

STORAGE IN 80'-0" AND 40'-0" L X  
 25'-0" W X 11'-0" H ARCH TYPE  
 MAGAZINES (IGLOO) OF PROPELLANTS  
 AND COMPLETE ROUNDS PACKED  
 IN METAL CONTAINERS, AND BULK  
 POWDER, TNT, ETC. PACKED IN WOOD,  
 FIBER, OR METAL CONTAINERS

REVISIONS		DRAFTSMAN	PROJ ENG
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## GENERAL NOTES

- A. THIS DOCUMENT HAS BEEN PREPARED AND ISSUED IN ACCORDANCE WITH AR 740-1, AND AUGMENTS TM 743-200-1 (CHAPTER 5).
- B. THE STORAGE PROCEDURES DEPICTED WITHIN THIS DOCUMENT ARE APPLICABLE FOR STORAGE OF PROPELLANTS, COMPLETE ROUNDS, BULK POWDER, ETC., IN 80"-0" AND 40"-0" LONG BY 25"-0" WIDE BY 11"-0" HIGH ARCH TYPE MAGAZINES (IGLOO).
- C. THE STORAGE PROCEDURES DEPICTED HEREIN MAY ALSO BE UTILIZED TO STORE EXPLOSIVES IN CONTAINERS IN OTHER TYPES OF APPROVED MAGAZINES. MINOR ADJUSTMENTS MAY BE MADE TO FACILITATE STORAGE IN OTHER TYPES OF MAGAZINES, HOWEVER, THE BASIC PRINCIPLES AS DEPICTED HEREIN WILL BE COMPLIED WITH.
- D. WHEN USING BATTERY POWERED MHE IN ARCH TYPE MAGAZINES CONTAINING BULK PROPELLANT POWDER, THE MHE SHOULD BE TYPE EX RATED AND APPROPRIATELY LABELED FOR USE IN CLASS 1, GROUP D HAZARDOUS LOCATIONS. IF BATTERY POWERED MHE OTHER THAN TYPE EX RATED IS TO BE USED, THE FOLLOWING CRITERIA WILL APPLY:
- (1) VAPOR CONCENTRATION TESTS SHALL BE MADE IN REMOTE SECTIONS OF THE MAGAZINE BY COMPETENT PERSONNEL. TESTS SHOULD BE MADE AS SOON AS THE MAGAZINE DOOR IS OPENED AND AT INTERVALS NOT TO EXCEED ONE (1) HOUR.
  - (2) IN ORDER TO AFFORD MAXIMUM ASSURANCE OF FREEDOM OF ANY CONCENTRATION OF CONTAMINATED VAPOR, A CONSISTENT ZERO (0) PERCENT READING IS REQUIRED.
  - (3) AN "EXPLOSIMETER", MODEL 2, MINE SAFETY APPLIANCE COMPANY, PITTSBURGH, PENNSYLVANIA, (OR EQUAL) SHALL BE USED IN CONDUCTING THE REQUIRED TESTS.
  - (4) BATTERY POWERED MHE MUST CONFORM STRICTLY TO THE REQUIREMENTS CITED IN DARCOM-R 385-100 CHAPTER 24.
- E. NOTICE: EXPLOSIVES MAY BE STORED IN MAGAZINES TO 500,000 POUNDS PROVIDING COMPLIANCE WITH DARCOM-R 385-100 CHAPTER 17 IS MAINTAINED. THE ALLOWABLE "EXPLOSIVE LIMIT" ESTABLISHED FOR A MAGAZINE IS NOT TO BE EXCEEDED.
- F. STORED BOXES AND/OR UNITS MUST NOT CONTACT THE WALLS OF A MAGAZINE. TO PROVIDE FOR THIS MANDATORY CLEARANCE REQUIREMENT, BOXES AND/OR UNITS MAY BE ELIMINATED FROM A DEPICTED STORAGE PATTERN AS NECESSARY.
- G. AISLE DIMENSIONS SHOWN MAY BE ADJUSTED TO SUIT LOCAL CONDITIONS AND/OR AVAILABLE MATERIAL HANDLING EQUIPMENT.
- H. THE MAXIMUM FLOOR LOAD FOR A MAGAZINE AS PRESCRIBED BY LOCAL STANDARDS WILL NOT BE EXCEEDED.
- J. THE PROCEDURES WITHIN THIS DRAWING DEPICT STORAGE OF ONLY ONE LOT PER MAGAZINE. STORAGE OF MULTIPLE LOTS OR STORAGE OF COMPATIBLE ITEMS WITH DIFFERENT NATIONAL STOCK NUMBERS IN THE SAME MAGAZINE WILL REQUIRE CAREFUL PLANNING SO AS TO INSURE ACCESSIBILITY TO ANY LOT OR ITEM FOR INSPECTION/INVENTORY OR FOR REMOVAL. REFER TO PAGES 51 AND 52 FOR TYPICAL MULTIPLE LOT STORAGE PROCEDURES FOR PALLETIZED UNITS. SEE GENERAL NOTE "X".
- K. WHEN STORING UNPALLETIZED CONTAINERS/BOXES AND THE ITEMS CONTAIN MORE THAN ONE LOT, THE LOTS WILL BE SEPARATED BY A 3" MINIMUM SPACE AND EACH LOT MUST BE ACCESSIBLE FROM AN AISLE TO PERMIT REMOVAL OF A LOT WITHOUT HANDLING OR RELOCATING ITEMS OF ANOTHER LOT. THE SPACING AND ACCESSIBILITY CRITERIA ALSO APPLY TO COMPATIBLE ITEMS WITH DIFFERENT NATIONAL STOCK NUMBERS BEING HAND STACKED IN THE SAME MAGAZINE.
- L. STACK-STABILIZING DUNNAGE IN THE FORM OF "SHIMS" PROBABLY WILL BE REQUIRED TO ACHIEVE SOUND AND ACCEPTABLE STABLE STACKS. SHIM MATERIAL OF VARYING THICKNESSES WILL BE USED AS REQUIRED TO GAIN LEVEL OR NEARLY LEVEL STACKS AND SOLID BEARING WITHIN A STACK FROM THE FLOOR OF A MAGAZINE TO THE TOP OF THE STACK.
- M. A STACK IS IDENTIFIED AS THE CONTAINERS/BOXES IN A GROUP WHICH IS ONE LONG, FULL HEIGHT, AND EXTENDING ACROSS THE ENTIRE WIDTH OF THE MAGAZINE. A DOUBLE STACK IS TWO SINGLE STACKS HAVING SOME DUNNAGE WHICH IS COMMON TO BOTH STACKS.

(CONTINUED AT RIGHT)

## MATERIAL SPECIFICATIONS

- LUMBER-----: SEE TM 743-200-1, DUNNAGE LUMBER, FED SPEC MM-L-751.
- NAILS-----: COMMON, FED SPEC FF-N-105.
- STRAPPING, STEEL---: CLASS I, TYPE I OR IV, HEAVY DUTY, FINISH B (GRADE 2), FED SPEC QQ-5-781.
- SEAL, STRAP-----: TYPE D, STYLE I, II, OR IV, CLASS H, FINISH B (GRADE 2), FED SPEC QQ-5-781.

## (GENERAL NOTES CONTINUED)

- N. THE HEIGHT OF THE PACKAGE GUARD ON SOME FORKLIFT TRUCKS MAY NOT PERMIT PLACEMENT OF SOME TOP LAYER UNITS IN THE STACKS SHOWN IN THE PALLETIZED-STORAGE VIEWS HEREIN, UNLESS TWO UPPER PALLET UNITS ARE HANDLED AS ONE LIFT OR THE PACKAGE GUARD IS REMOVED (TINE CARRIAGE WILL IN MOST INSTANCES PROVIDE ADEQUATE PACKAGE GUARD PROTECTION). ONLY A FORKLIFT OF ADEQUATE CAPACITY WILL BE USED WHEN LIFTING TWO PALLET UNITS AS ONE LIFT.
- O. ANY "LIGHT" PALLET UNIT THAT DOES NOT CONTAIN A FULL QUANTITY WILL NOT BE BURIED IN STORAGE. IT MUST BE POSITIONED ADJACENT TO AN AISLE, PREFERABLY IN FRONT OF THE LOT OR ON TOP OF THE LAST STACK ADJACENT TO OR NEAREST THE MHE AISLE.
- P. IF AVAILABLE MHE PERMITS, ADDITIONAL PALLET UNITS MAY BE STORED WITHIN THE MHE AREA AND/OR OTHER AVAILABLE AREAS OF A MAGAZINE. THE ARROWS WHICH ARE ON SOME OF THE PLAN VIEWS HEREIN INDICATE THE DIRECTION OF STORAGE OF PALLET UNITS FROM THE WALL TOWARD THE MHE AISLE OR THE DOOR OPENING.
- Q. PROPELLANTS, COMPLETE ROUNDS, BULK POWDER, ETC., PRESENTLY STORED IN ACCORDANCE WITH A PRIOR APPROVED DRAWING NEED NOT BE RE-STORED SOLELY TO CONFORM TO THE PROCEDURES SPECIFIED IN THIS DOCUMENT.
- R. A STORAGE METHOD FOR PALLETIZED BOX/DRUM-PACKED BULK EXPLOSIVES ON PALLETS EQUIPPED WITH PALLET RACKS IS DELINEATED ON PAGES 48 THRU 50 AND 62 THRU 65. THIS METHOD CAN ALSO BE USED FOR STORING OTHER COMMODITIES AS IDENTIFIED IN THIS DRAWING. GENERALLY, WHEN COMPARED TO A "HAND-STACKED" STORAGE METHOD, THE STORAGE METHOD SHOWN ON PAGES 48 THRU 50, AND 62 THRU 65, WILL REQUIRE ABOUT 20 PERCENT MORE SPACE TO STORE THE SAME QUANTITY OF PACKAGES.
- S. UNLESS OTHERWISE SPECIFIED, DUNNAGE LUMBER THROUGHOUT THIS PROCEDURAL DRAWING IS OF NOMINAL SIZE. FOR EXAMPLE, 1" X 4" MATERIAL IS ACTUALLY 3/4" THICK BY 3-1/2" WIDE AND 2" X 4" MATERIAL IS ACTUALLY 1-1/2" THICK BY 3-1/2" WIDE.
- T. NOTICE: A STAGGERED NAILING PATTERN WILL BE USED WHEREVER POSSIBLE WHEN NAILS ARE DRIVEN INTO JOINTS OF DUNNAGE ASSEMBLIES. ALSO, A STAGGERED NAILING PATTERN WILL BE USED WHEN LAMINATING DUNNAGE. ADDITIONALLY, THE NAILING PATTERN FOR AN UPPER PIECE OF LAMINATED DUNNAGE WILL BE ADJUSTED AS REQUIRED SO THAT A NAIL FOR THAT PIECE WILL NOT BE DRIVEN THROUGH ONTO OR RIGHT BESIDE A NAIL IN A LOWER PIECE.
- U. NAILING THROUGH ANY PORTION OF THE STORED BOXES AND/OR UNITS IS PROHIBITED.
- V. WHEN ANY STRAP IS SEALED AT AN END-OVER-END LAP JOINT, USE ONE (1) SEAL WITH TWO (2) PAIR OF CRIMPS TO SEAL THE JOINT.
- W. 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 0.454KG.
- X. MIXED-LOT PALLET UNITS ARE ACCEPTABLE. A MIXED-LOT PALLET UNIT MAY HAVE FROM TWO LOTS PER PALLET UNIT UPWARDS TO AS MANY DIFFERENT LOTS AS THERE ARE CONTAINERS/BOXES WITHIN THAT UNIT. HOWEVER, ALL ITEMS WITHIN THE PALLET UNIT MUST HAVE THE SAME NATIONAL STOCK NUMBER AND CONDITION CODE.
- Y. THE PRINCIPLES OF THE STORAGE PROCEDURES DEPICTED HEREIN MAY BE APPLIED FOR THE STORAGE OF CONTAINERS/BOXES WHICH ARE OF SIMILAR SIZE AND CONFIGURATION.

## REVISIONS

REVISION NO. 1, DATED FEBRUARY 1988, CONSISTS OF:

1. CHANGING THE TITLE BLOCK FROM U.S. ARMY DARCOM DRAWING TO U.S. ARMY AMC DRAWING.
2. ADDING PROCEDURES ON PAGE 41 FOR COMPLETE ROUNDS IN PA98 AND PA104 CONTAINERS.
3. CHANGING THE FLOOR DUNNAGE AND INTERMEDIATE DUNNAGE ON PAGE 42 THRU 45 AND PAGE 53 TO BE LONGITUDINAL.
4. ADDING SPECIAL PROCEDURES ON PAGES 80 THRU 85 FOR STORAGE OF FIBERBOARD BOXES AND FIBERBOARD DRUMS IN GEOGRAPHICAL AREAS WHERE THE HUMIDITY IS HIGH.
5. ADDING ALTERNATIVE PROCEDURES ON PAGE 89 FOR STORAGE OF POWDER, PROPELLANT, PACKED IN STEEL BOX, M2 AND MK VII.

REVISION NO. 2, DATED OCTOBER 1988, CONSISTS OF:

1. REMOVING PALLETIZED TNT FROM PAGES 46 AND 47, AND REPLACING WITH SMALL LOT STORAGE PROCEDURES.
2. UPDATING SPECIAL NOTES.

