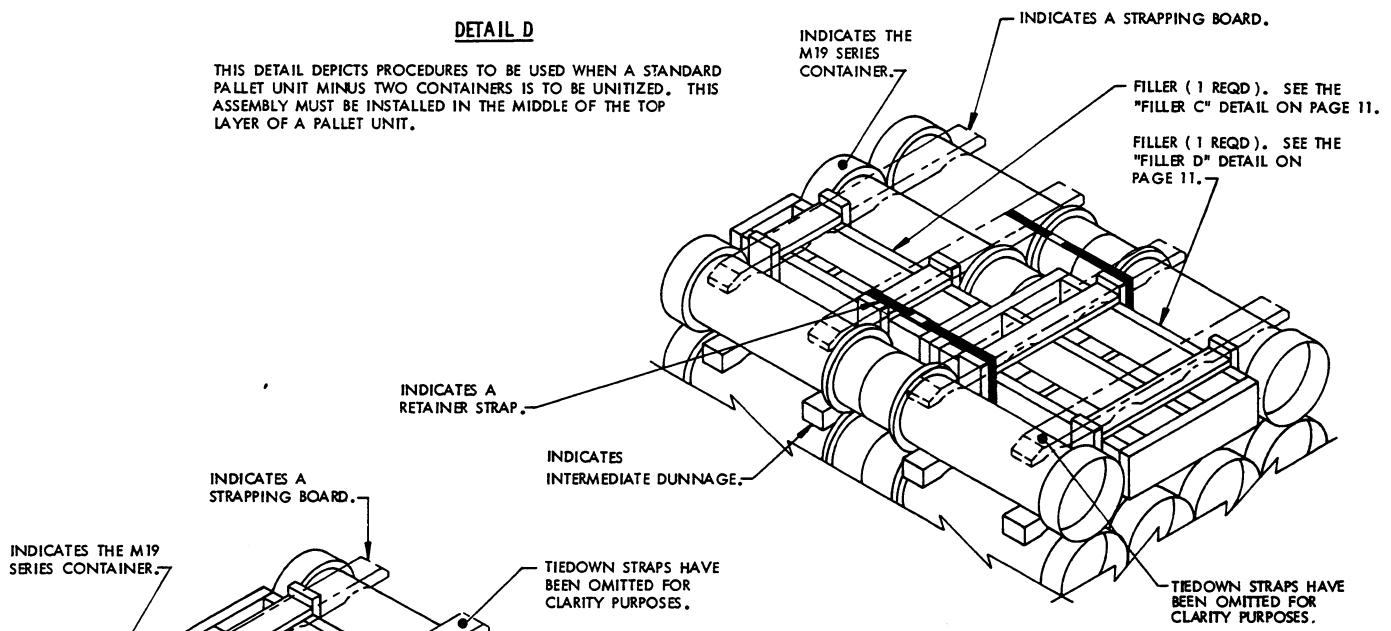
FILLER B

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



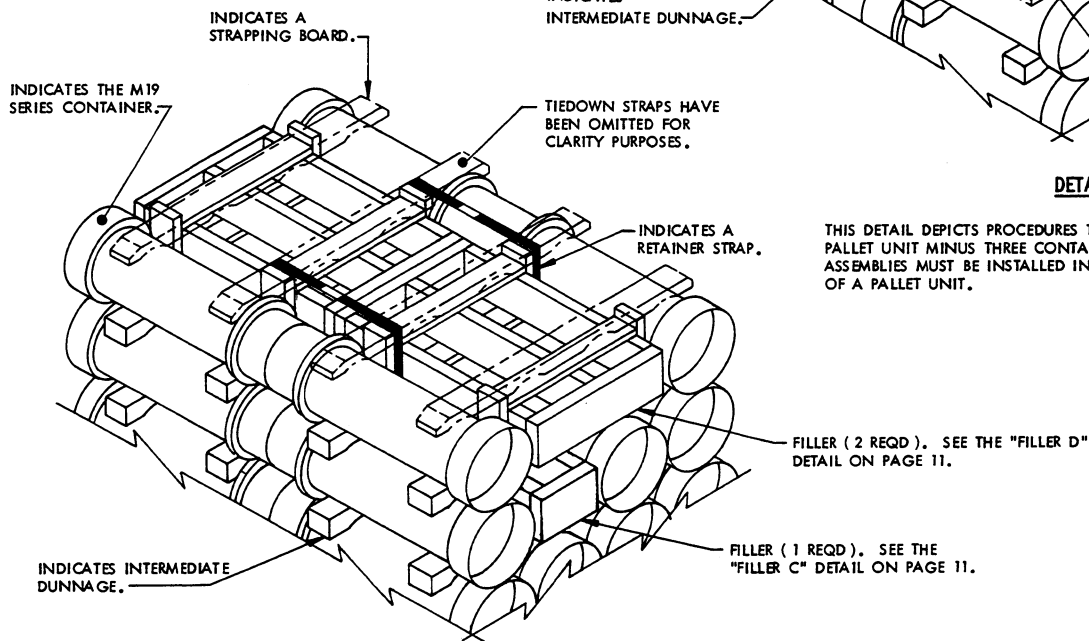
DETAIL D

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



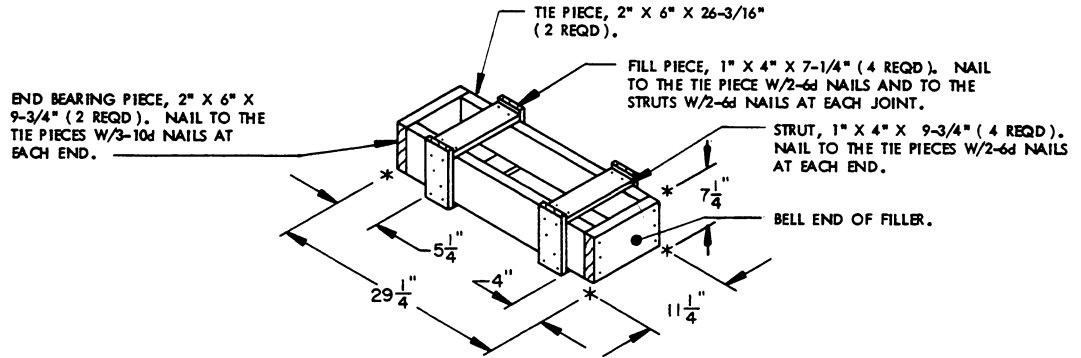
DETAIL E

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



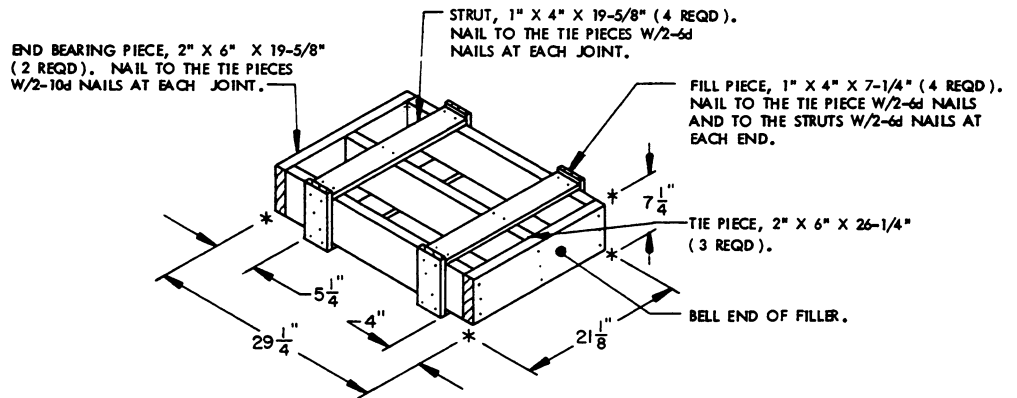
DETAIL F

THIS DETAIL DEPICTS PROCEDURES TO BE USED WHEN A STANDARD PALLET UNIT MINUS FIVE CONTAINERS IS TO BE UNITIZED. WHEN EIGHT CONTAINERS ARE TO BE OMITTED FROM A PALLET UNIT, A COMPLETE LAYER OF CONTAINERS MUST BE OMITTED. A COMBINATION OF FILLERS OR ONE OF THE FILLERS DEPICTED ON PAGE 11 MAY BE USED WHEN SEVEN 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 C

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 D

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