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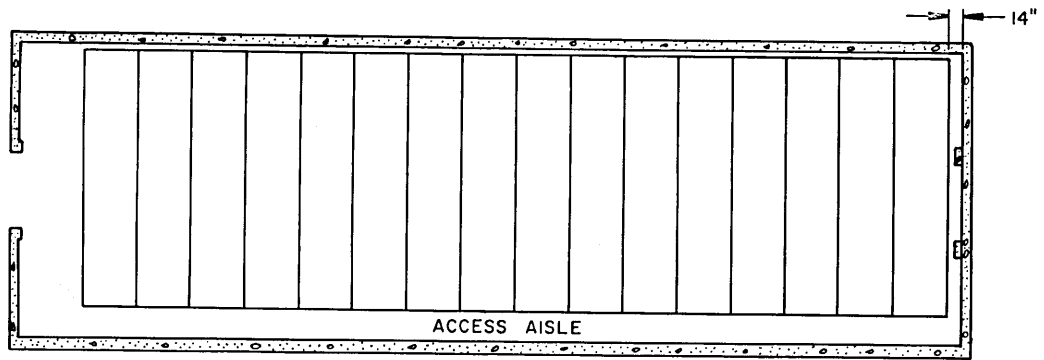
TNT, ALL COMP A, ALL COMP B, COMP C-3, AND C4, EXPLOSIVE D, CYCLOTOL, OCTOL, PBX AND TETRYL  
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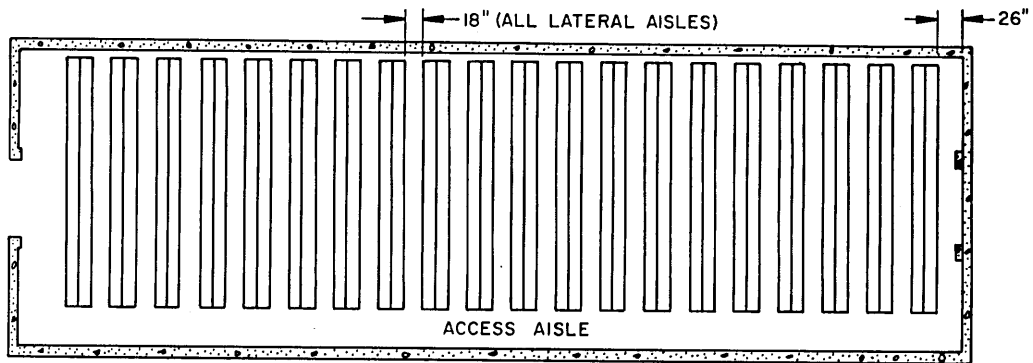
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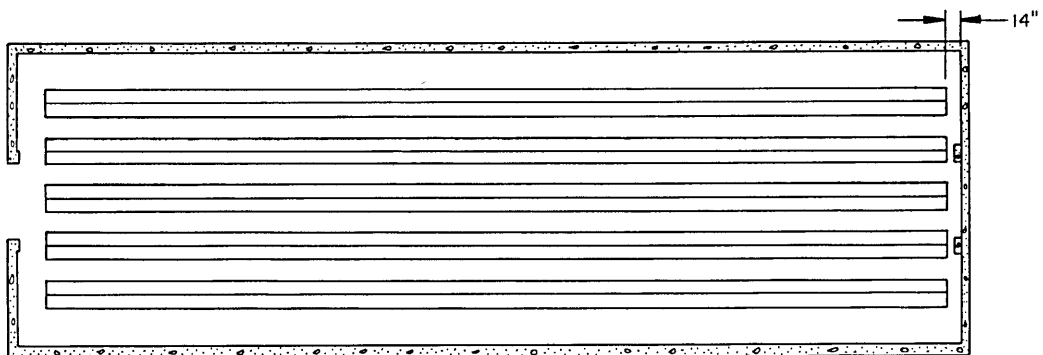
TYPICAL PLAN VIEW A

FOR USE WITH STORAGE METHODS SHOWN ON PAGES 5 THRU 40 AND PAGE 67. 80'-0" MAGAZINE SHOWN. QUANTITY OF STACKS SHOWN ABOVE IS TYPICAL.



TYPICAL PLAN VIEW B

FOR USE WITH STORAGE METHODS SHOWN ON PAGES 68 THRU 71 AND 74 THRU 77. 80'-0" MAGAZINE SHOWN. QUANTITY OF STACKS SHOWN ABOVE IS TYPICAL.



TYPICAL PLAN VIEW C

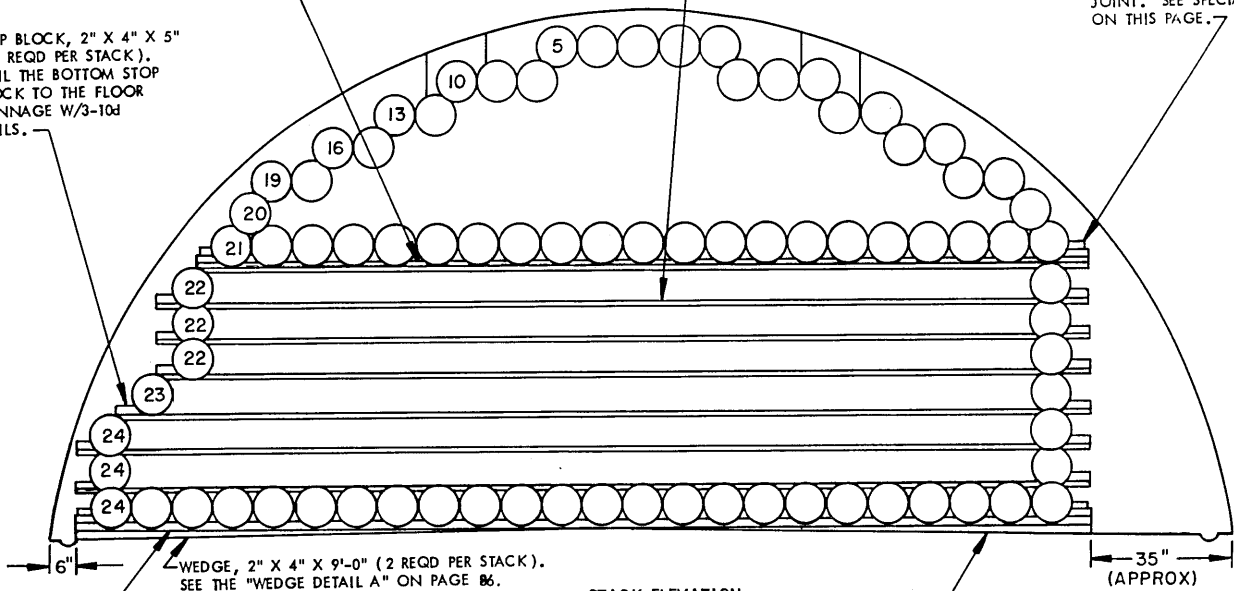
FOR USE WITH STORAGE METHOD SHOWN ON PAGE 61. 80'-0" MAGAZINE SHOWN. QUANTITY OF ROWS SHOWN ABOVE IS ACCURATE.

INTERMEDIATE DUNNAGE, 1" X 4" BY LENGTH TO SUIT (DOUBLED) (2 REQD PER STACK). NAIL THE FIRST PIECE TO THE STOP BLOCKS W/3-6d NAILS AT EACH END. LAMINATE THE SECOND PIECE TO THE FIRST W/1-6d NAIL EVERY 12" AND CLINCH. SEE THE "SPLICE DETAIL" ON PAGE 86.

INTERMEDIATE DUNNAGE, 1" X 4" BY LENGTH TO SUIT (12 REQD PER STACK). NAIL TO THE STOP BLOCKS W/3-6d NAILS AT EACH END. SEE THE "SPLICE DETAIL" ON PAGE 86.

TIE PIECE, 2" X 4" X 9'-2-3/4" (4 REQD PER STACK). POSITION AGAINST THE END CONTAINERS AND NAIL TO THE STOP BLOCKS W/3-10d NAILS AT EACH JOINT. SEE SPECIAL NOTE 6 ON THIS PAGE.

STOP BLOCK, 2" X 4" X 5" (32 REQD PER STACK). NAIL THE BOTTOM STOP BLOCK TO THE FLOOR DUNNAGE W/3-10d NAILS.



FLOOR DUNNAGE, 2" X 4" BY A LENGTH TO SUIT (2 REQD PER STACK). SEE THE "SPLICE DETAIL" ON PAGE 86.

WEDGE, 2" X 4" X 9'-0" (2 REQD PER STACK). SEE THE "WEDGE DETAIL A" ON PAGE 86.

**STACK ELEVATION**

265 CONTAINERS PER STACK.  
3,710 CONTAINERS PER 80' MAGAZINE.  
1,590 CONTAINERS PER 40' MAGAZINE.

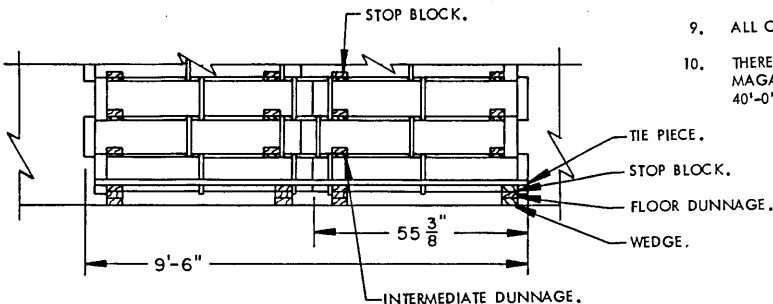
WEDGE, 2" X 4" X 6'-0" (2 REQD PER STACK). SEE THE "WEDGE DETAIL A" ON PAGE 86.

**BILL OF MATERIAL ( PER STACK )**

LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	392	131
2" X 4"	79	53
NAILS		POUNDS
6d (2")	122	3/4
10d (3")	36	3/4
WEDGES PER STACK		
LUMBER	LENGTH	NO. REQD
2" X 4"	6'-0"	2
2" X 4"	9'-0"	2

**SPECIAL NOTES:**

- STORAGE AS SHOWN IS FOR THE M10A4 CONTAINER. USE THIS SAME STORAGE FORMAT FOR ALL M10 SERIES CONTAINERS.  
CONTAINER DIMENSIONS-----55-3/8" LONG BY 10-15/32" DIAMETER.
- WHEN STORING THE M10A2 CONTAINER IT MAY BE NECESSARY TO ELIMINATE ONE (1) CONTAINER FROM EACH LAYER DUE TO SLIGHTLY LARGER DIAMETER OF THE CONTAINER.
- THE NUMBERS SHOWN IN THE STACK ELEVATION INDICATE THE QUANTITY OF CONTAINERS PER LAYER IN A STACK.
- SEE THE "TYPICAL PLAN VIEW A" ON PAGE 4.
- STORE IN DOUBLE STACKS FOR BETTER STABILITY. SEE THE "PARTIAL END VIEW OF DOUBLE STACK" ON THIS PAGE.
- NOTE: THE "TIE PIECE" EQUALS THE APPROXIMATE LENGTH OF TWO (2) CONTAINERS AND AIDS IN STABILIZING THE STACKS. A "TIE PIECE" IS USED ONLY ON THE BOTTOM LAYER AND TOP LAYER OF DUNNAGE.
- NOTE: JOINTS IN INTERMEDIATE DUNNAGE MUST BE STAGGERED BOTH HORIZONTALLY AND VERTICALLY.
- THE INTERMEDIATE DUNNAGE POSITIONED IMMEDIATELY UNDER THE NESTED CONTAINERS AT THE TOP OF THE STACK WILL BE OF DOUBLE THICKNESS 1" X 4" MATERIAL.
- ALL CONTAINERS POSITIONED ABOVE LAYER EIGHT (8) ARE NESTED.
- THERE WILL BE APPROXIMATELY 12'-6" OF SPACE AT THE FRONT OF AN 80'-0" LONG MAGAZINE. THERE WILL BE APPROXIMATELY 10'-6" OF SPACE AT THE FRONT OF A 40'-0" MAGAZINE.



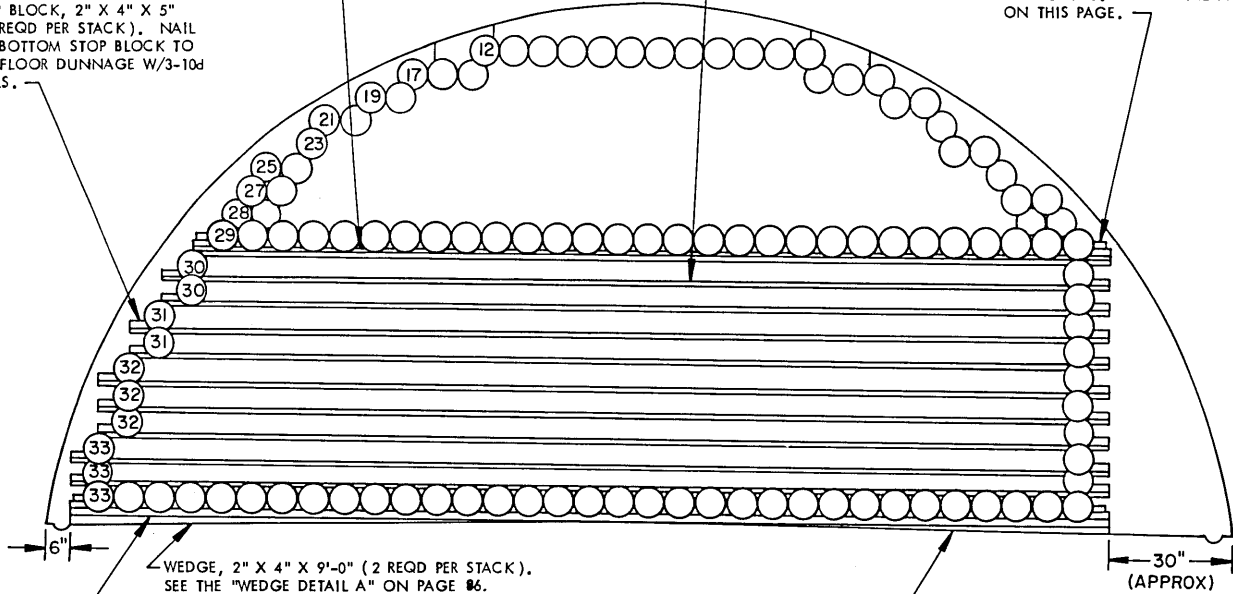
**PARTIAL END VIEW OF DOUBLE STACK**

INTERMEDIATE DUNNAGE, 1" X 4" BY LENGTH TO SUIT (DOUBLED) (2 REQD PER STACK). NAIL THE FIRST PIECE TO THE STOP BLOCKS W/3-6d NAILS AT EACH END. LAMINATE THE SECOND PIECE TO THE FIRST W/1-6d NAIL EVERY 12" AND CLINCH. SEE THE "SPLICE DETAIL" ON PAGE 86.

INTERMEDIATE DUNNAGE, 1" X 4" BY LENGTH TO SUIT (18 REQD PER STACK). NAIL TO THE STOP BLOCKS W/3-6d NAILS AT EACH END. SEE THE "SPLICE DETAIL" ON PAGE 86.

TIE PIECE, 2" X 4" X 55" (4 REQD PER STACK). POSITION AGAINST THE END CONTAINERS AND NAIL TO THE STOP BLOCKS W/3-10d NAILS AT EACH JOINT. SEE SPECIAL NOTE 6 ON THIS PAGE.

STOP BLOCK, 2" X 4" X 5" (44 REQD PER STACK). NAIL THE BOTTOM STOP BLOCK TO THE FLOOR DUNNAGE W/3-10d NAILS.



FLOOR DUNNAGE, 2" X 4" BY LENGTH TO SUIT (2 REQD PER STACK). SEE THE "SPLICE DETAIL" ON PAGE 86.

WEDGE, 2" X 4" X 9'-0" (2 REQD PER STACK). SEE THE "WEDGE DETAIL A" ON PAGE 86.

**STACK ELEVATION**

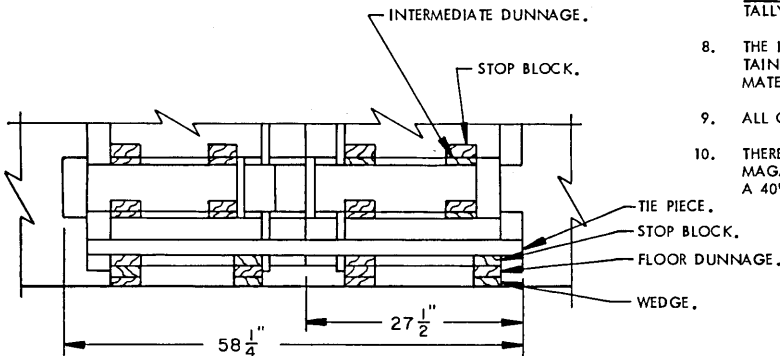
518 CONTAINERS PER STACK.  
15,540 CONTAINERS PER 80' MAGAZINE.  
7,252 CONTAINERS PER 40' MAGAZINE.

WEDGE, 2" X 4" X 6'-0" (2 REQD PER STACK). SEE THE "WEDGE DETAIL A" ON PAGE 86.

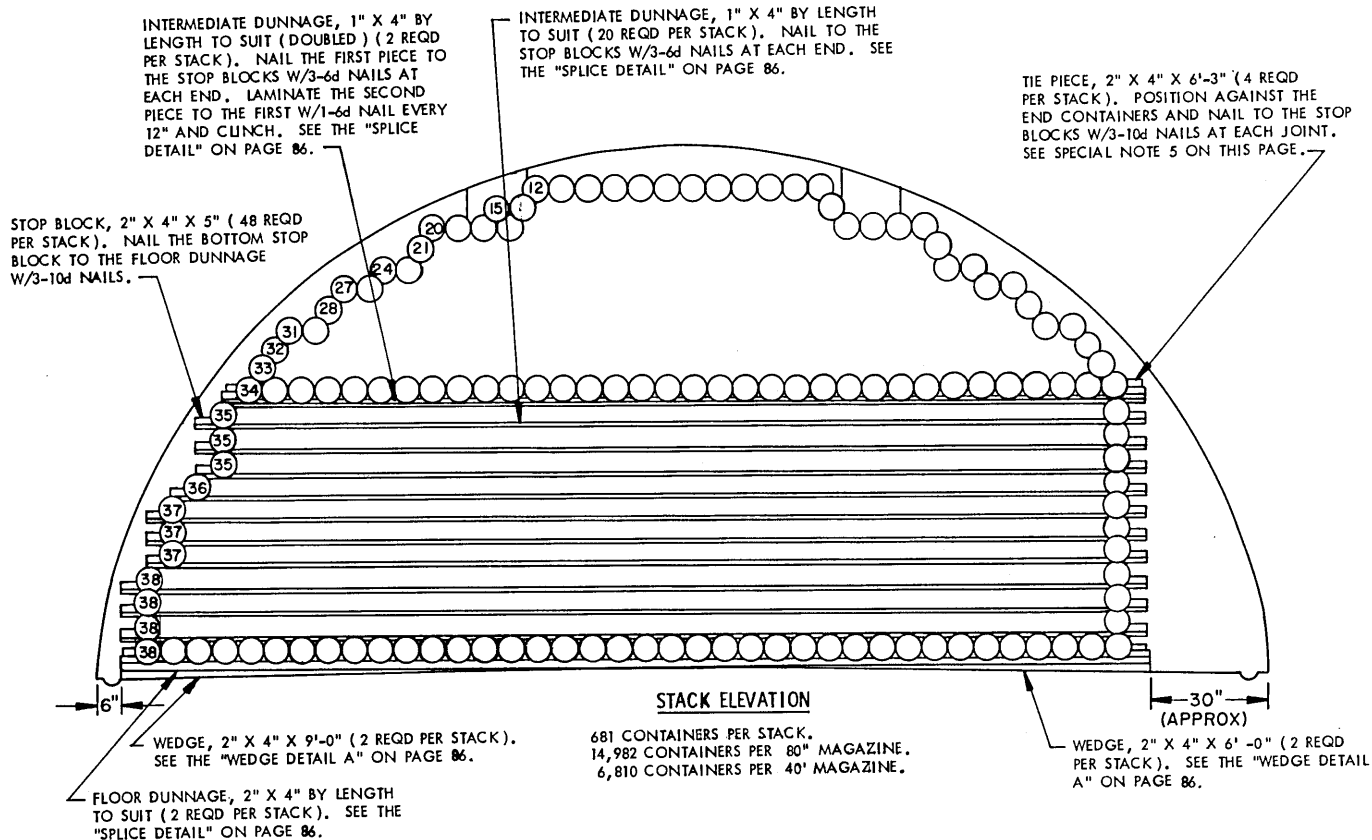
BILL OF MATERIAL ( PER STACK )		
LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	496	166
2" X 4"	75	50
NAILS		POUNDS
6d (2")	160	1
10d (3")	36	3/4
WEDGES PER STACK		
LUMBER	LENGTH	NO. REQD
2" X 4"	6'-0"	2
2" X 4"	9'-0"	2

**SPECIAL NOTES:**

- STORAGE AS SHOWN IS FOR THE M13A2 CONTAINER. USE THIS SAME STORAGE FORMAT FOR ALL M13 SERIES CONTAINERS.  
CONTAINER DIMENSIONS ---- 27-1/2" LONG BY 7-25/32" DIAMETER.
- WHEN STORING THE M13A1 CONTAINER IT MAY BE NECESSARY TO ELIMINATE SOME CONTAINERS FROM EACH LAYER DUE TO SLIGHTLY LARGER DIAMETER OF THE CONTAINER.
- THE NUMBERS SHOWN IN THE STACK ELEVATION INDICATE THE QUANTITY OF CONTAINERS PER LAYER IN A STACK.
- SEE THE "TYPICAL PLAN VIEW A" ON PAGE 4.
- STORE IN DOUBLE STACKS FOR BETTER STABILITY. SEE THE "PARTIAL END VIEW OF DOUBLE STACK" ON THIS PAGE.
- NOTE: THE "TIE PIECE" EQUALS THE APPROXIMATE LENGTH OF TWO (2) CONTAINERS AND AIDS IN STABILIZING THE STACKS. A "TIE PIECE" IS USED ONLY ON THE BOTTOM LAYER AND TOP LAYER OF DUNNAGE.
- NOTE: JOINTS IN INTERMEDIATE DUNNAGE MUST BE STAGGERED BOTH HORIZONTALLY AND VERTICALLY.
- THE INTERMEDIATE DUNNAGE POSITIONED IMMEDIATELY UNDER THE NESTED CONTAINERS AT THE TOP OF THE STACK WILL BE OF DOUBLE THICKNESS 1" X 4" MATERIAL.
- ALL CONTAINERS POSITIONED ABOVE LAYER ELEVEN (11) ARE NESTED.
- THERE WILL BE APPROXIMATELY 6'-4" OF SPACE AT THE FRONT OF AN 80'-0" MAGAZINE. THERE WILL BE APPROXIMATELY 60" OF SPACE AT THE FRONT OF A 40'-0" MAGAZINE.



**PARTIAL END VIEW OF DOUBLE STACK**



**STACK ELEVATION**

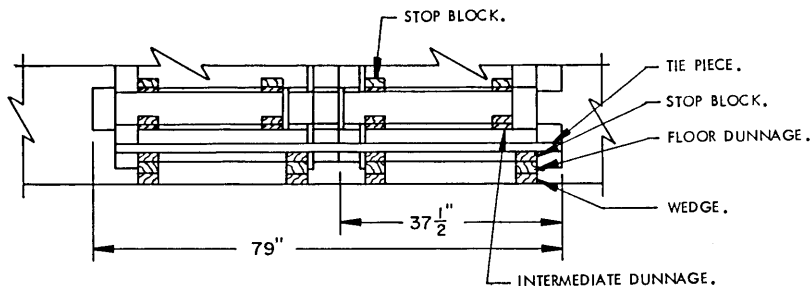
681 CONTAINERS PER STACK.  
 14,982 CONTAINERS PER 80" MAGAZINE.  
 6,810 CONTAINERS PER 40" MAGAZINE.

**SPECIAL NOTES:**

- STORAGE AS SHOWN IS FOR THE M14 CONTAINER. USE THIS SAME STORAGE FORMAT FOR ALL M14 SERIES CONTAINERS.  
 CONTAINER DIMENSIONS-----37-1/2" LONG BY 6-11/16" DIAMETER.
- THE NUMBERS SHOWN IN THE STACK ELEVATION INDICATE THE QUANTITY OF CONTAINERS PER LAYER IN A STACK.
- SEE THE "TYPICAL PLAN VIEW A" ON PAGE 4.
- STORE IN DOUBLE STACKS FOR BETTER STABILITY. SEE THE "PARTIAL END VIEW OF DOUBLE STACK" ON THIS PAGE.
- NOTE:** THE "TIE PIECE" EQUALS THE APPROXIMATE LENGTH OF TWO (2) CONTAINERS AND AIDS IN STABILIZING THE STACKS. A "TIE PIECE" IS USED ONLY ON THE BOTTOM LAYER AND TOP LAYER OF DUNNAGE.
- NOTE:** JOINTS IN INTERMEDIATE DUNNAGE MUST BE STAGGERED BOTH HORIZONTALLY AND VERTICALLY.
- THE INTERMEDIATE DUNNAGE POSITIONED IMMEDIATELY UNDER THE NESTED CONTAINERS AT THE TOP OF THE STACK WILL BE OF DOUBLE THICKNESS 1" X 4" MATERIAL.
- ALL CONTAINERS POSITIONED ABOVE LAYER TWELVE (12) ARE NESTED.
- THERE WILL BE APPROXIMATELY 7'-1" OF SPACE AT THE FRONT OF AN 80'-0" MAGAZINE. THERE WILL BE APPROXIMATELY 6'-2" OF SPACE AT THE FRONT OF A 40'-0" MAGAZINE.

**BILL OF MATERIAL ( PER STACK )**

LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	544	182
2" X 4"	80	54
NAILS	NO. REQD	POUNDS
6d (2")	170	1 3/4
10d (3")	36	
WEDGES PER STACK		
LUMBER	LENGTH	NO. REQD
2" X 4"	6'-0"	2
2" X 4"	9'-0"	2



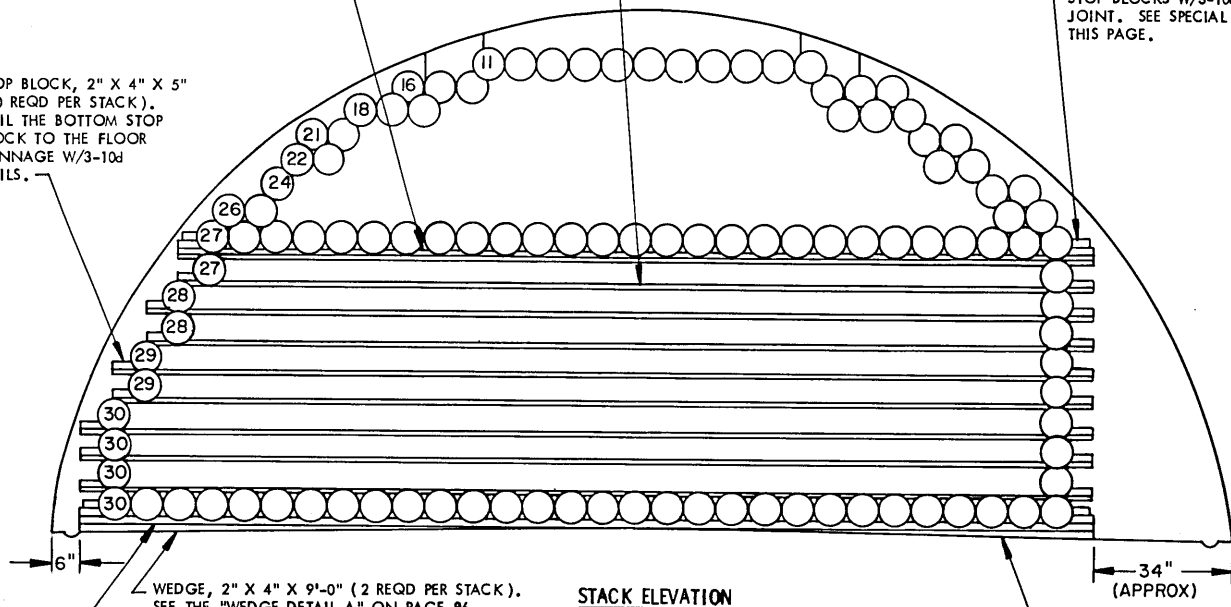
**PARTIAL END VIEW OF DOUBLE STACK**

INTERMEDIATE DUNNAGE, 1" X 4" BY LENGTH TO SUIT (DOUBLED) (2 REQD PER STACK). NAIL THE FIRST PIECE TO THE STOP BLOCKS W/3-6d NAILS AT EACH END. LAMINATE THE SECOND PIECE TO THE FIRST W/1-6d NAIL EVERY 12" AND CLINCH. SEE THE "SPLICE DETAIL" ON PAGE 86.

INTERMEDIATE DUNNAGE, 1" X 4" BY LENGTH TO SUIT (16 REQD PER STACK). NAIL TO THE STOP BLOCKS W/3-6d NAILS AT EACH END. SEE THE "SPLICE DETAIL" ON PAGE 86.

TIE PIECE, 2" X 4" X 7'-1" (4 REQD PER STACK). POSITION AGAINST THE END CONTAINERS AND NAIL TO THE STOP BLOCKS W/3-10d NAILS AT EACH JOINT. SEE SPECIAL NOTE 5 ON THIS PAGE.

STOP BLOCK, 2" X 4" X 5" (40 REQD PER STACK). NAIL THE BOTTOM STOP BLOCK TO THE FLOOR DUNNAGE W/3-10d NAILS.



FLOOR DUNNAGE, 2" X 4" BY LENGTH TO SUIT (2 REQD PER STACK). SEE THE "SPLICE DETAIL" ON PAGE 86.

WEDGE, 2" X 4" X 9'-0" (2 REQD PER STACK). SEE THE "WEDGE DETAIL A" ON PAGE 86.

**STACK ELEVATION**

426 CONTAINERS PER STACK.  
8,520 CONTAINERS PER 80' MAGAZINE.  
3,408 CONTAINERS PER 40' MAGAZINE.

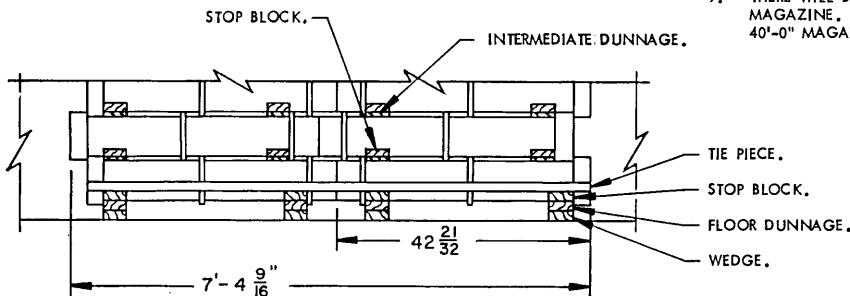
WEDGE, 2" X 4" X 6'-0" (2 REQD PER STACK). SEE THE "WEDGE DETAIL A" ON PAGE 86.

**BILL OF MATERIAL ( PER STACK )**

LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	445	149
2" X 4"	78	52
NAILS		
	NO. REQD	POUNDS
6d (2")	144	1
10d (3")	36	3/4
WEDGES PER STACK		
LUMBER	LENGTH	NO. REQD
2" X 4"	6'-0"	2
2" X 4"	9'-0"	2

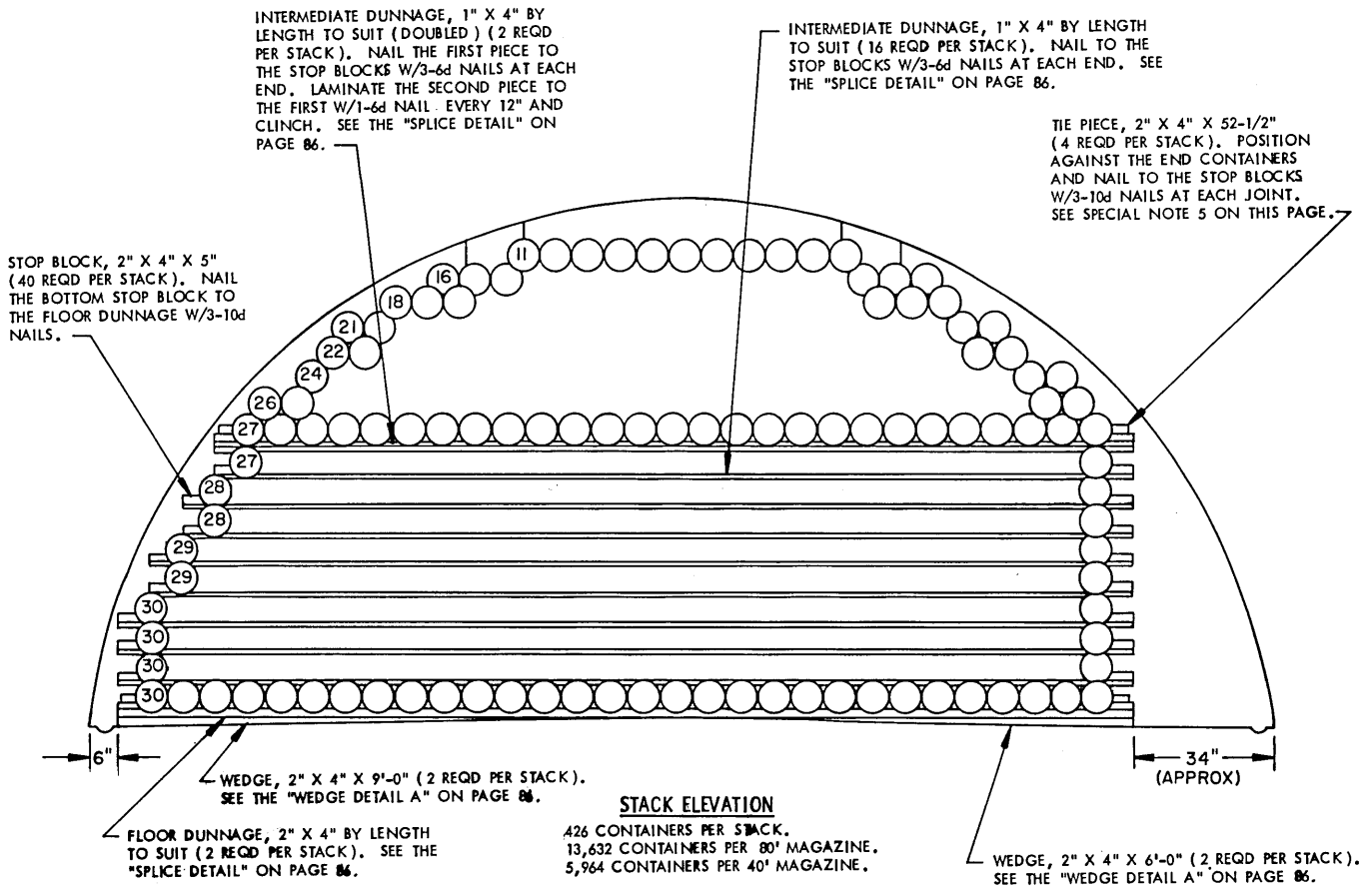
**SPECIAL NOTES:**

- STORAGE AS SHOWN IS FOR THE M16A3 CONTAINER. USE THIS SAME STORAGE FORMAT FOR ALL M16 SERIES CONTAINERS.  
CONTAINER DIMENSIONS ---- 42-21/32" LONG BY 8-13/32" DIAMETER.
- THE NUMBERS SHOWN IN THE STACK ELEVATION INDICATE THE QUANTITY OF CONTAINERS PER LAYER IN A STACK.
- SEE THE "TYPICAL PLAN VIEW A" ON PAGE 4.
- STORE IN DOUBLE STACKS FOR BETTER STABILITY. SEE THE "PARTIAL END VIEW OF DOUBLE STACK" ON THIS PAGE.
- NOTE: THE "TIE PIECE" EQUALS THE APPROXIMATE LENGTH OF TWO (2) CONTAINERS AND AIDS IN STABILIZING THE STACKS. A "TIE PIECE" IS USED ONLY ON THE BOTTOM LAYER AND TOP LAYER OF DUNNAGE.
- NOTE: JOINTS IN INTERMEDIATE DUNNAGE MUST BE STAGGERED BOTH HORIZONTALLY AND VERTICALLY.
- THE INTERMEDIATE DUNNAGE POSITIONED IMMEDIATELY UNDER THE NESTED CONTAINERS AT THE TOP OF THE STACK WILL BE OF DOUBLE THICKNESS 1" X 4" MATERIAL.
- ALL CONTAINERS POSITIONED ABOVE LAYER TEN (10) ARE NESTED.
- THERE WILL BE APPROXIMATELY 62" OF SPACE AT THE FRONT OF AN 80'-0" MAGAZINE. THERE WILL BE APPROXIMATELY 9'-5" OF SPACE AT THE FRONT OF A 40'-0" MAGAZINE



**PARTIAL END VIEW OF DOUBLE STACK**

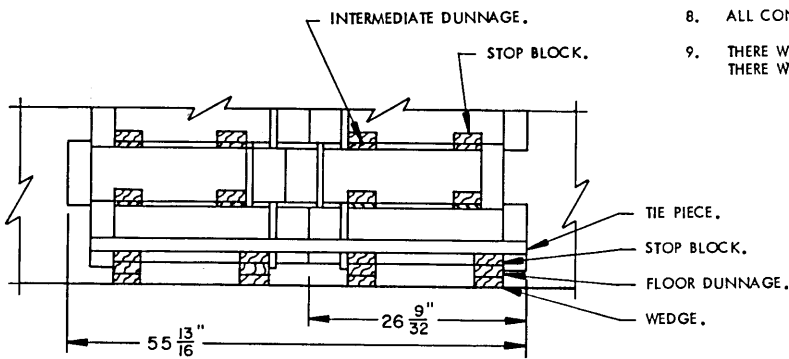




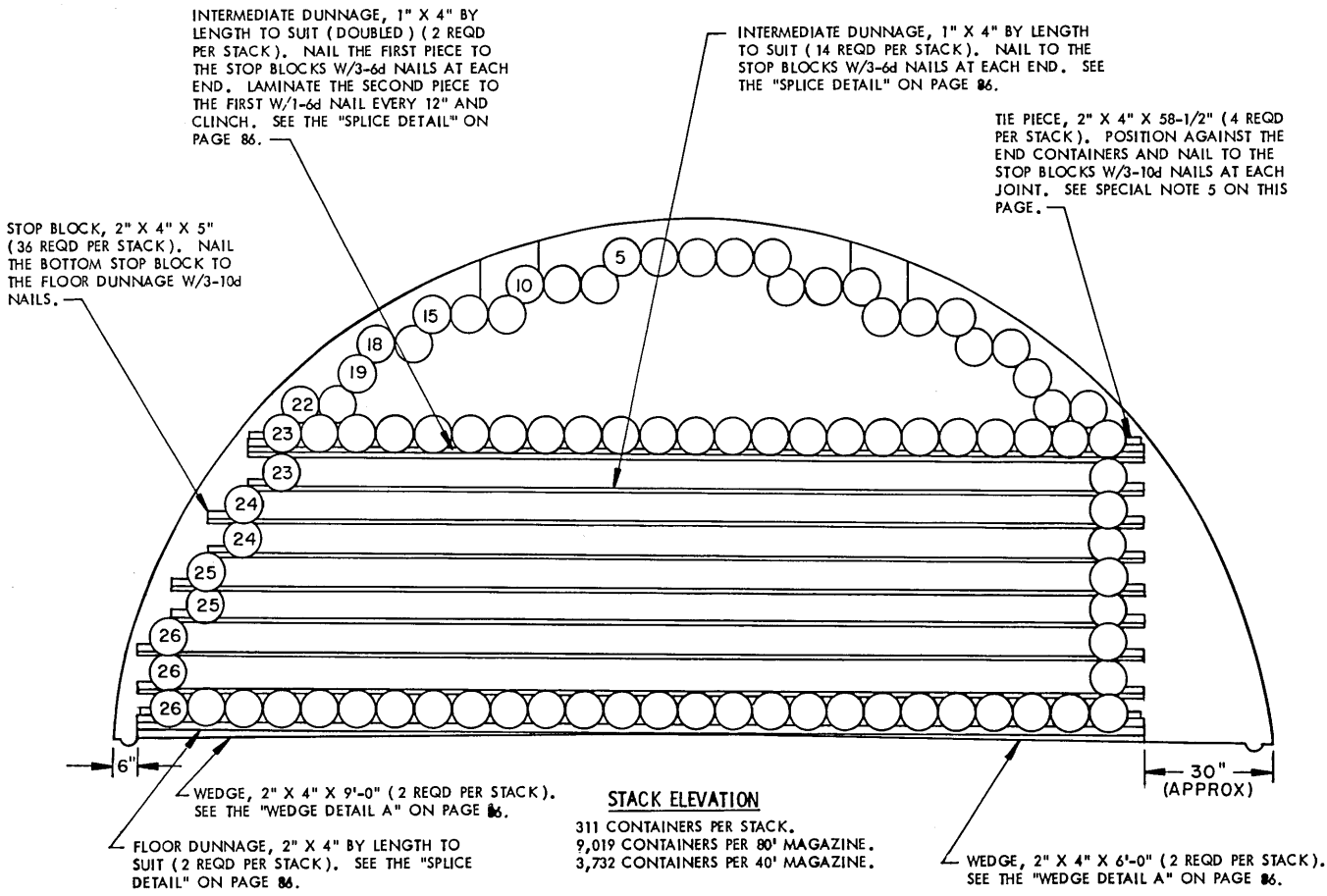
BILL OF MATERIAL ( PER STACK )		
LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	446	149
2" X 4"	72	48
NAILS	NO. REQD	POUNDS
6d (2")	144	1
10d (3")	36	3/4
WEDGE PER STACK		
LUMBER	LENGTH	NO. REQD
2" X 4"	6'-0"	2
2" X 4"	9'-0"	2

**SPECIAL NOTES:**

- STORAGE AS SHOWN IS FOR M18A2 CONTAINER. USE THIS SAME STORAGE FORMAT FOR ALL M18 SERIES CONTAINERS.  
CONTAINER DIMENSIONS ----- 26-9/32" LONG BY 8-13/32" DIAMETER.
- THE NUMBERS SHOWN IN THE STACK ELEVATION INDICATE THE QUANTITY OF CONTAINERS PER LAYER IN A STACK.
- SEE THE "TYPICAL PLAN VIEW A" ON PAGE 4.
- STORE IN DOUBLE STACKS FOR BETTER STABILITY. SEE THE "PARTIAL END VIEW OF DOUBLE STACK" ON THIS PAGE.
- NOTE: THE "TIE PIECE" EQUALS THE APPROXIMATE LENGTH OF TWO (2) CONTAINERS AND AIDS IN STABILIZING THE STACKS. A "TIE PIECE" IS USED ONLY ON THE BOTTOM LAYER AND TOP LAYER OF DUNNAGE.
- NOTE: JOINTS IN INTERMEDIATE DUNNAGE MUST BE STAGGERED BOTH HORIZONTALLY AND VERTICALLY.
- THE INTERMEDIATE DUNNAGE POSITIONED IMMEDIATELY UNDER THE NESTED CONTAINERS AT THE TOP OF THE STACK WILL BE OF DOUBLE THICKNESS 1" X 4" MATERIAL.
- ALL CONTAINERS POSITIONED ABOVE LAYER TEN ( 10 ) ARE NESTED.
- THERE WILL BE APPROXIMATELY 57" OF SPACE AT THE FRONT OF AN 80'-0" MAGAZINE. THERE WILL BE APPROXIMATELY 6'-5" OF SPACE AT THE FRONT OF A 40'-0" MAGAZINE.



**PARTIAL END VIEW OF DOUBLE STACK**



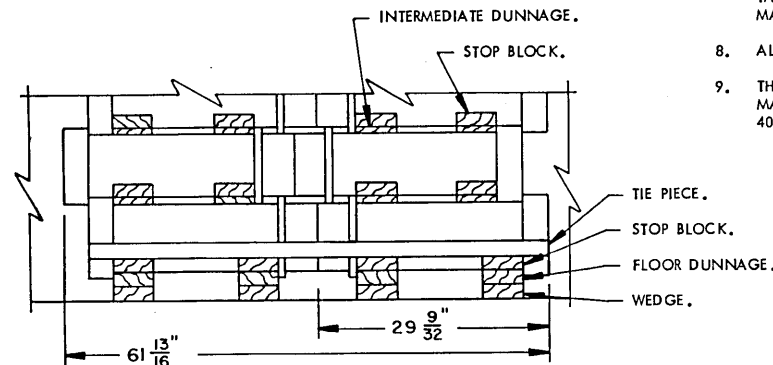
**STACK ELEVATION**

311 CONTAINERS PER STACK.  
 9,019 CONTAINERS PER 80' MAGAZINE.  
 3,732 CONTAINERS PER 40' MAGAZINE.

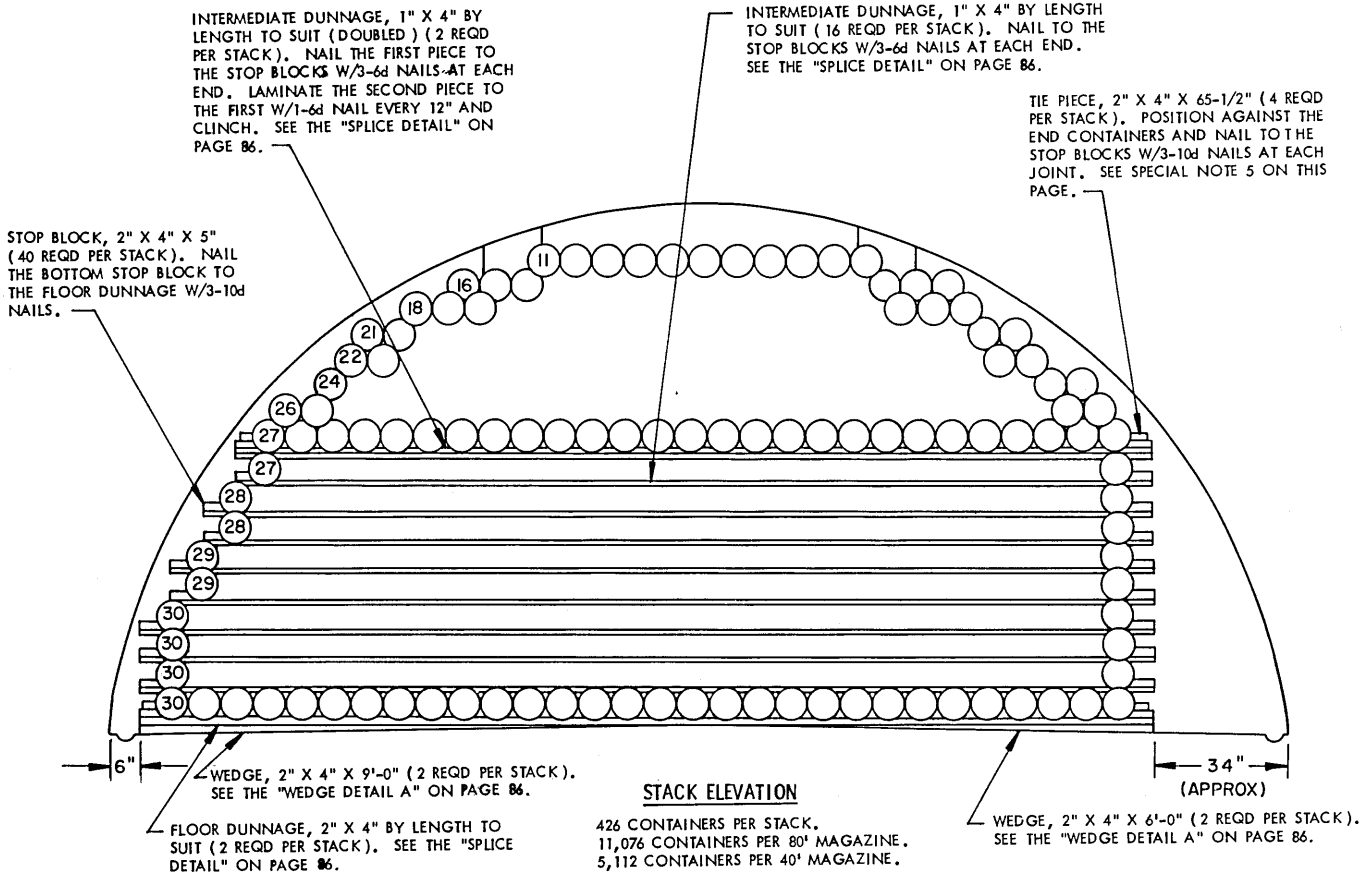
BILL OF MATERIAL ( PER STACK )		
LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	398	133
2" X 4"	74	50
NAILS		POUNDS
6d (2")	132	1
10d (3")	36	3/4
WEDGES PER STACK		
LUMBER	LENGTH	NO. REQD
2" X 4"	6'-0"	2
2" X 4"	9'-0"	2

**SPECIAL NOTES:**

- STORAGE AS SHOWN IS FOR THE M19A2 CONTAINER. USE THIS SAME STORAGE FORMAT FOR ALL M19 SERIES CONTAINERS.  
 CONTAINER DIMENSIONS ---- 29-9/32" LONG BY 9-13/16" DIAMETER.
- THE NUMBERS SHOWN IN THE STACK ELEVATION INDICATE THE QUANTITY OF CONTAINERS PER LAYER IN A STACK.
- SEE THE "TYPICAL PLAN VIEW A" ON PAGE 4.
- STORE IN DOUBLE STACKS FOR BETTER STABILITY. SEE THE "PARTIAL END VIEW OF DOUBLE STACK" ON THIS PAGE.
- NOTE: THE "TIE PIECE" EQUALS THE APPROXIMATE LENGTH OF TWO (2) CONTAINERS AND AIDS IN STABILIZING THE STACKS. A "TIE PIECE" IS USED ONLY ON THE BOTTOM LAYER AND TOP LAYER OF DUNNAGE.
- NOTE: JOINTS IN INTERMEDIATE DUNNAGE MUST BE STAGGERED BOTH HORIZONTALLY AND VERTICALLY.
- THE INTERMEDIATE DUNNAGE POSITIONED IMMEDIATELY UNDER THE NESTED CONTAINERS AT THE TOP OF THE STACK WILL BE OF DOUBLE THICKNESS 1" X 4" MATERIAL.
- ALL CONTAINERS POSITIONED ABOVE LAYER NINE (9) ARE NESTED.
- THERE WILL BE APPROXIMATELY 7'-0" OF SPACE AT THE FRONT OF AN 80'-0" MAGAZINE. THERE WILL BE APPROXIMATELY 8'-0" OF SPACE AT THE FRONT OF A 40'-0" MAGAZINE.



**PARTIAL END VIEW OF DOUBLE STACK**



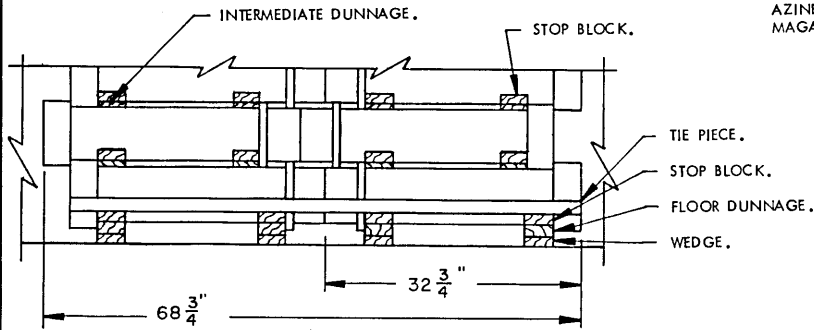
**STACK ELEVATION**

426 CONTAINERS PER STACK.  
 11,076 CONTAINERS PER 80' MAGAZINE.  
 5,112 CONTAINERS PER 40' MAGAZINE.

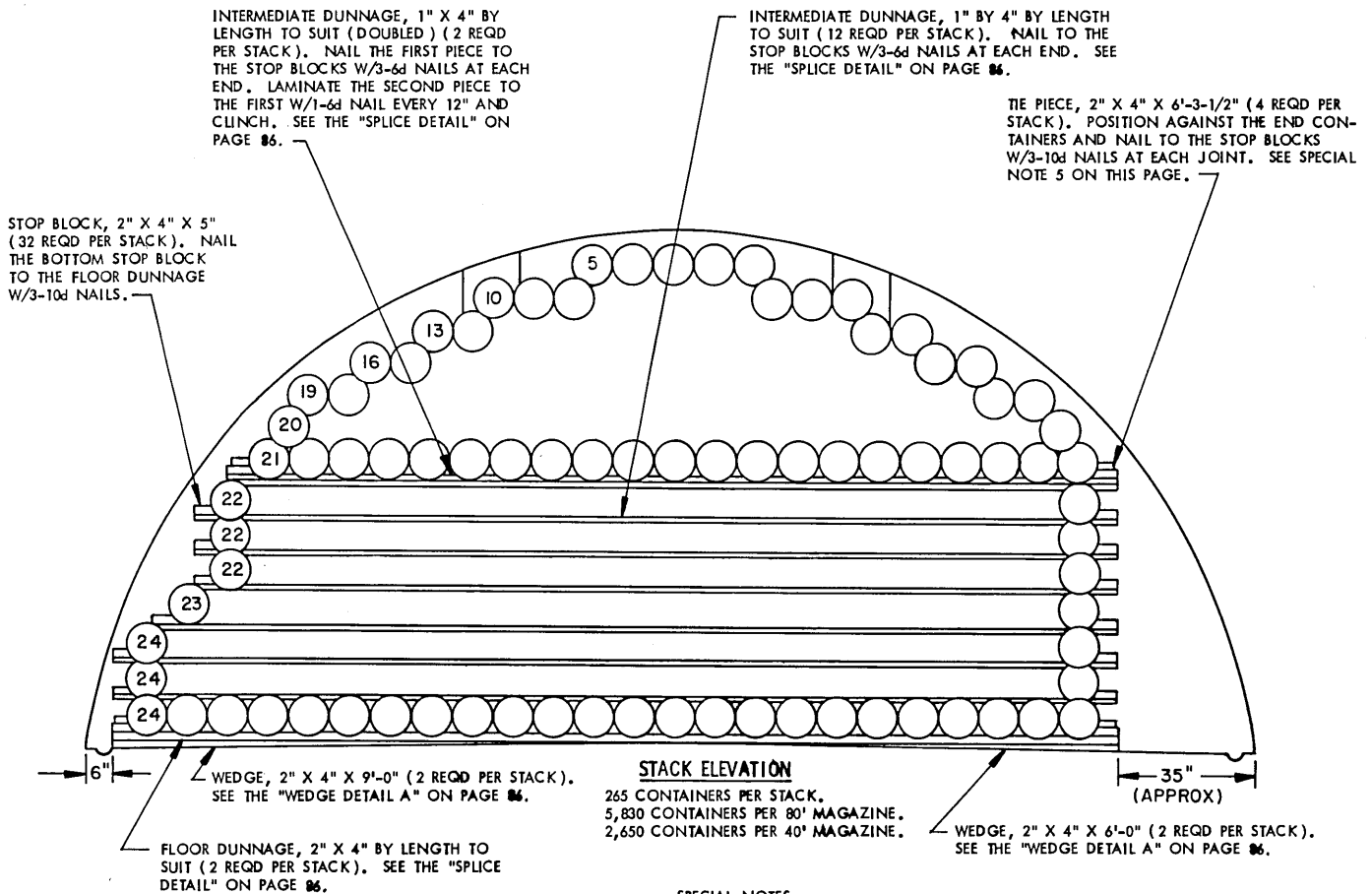
**SPECIAL NOTES:**

1. STORAGE AS SHOWN IS FOR THE PA37 CONTAINER. USE THIS SAME STORAGE FORMAT FOR ALL PA37 SERIES CONTAINERS.  
 CONTAINER DIMENSIONS ----- 32-3/4" LONG BY 8-13/32" DIAMETER.
2. THE NUMBERS SHOWN IN THE STACK ELEVATION INDICATE THE QUANTITY OF CONTAINERS PER LAYER IN A STACK.
3. SEE THE "TYPICAL PLAN VIEW A" ON PAGE 4.
4. STORE IN DOUBLE STACKS FOR BETTER STABILITY. SEE THE "PARTIAL END VIEW OF DOUBLE STACK" ON THIS PAGE.
5. NOTE: THE "TIE PIECE" EQUALS THE APPROXIMATE LENGTH OF TWO (2) CONTAINERS AND AIDS IN STABILIZING THE STACKS. A "TIE PIECE" IS USED ONLY ON THE BOTTOM LAYER AND TOP LAYER OF DUNNAGE.
6. NOTE: JOINTS IN INTERMEDIATE DUNNAGE MUST BE STAGGERED BOTH HORIZONTALLY AND VERTICALLY.
7. THE INTERMEDIATE DUNNAGE POSITIONED IMMEDIATELY UNDER THE NESTED CONTAINERS AT THE TOP OF THE STACK WILL BE OF DOUBLE THICKNESS 1" X 4" MATERIAL.
8. ALL CONTAINERS POSITIONED ABOVE LAYER TEN (10) ARE NESTED.
9. THERE WILL BE APPROXIMATELY 52" OF SPACE AT THE FRONT OF AN 80'-0" MAGAZINE. THERE WILL BE APPROXIMATELY 53" OF SPACE AT THE FRONT OF A 40'-0" MAGAZINE.

BILL OF MATERIAL ( PER STACK )		
LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	446	149
2" X 4"	75	50
NAILS		POUNDS
6d (2")	148	1
10d (3")	36	3/4
WEDGES PER STACK		
LUMBER	LENGTH	NO. REQD
2" X 4"	6'-0"	2
2" X 4"	9'-0"	2



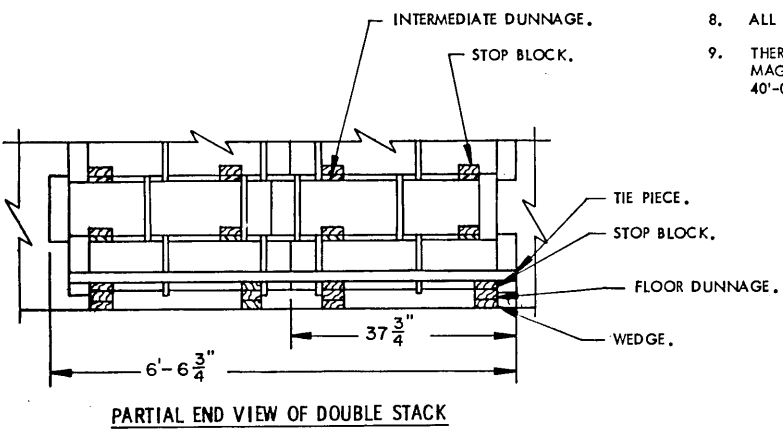
**PARTIAL END VIEW OF DOUBLE STACK**

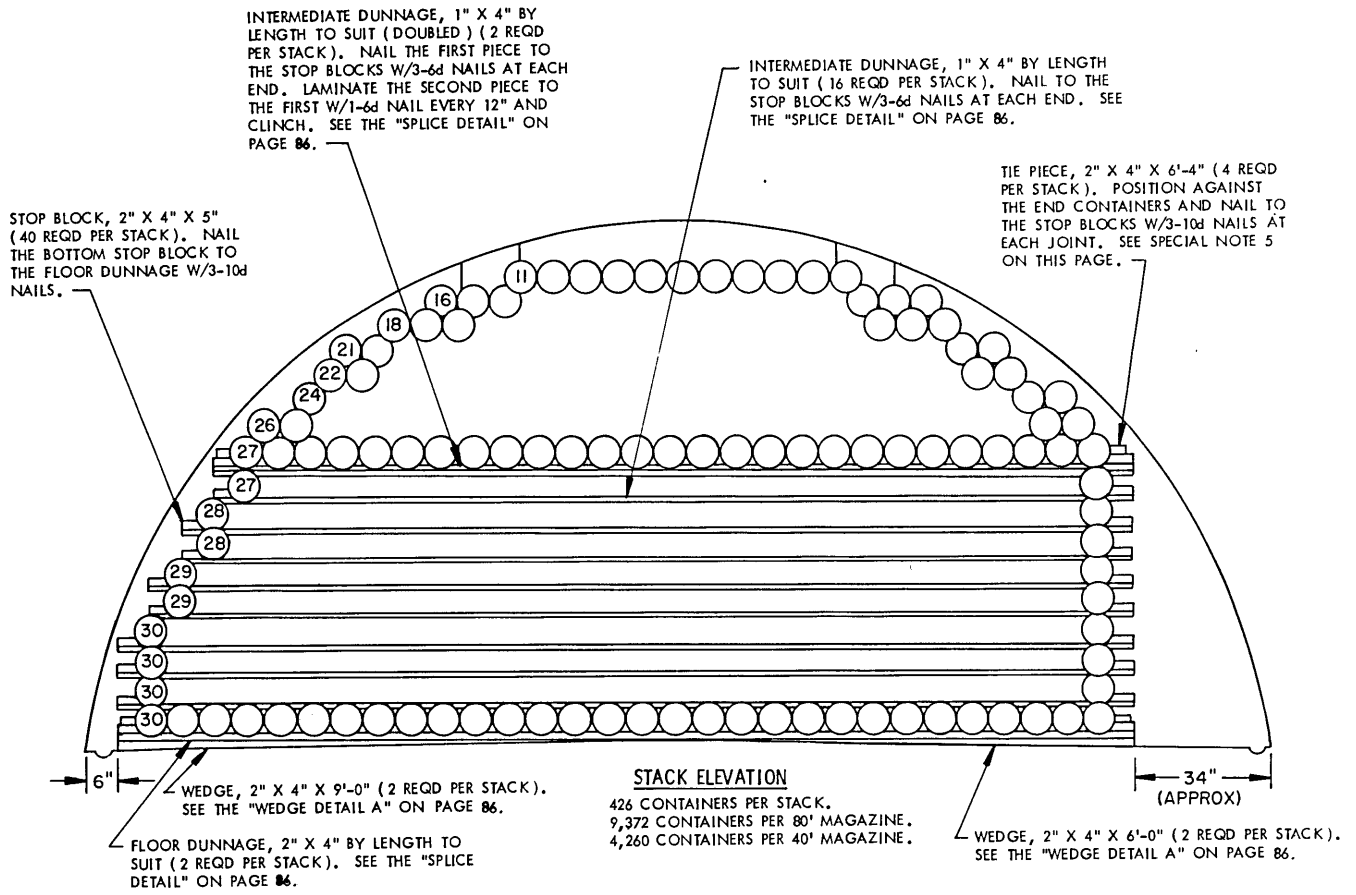


BILL OF MATERIAL ( PER STACK )		
LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	351	117
2" X 4"	73	49
NAILS		NO. REQD
6d ( 2" )		122
10d ( 3" )		36
WEDGES PER STACK		
LUMBER	LENGTH	NO. REQD
2" X 4"	6'-0"	2
2" X 4"	9'-0"	2

**SPECIAL NOTES:**

- STORAGE AS SHOWN IS FOR THE PA66 CONTAINER. USE THIS SAME STORAGE FORMAT FOR ALL PA66 SERIES CONTAINERS.  
CONTAINER DIMENSIONS ----- 37-3/4" LONG BY 10-15/32" DIAMETER.
- THE NUMBERS SHOWN IN THE STACK ELEVATION INDICATE THE QUANTITY OF CONTAINERS PER LAYER IN A STACK.
- SEE THE "TYPICAL PLAN VIEW A" ON PAGE 4.
- STORE IN DOUBLE STACKS FOR BETTER STABILITY. SEE THE "PARTIAL END VIEW OF DOUBLE STACK" ON THIS PAGE.
- NOTE: THE "TIE PIECE" EQUALS THE APPROXIMATE LENGTH OF TWO ( 2 ) CONTAINERS AND AIDS IN STABILIZING THE STACKS. A "TIE PIECE" IS USED ONLY ON THE BOTTOM LAYER AND TOP LAYER OF DUNNAGE.
- NOTE: JOINTS IN INTERMEDIATE DUNNAGE MUST BE STAGGERED BOTH HORIZONTALLY AND VERTICALLY.
- THE INTERMEDIATE DUNNAGE POSITIONED IMMEDIATELY UNDER THE NESTED CONTAINERS AT THE TOP OF THE STACK WILL BE OF DOUBLE THICKNESS 1" X 4" MATERIAL.
- ALL CONTAINERS POSITIONED ABOVE LAYER EIGHT ( 8 ) ARE NESTED.
- THERE WILL BE APPROXIMATELY 6'-8" OF SPACE AT THE FRONT OF AN 80'-0" LONG MAGAZINE. THERE WILL BE APPROXIMATELY 72" OF SPACE AT THE FRONT OF A 40'-0" LONG MAGAZINE.



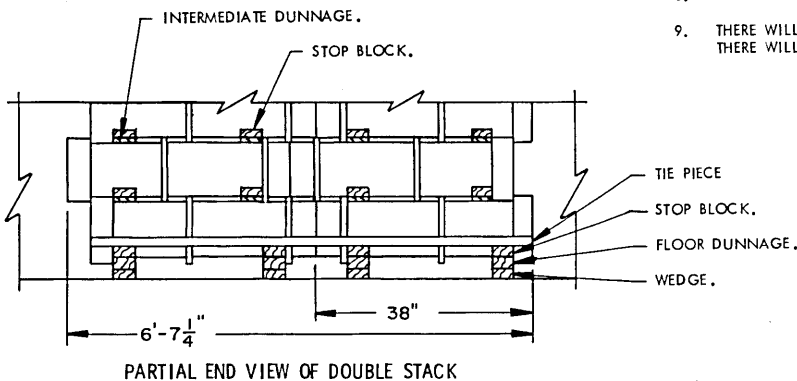


**BILL OF MATERIAL ( PER STACK )**

LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	446	149
2" X 4"	76	51
NAILS	NO. REQD	POUNDS
6d (2")	148	1
10d (3")	36	3/4
WEDGES PER STACK		
LUMBER	LENGTH	NO. REQD
2" X 4"	6'-0"	2
2" X 4"	9'-0"	2

**SPECIAL NOTES:**

- STORAGE AS SHOWN IS FOR THE PA68 CONTAINER. USE THIS SAME STORAGE FORMAT FOR ALL PA68 SERIES CONTAINERS.  
CONTAINER DIMENSIONS ---- 38" LONG BY 8-13/32" DIAMETER.
- THE NUMBERS SHOWN IN THE STACK ELEVATION INDICATE THE QUANTITY OF CONTAINERS PER LAYER IN A STACK.
- SEE THE "TYPICAL PLAN VIEW A" ON PAGE 4.
- STORE IN DOUBLE STACKS FOR BETTER STABILITY. SEE THE "PARTIAL END VIEW OF DOUBLE STACK" ON THIS PAGE.
- NOTE: THE "TIE PIECE" EQUALS THE APPROXIMATE LENGTH OF TWO (2) CONTAINERS AND AIDS IN STABILIZING THE STACKS. A "TIE PIECE" IS USED ONLY ON THE BOTTOM LAYER AND TOP LAYER OF DUNNAGE.
- NOTE: JOINTS IN INTERMEDIATE DUNNAGE MUST BE STAGGERED BOTH HORIZONTALLY AND VERTICALLY.
- THE INTERMEDIATE DUNNAGE POSITIONED IMMEDIATELY UNDER THE NESTED CONTAINERS AT THE TOP OF THE STACK WILL BE OF DOUBLE THICKNESS 1" X 4" MATERIAL.
- ALL CONTAINERS POSITIONED ABOVE LAYER TEN (10) ARE NESTED.
- THERE WILL BE APPROXIMATELY 6'-2" OF SPACE AT THE FRONT OF AN 80'-0" MAGAZINE. THERE WILL BE APPROXIMATELY 70" OF SPACE AT THE FRONT OF A 40'-0" MAGAZINE.

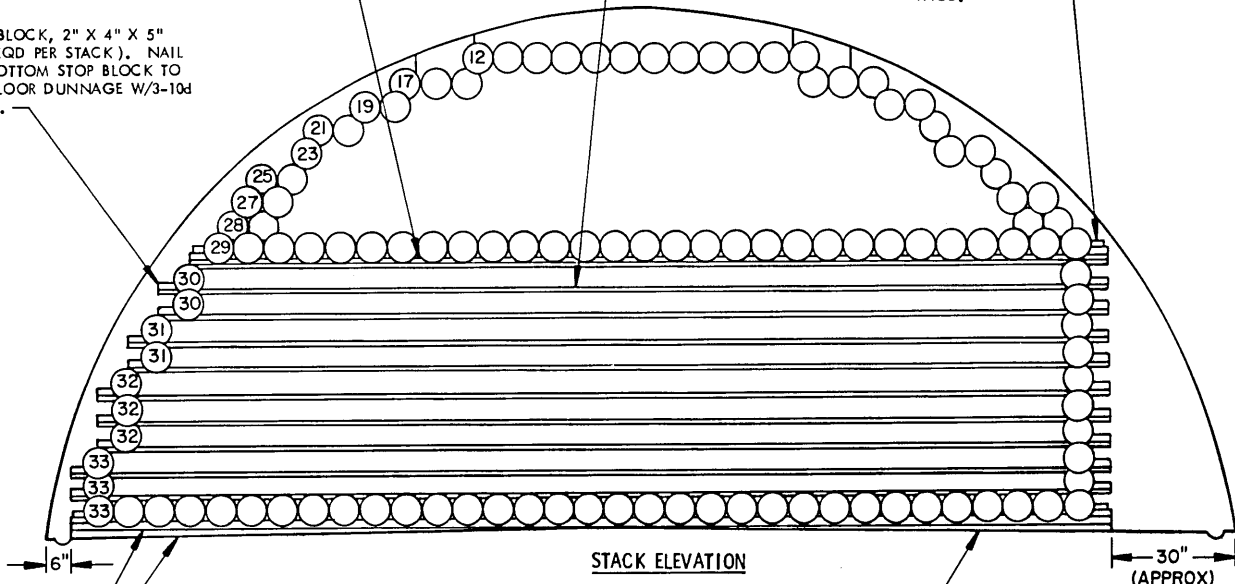


INTERMEDIATE DUNNAGE, 1" X 4" BY LENGTH TO SUIT (DOUBLED) (2 REQD PER STACK). NAIL THE FIRST PIECE TO THE STOP BLOCKS W/3-6d NAILS AT EACH END. LAMINATE THE SECOND PIECE TO THE FIRST W/1-6d NAIL EVERY 12" AND CLINCH. SEE THE "SPLICE DETAIL" ON PAGE 86.

INTERMEDIATE DUNNAGE, 1" X 4" BY LENGTH TO SUIT (18 REQD PER STACK). NAIL TO THE STOP BLOCKS W/3-6d NAILS AT EACH END. SEE THE "SPLICE DETAIL" ON PAGE 86.

TIE PIECE, 2" X 4" X 70-1/2" (4 REQD PER STACK). POSITION AGAINST THE END CONTAINERS AND NAIL TO THE STOP BLOCKS W/3-10d NAILS AT EACH JOINT. SEE SPECIAL NOTE 5 ON THIS PAGE.

STOP BLOCK, 2" X 4" X 5" (44 REQD PER STACK). NAIL THE BOTTOM STOP BLOCK TO THE FLOOR DUNNAGE W/3-10d NAILS.



**STACK ELEVATION**

518 CONTAINERS PER STACK.  
12,432 CONTAINERS PER 80' MAGAZINE.  
5,180 CONTAINERS PER 40' MAGAZINE.

WEDGE, 2" X 4" X 9'-0" (2 REQD PER STACK). SEE THE "WEDGE DETAIL A" ON PAGE 86.  
FLOOR DUNNAGE, 2" X 4" BY LENGTH TO SUIT (2 REQD PER STACK). SEE THE "SPLICE DETAIL" ON PAGE 86.

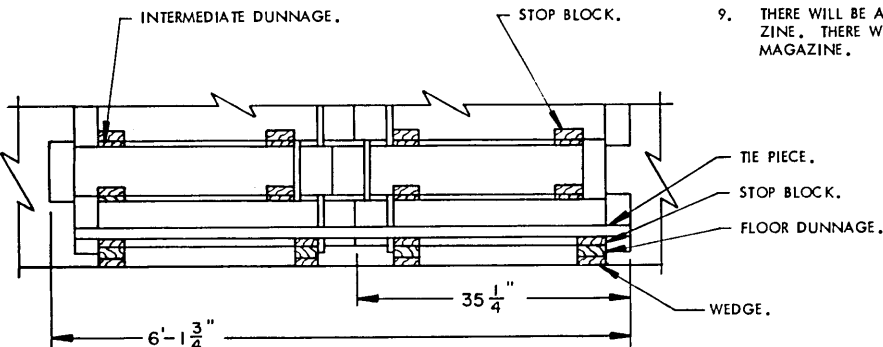
WEDGE, 2" X 4" X 6'-0" (2 REQD PER STACK). SEE THE "WEDGE DETAIL A" ON PAGE 86.

**SPECIAL NOTES:**

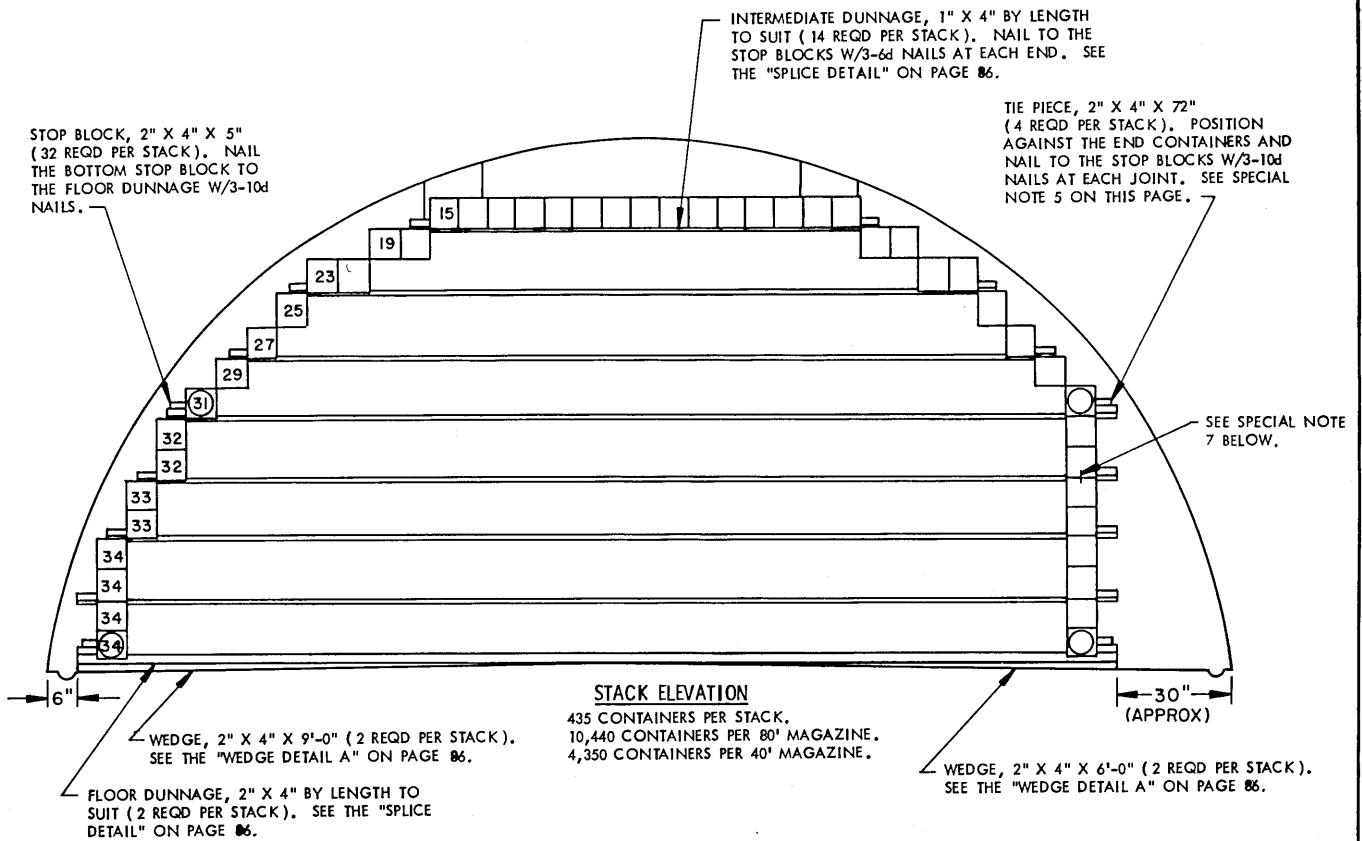
1. STORAGE AS SHOWN IS FOR THE PA75 CONTAINER. USE THIS SAME STORAGE FORMAT FOR ALL PA75 SERIES CONTAINERS.  
CONTAINER DIMENSIONS ---- 35-1/4" LONG BY 7-25/32" DIAMETER.
2. THE NUMBERS SHOWN IN THE STACK ELEVATION INDICATE THE QUANTITY OF CONTAINERS PER LAYER IN A STACK.
3. SEE THE "TYPICAL PLAN VIEW A" ON PAGE 4.
4. STORE IN DOUBLE STACKS FOR BETTER STABILITY. SEE THE "PARTIAL END VIEW OF DOUBLE STACK" ON THIS PAGE.
5. NOTE: THE "TIE PIECE" EQUALS THE APPROXIMATE LENGTH OF TWO (2) CONTAINERS AND AIDS IN STABILIZING THE STACKS. A "TIE PIECE" IS USED ONLY ON THE BOTTOM LAYER AND TOP LAYER OF DUNNAGE.
6. NOTE: JOINTS IN INTERMEDIATE DUNNAGE MUST BE STAGGERED BOTH HORIZONTALLY AND VERTICALLY.
7. THE INTERMEDIATE DUNNAGE POSITIONED IMMEDIATELY UNDER THE NESTED CONTAINERS AT THE TOP OF THE STACK WILL BE OF DOUBLE THICKNESS 1" X 4" MATERIAL.
8. ALL CONTAINERS POSITIONED ABOVE LAYER ELEVEN (11) ARE NESTED.
9. THERE WILL BE APPROXIMATELY 67" OF SPACE AT THE FRONT OF AN 80'-0" MAGAZINE. THERE WILL BE APPROXIMATELY 8'-1" OF SPACE AT THE FRONT OF A 40'-0" MAGAZINE.

**BILL OF MATERIAL ( PER STACK )**

LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	495	165
2" X 4"	78	52
NAILS		POUNDS
6d (2")	160	1
10d (3")	36	3/4
WEDGES PER STACK		
LUMBER	LENGTH	NO. REQD
2" X 4"	6'-0"	2
2" X 4"	9'-0"	2



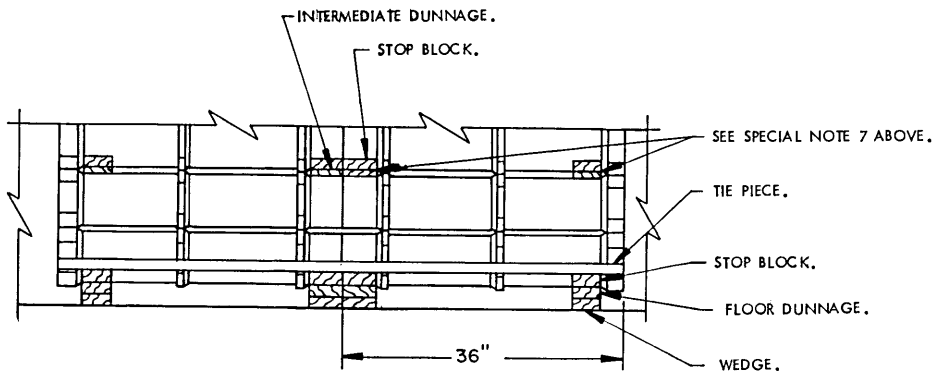
**PARTIAL END VIEW OF DOUBLE STACK**



**SPECIAL NOTES:**

- STORAGE AS SHOWN IS FOR THE PA91 CONTAINER. USE THIS SAME STORAGE FORMAT FOR ALL PA91 SERIES CONTAINERS.  
 CONTAINER DIMENSIONS ---- 36" LONG BY 7-1/2" WIDE BY 7-1/2" HIGH.
- THE NUMBERS SHOWN IN THE STACK ELEVATION INDICATE THE QUANTITY OF CONTAINERS PER LAYER IN A STACK.
- SEE THE "TYPICAL PLAN VIEW A" ON PAGE 4.
- STORE IN DOUBLE STACKS FOR BETTER STABILITY. SEE THE "PARTIAL END VIEW OF DOUBLE STACK" ON THIS PAGE.
- NOTE: THE "TIE PIECE" EQUALS THE APPROXIMATE LENGTH OF TWO (2) CONTAINERS AND AIDS IN STABILIZING THE STACKS. A "TIE PIECE" IS USED ONLY ON THE BOTTOM LAYER AND AT THE FOURTH LAYER OF INTERMEDIATE DUNNAGE.
- NOTE: JOINTS IN INTERMEDIATE DUNNAGE MUST BE STAGGERED BOTH HORIZONTALLY AND VERTICALLY.
- NOTE: THE INTERLOCKING PINS ON EACH END OF A CONTAINER MUST INTERLOCK VERTICALLY WITH THE CONTAINER IN THE NEXT LAYER.
- THERE WILL BE APPROXIMATELY 7'-0" OF SPACE AT THE FRONT OF AN 80'-0" MAGAZINE. THERE WILL BE APPROXIMATELY 8'-0" OF SPACE AT THE FRONT OF A 40'-0" MAGAZINE.

BILL OF MATERIAL ( PER STACK )		
LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	275	92
2" X 4"	73	49
NAILS	NO. REQD	POUNDS
6d (2")	84	1/2
10d (3")	36	3/4
WEDGES PER STACK		
LUMBER	LENGTH	NO. REQD
2" X 4"	6'-0"	2
2" X 4"	9'-0"	2

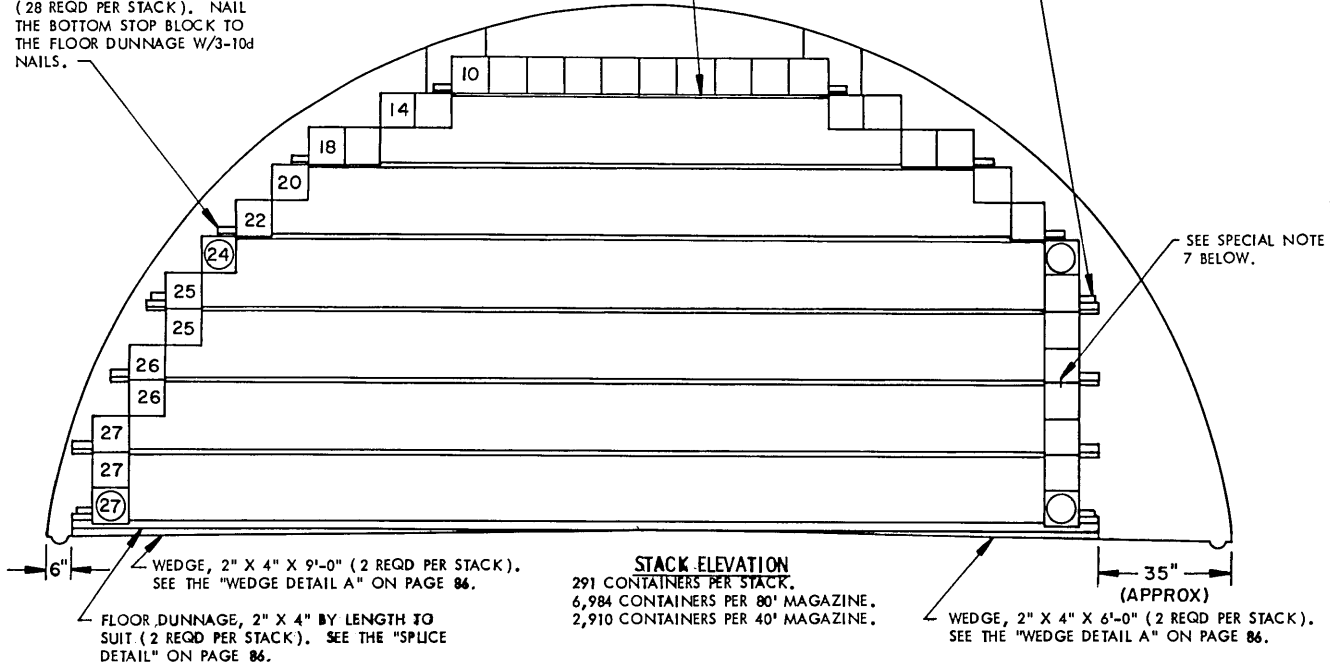


**PARTIAL END VIEW OF DOUBLE STACK**

STOP BLOCK, 2" X 4" X 5" (28 REQD PER STACK). NAIL THE BOTTOM STOP BLOCK TO THE FLOOR DUNNAGE W/3-10d NAILS.

INTERMEDIATE DUNNAGE, 1" X 4" BY LENGTH TO SUIT (12 REQD PER STACK). NAIL TO THE STOP BLOCKS W/3-6d NAILS AT EACH END. SEE THE "SPLICE DETAIL" ON PAGE 86.

TIE PIECE, 2" X 4" X 72" (4 REQD PER STACK). POSITION AGAINST THE END CONTAINERS AND NAIL TO THE STOP BLOCKS W/3-10d NAILS AT EACH JOINT. SEE SPECIAL NOTE 5 ON THIS PAGE.



**STACK ELEVATION**

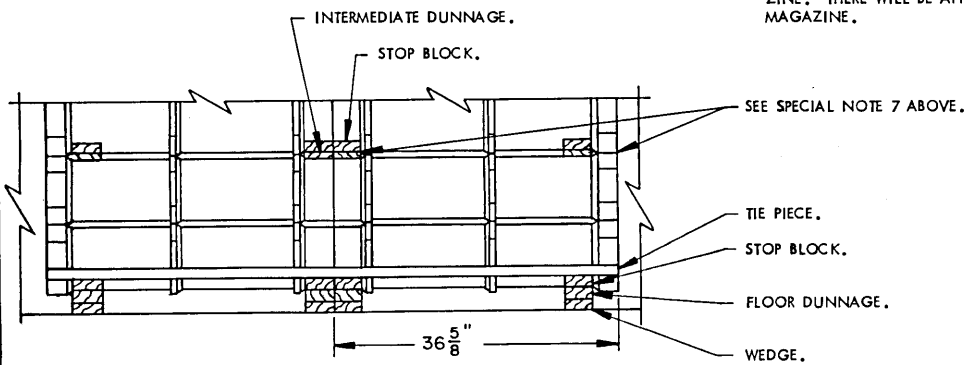
291 CONTAINERS PER STACK.  
6,984 CONTAINERS PER 80' MAGAZINE.  
2,910 CONTAINERS PER 40' MAGAZINE.

**SPECIAL NOTES:**

- STORAGE AS SHOWN IS FOR THE PA92 CONTAINER. USE THIS SAME STORAGE FORMAT FOR ALL PA92 SERIES CONTAINERS.  
CONTAINER DIMENSIONS ---- 36-5/8" LONG BY 9-1/4" WIDE BY 9-1/4" HIGH.
- THE NUMBERS SHOWN IN THE STACK ELEVATION INDICATE THE QUANTITY OF CONTAINERS PER LAYER IN A STACK.
- SEE THE "TYPICAL PLAN VIEW A" ON PAGE 4.
- STORE IN DOUBLE STACKS FOR BETTER STABILITY. SEE THE "PARTIAL END VIEW OF DOUBLE STACK" ON THIS PAGE.
- NOTE: THE "TIE PIECE" EQUALS THE APPROXIMATE LENGTH OF TWO (2) CONTAINERS AND AIDS IN STABILIZING THE STACKS. A "TIE PIECE" IS USED ON THE BOTTOM LAYER AND AT THE THIRD LAYER OF INTERMEDIATE DUNNAGE.
- NOTE: JOINTS IN INTERMEDIATE DUNNAGE MUST BE STAGGERED BOTH HORIZONTALLY AND VERTICALLY.
- NOTE: THE INTERLOCKING PINS ON EACH END OF A CONTAINER MUST INTERLOCK VERTICALLY WITH THE CONTAINER IN THE NEXT LAYER.
- THERE WILL BE APPROXIMATELY 67" OF SPACE AT THE FRONT OF AN 80'-0" MAGAZINE. THERE WILL BE APPROXIMATELY 6'-3" OF SPACE AT THE FRONT OF A 40'-0" MAGAZINE.

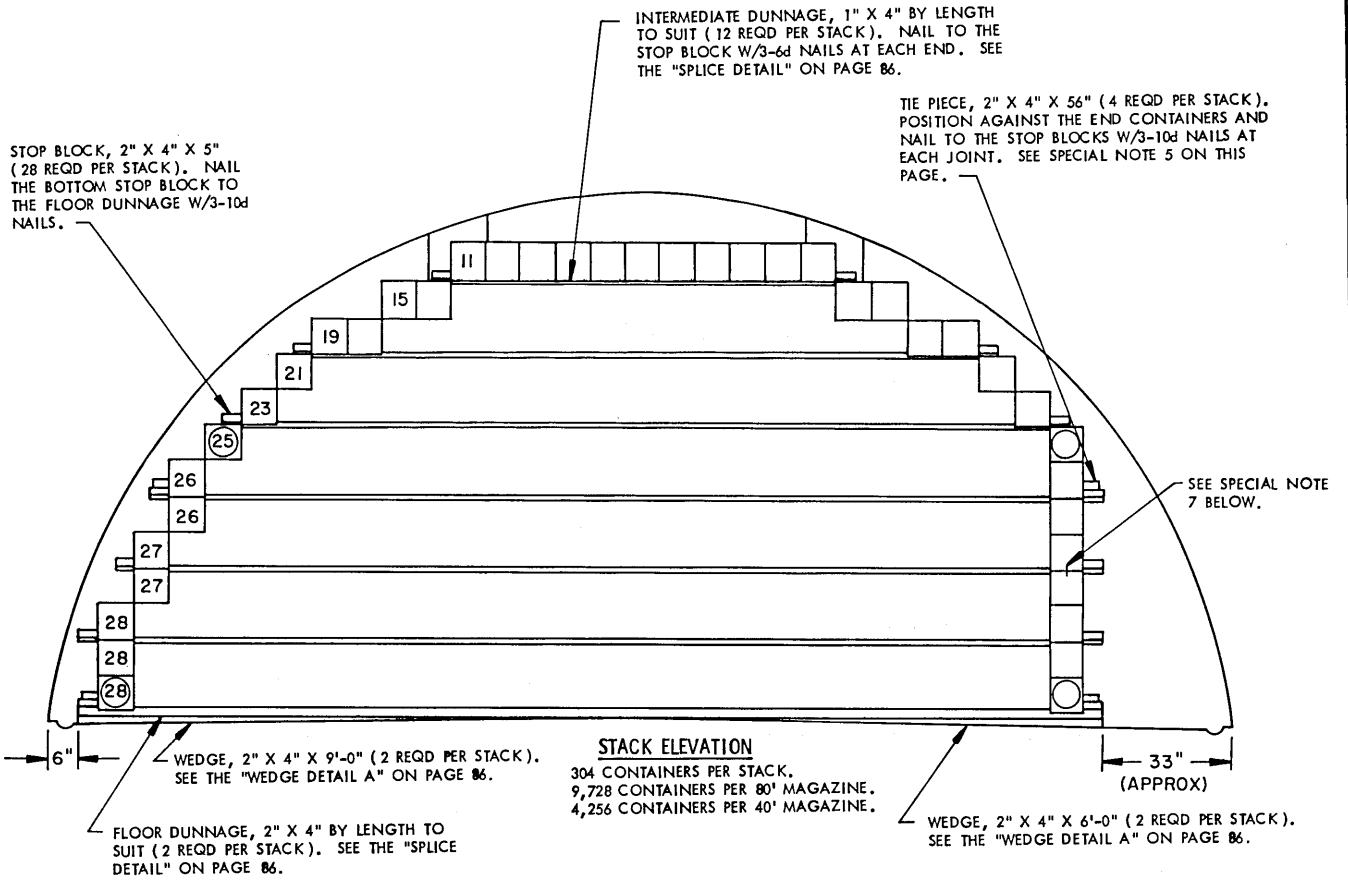
**BILL OF MATERIAL ( PER STACK )**

LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	225	75
2" X 4"	71	48
NAILS	NO. REQD	POUNDS
6d (2")	72	1/2
10d (3")	36	3/4
WEDGES PER STACK		
LUMBER	LENGTH	NO. REQD
2" X 4"	6'-0"	2
2" X 4"	9'-0"	2



**PARTIAL END VIEW OF DOUBLE STACK**

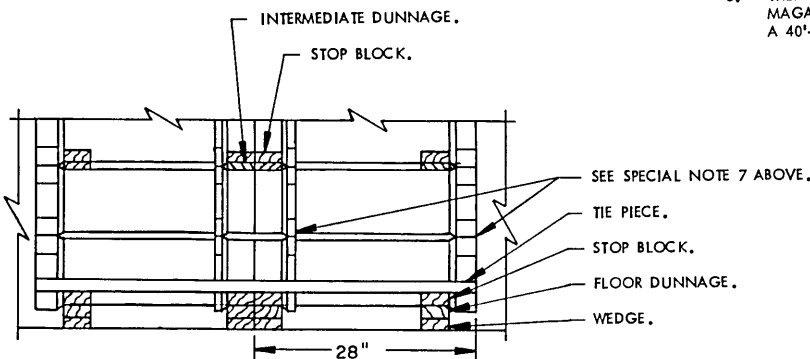




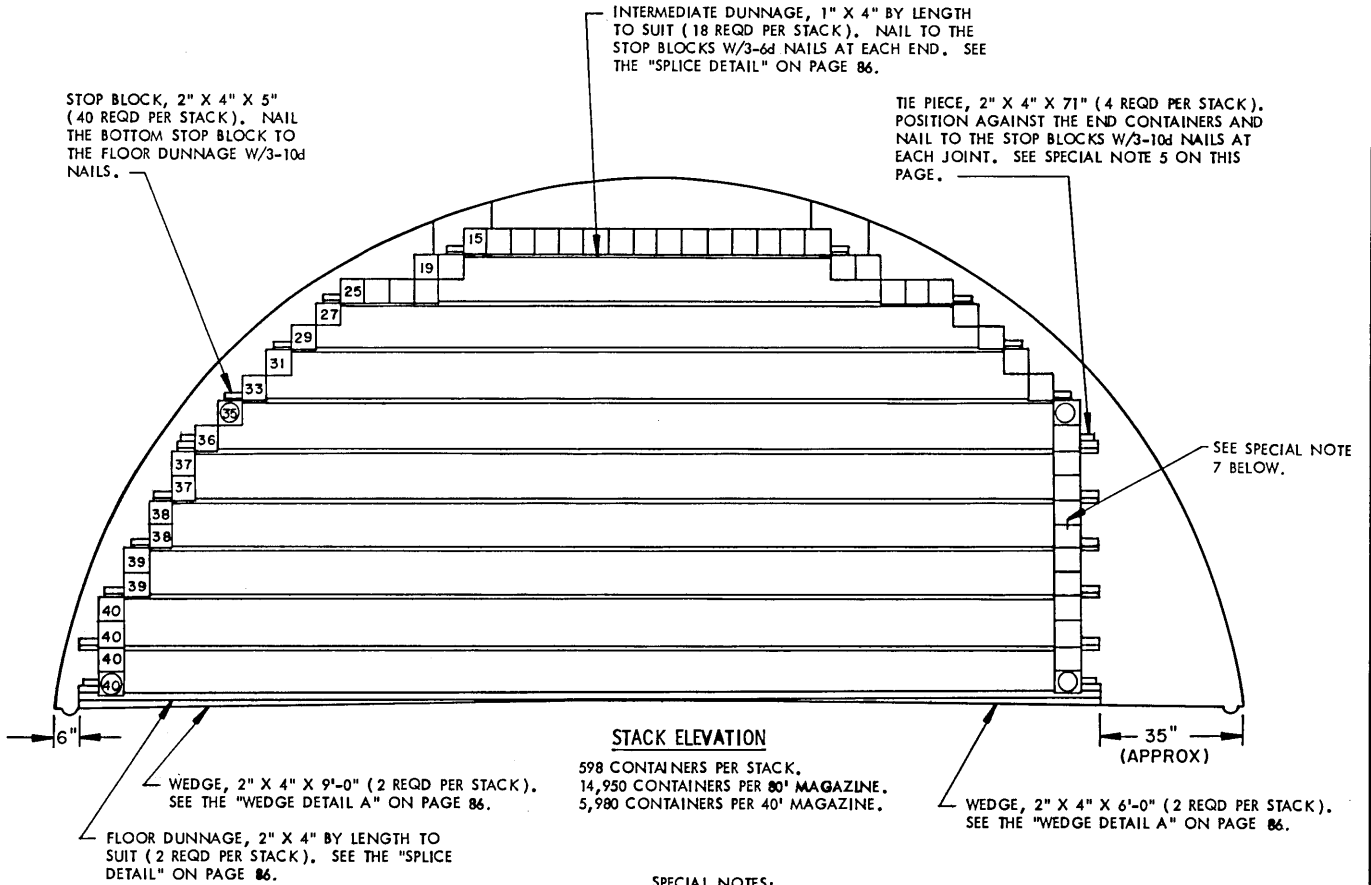
**SPECIAL NOTES:**

- STORAGE AS SHOWN IS FOR THE PA93 CONTAINER. USE THIS SAME STORAGE FORMAT FOR ALL PA93 SERIES CONTAINERS.  
 CONTAINER DIMENSIONS ---- 28" LONG BY 9" WIDE BY 9" HIGH.
- THE NUMBERS SHOWN IN THE STACK ELEVATION INDICATE THE QUANTITY OF CONTAINERS PER LAYER IN A STACK.
- SEE THE "TYPICAL PLAN VIEW A" ON PAGE 4.
- STORE IN DOUBLE STACKS FOR BETTER STABILITY. SEE THE "PARTIAL END VIEW OF DOUBLE STACK" ON THIS PAGE.
- NOTE: THE "TIE PIECE" EQUALS THE APPROXIMATE LENGTH OF TWO (2) CONTAINERS AND AIDS IN STABILIZING THE STACKS. A "TIE PIECE" IS USED ON THE BOTTOM LAYER AND AT THE THIRD LAYER OF INTERMEDIATE DUNNAGE.
- NOTE: JOINTS IN INTERMEDIATE DUNNAGE MUST BE STAGGERED BOTH HORIZONTALLY AND VERTICALLY.
- NOTE: THE INTERLOCKING PINS ON EACH END OF A CONTAINER MUST INTERLOCK VERTICALLY WITH THE CONTAINER IN THE NEXT LAYER.
- THERE WILL BE APPROXIMATELY 50" OF SPACE AT THE FRONT OF AN 80'-0" MAGAZINE. THERE WILL BE APPROXIMATELY 6'-2" OF SPACE AT THE FRONT OF A 40'-0" MAGAZINE.

BILL OF MATERIAL ( PER STACK )		
LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	228	76
2" X 4"	68	46
NAILS	.NO. REQD	POUNDS
6d (2")	72	1/2
10d (3")	36	3/4
WEDGES PER STACK		
LUMBER	LENGTH	NO. REQD
2" X 4"	6'-0"	2
2" X 4"	9'-0"	2



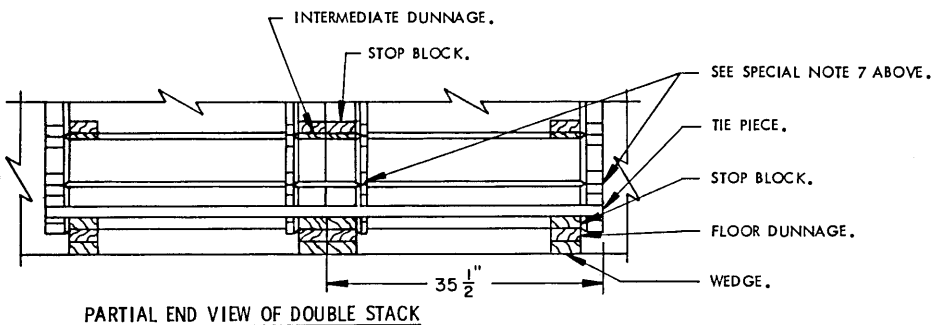
**PARTIAL END VIEW OF DOUBLE STACK**



**SPECIAL NOTES:**

- STORAGE AS SHOWN IS FOR THE PA94 CONTAINER. USE THIS SAME STORAGE FORMAT FOR ALL PA94 SERIES CONTAINERS.  
 CONTAINER DIMENSIONS ---- 35-1/2" LONG BY 6-1/4" WIDE BY 6-1/4" HIGH.
- THE NUMBERS SHOWN IN THE STACK ELEVATION INDICATE THE QUANTITY OF CONTAINERS PER LAYER IN A STACK.
- SEE THE "TYPICAL PLAN VIEW A" ON PAGE 4.
- STORE IN DOUBLE STACKS FOR BETTER STABILITY. SEE THE "PARTIAL END VIEW OF DOUBLE STACK" ON THIS PAGE.
- NOTE: THE "TIE PIECE" EQUALS THE APPROXIMATE LENGTH OF TWO (2) CONTAINERS AND AIDS IN STABILIZING THE STACKS. A "TIE PIECE" IS USED ON THE BOTTOM LAYER AND AT THE FIFTH LAYER OF INTERMEDIATE DUNNAGE.
- NOTE: JOINTS IN INTERMEDIATE DUNNAGE MUST BE STAGGERED BOTH HORIZONTALLY AND VERTICALLY.
- NOTE: THE INTERLOCKING PINS ON EACH END OF A CONTAINER MUST INTERLOCK VERTICALLY WITH THE CONTAINER IN THE NEXT LAYER.
- THERE WILL BE APPROXIMATELY 7'-0" OF SPACE AT THE FRONT OF AN 80'-0" MAGAZINE. THERE WILL BE APPROXIMATELY 8'-5" OF SPACE AT THE FRONT OF A 40'-0" MAGAZINE.

BILL OF MATERIAL ( PER STACK )		
LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	342	114
2" X 4"	76	51
NAILS		POUNDS
6d ( 2" )	108	3/4
10d ( 3" )	36	3/4
WEDGES PER STACK		
LUMBER	LENGTH	NO. REQD
2" X 4"	6'-0"	2
2" X 4"	9'-0"	2

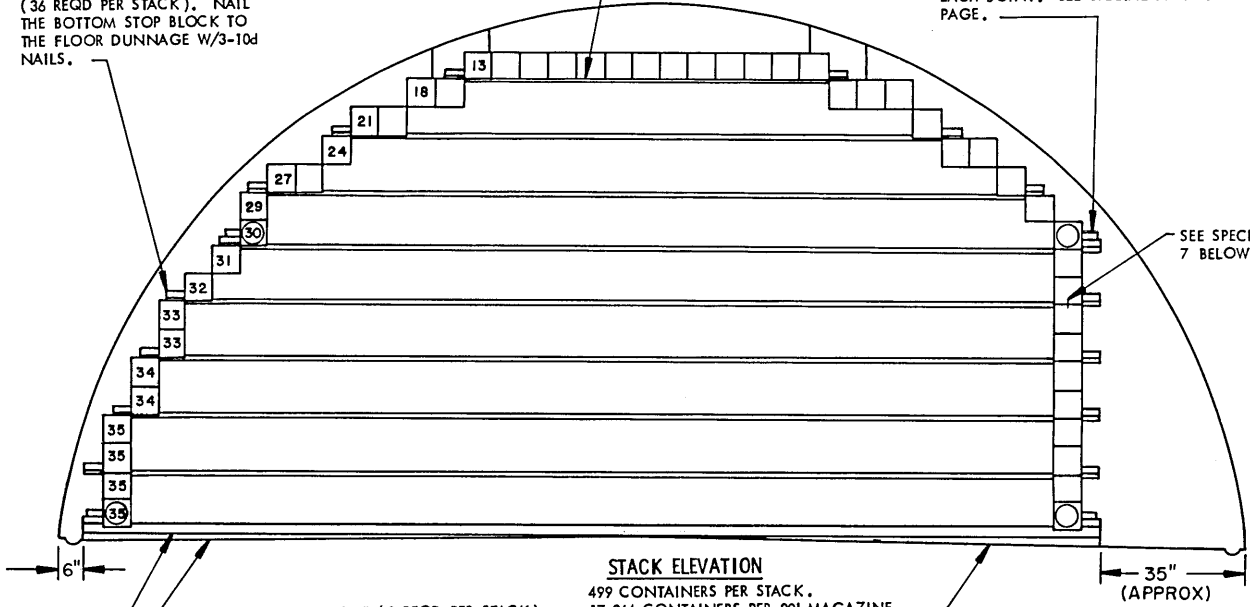


STOP BLOCK, 2" X 4" X 5"  
(36 REQD PER STACK), NAIL  
THE BOTTOM STOP BLOCK TO  
THE FLOOR DUNNAGE W/3-10d  
NAILS.

INTERMEDIATE DUNNAGE, 1" X 4" BY LENGTH  
TO SUIT (16 REQD PER STACK). NAIL TO THE  
STOP BLOCKS W/3-6d NAILS AT EACH END. SEE  
THE "SPLICE DETAIL" ON PAGE 86.

TIE PIECE, 2" X 4" X 50" (4 REQD PER STACK).  
POSITION AGAINST THE END CONTAINERS AND  
NAIL TO THE STOP BLOCKS W/3-10d NAILS AT  
EACH JOINT. SEE SPECIAL NOTE 5 ON THIS  
PAGE.

SEE SPECIAL NOTE  
7 BELOW.



WEDGE, 2" X 4" X 9'-0" (2 REQD PER STACK).  
SEE THE "WEDGE DETAIL A" ON PAGE 86.

FLOOR DUNNAGE, 2" X 4" BY LENGTH TO  
SUIT (2 REQD PER STACK). SEE THE "SPLICE  
DETAIL" ON PAGE 86.

**STACK ELEVATION**

499 CONTAINERS PER STACK.  
17,964 CONTAINERS PER 80' MAGAZINE.  
7,984 CONTAINERS PER 40' MAGAZINE.

WEDGE, 2" X 4" X 6'-0" (2 REQD PER STACK).  
SEE THE "WEDGE DETAIL A" ON PAGE 86.

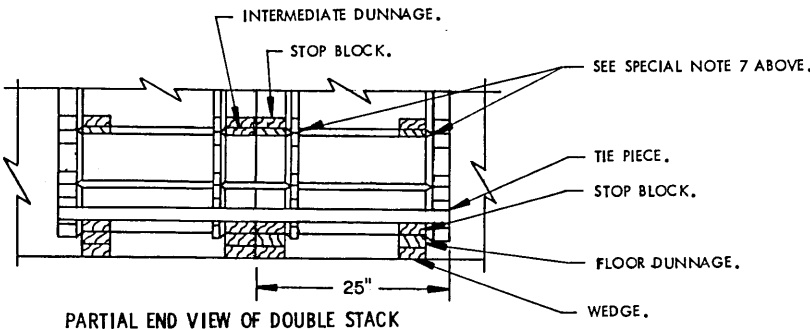
**SPECIAL NOTES:**

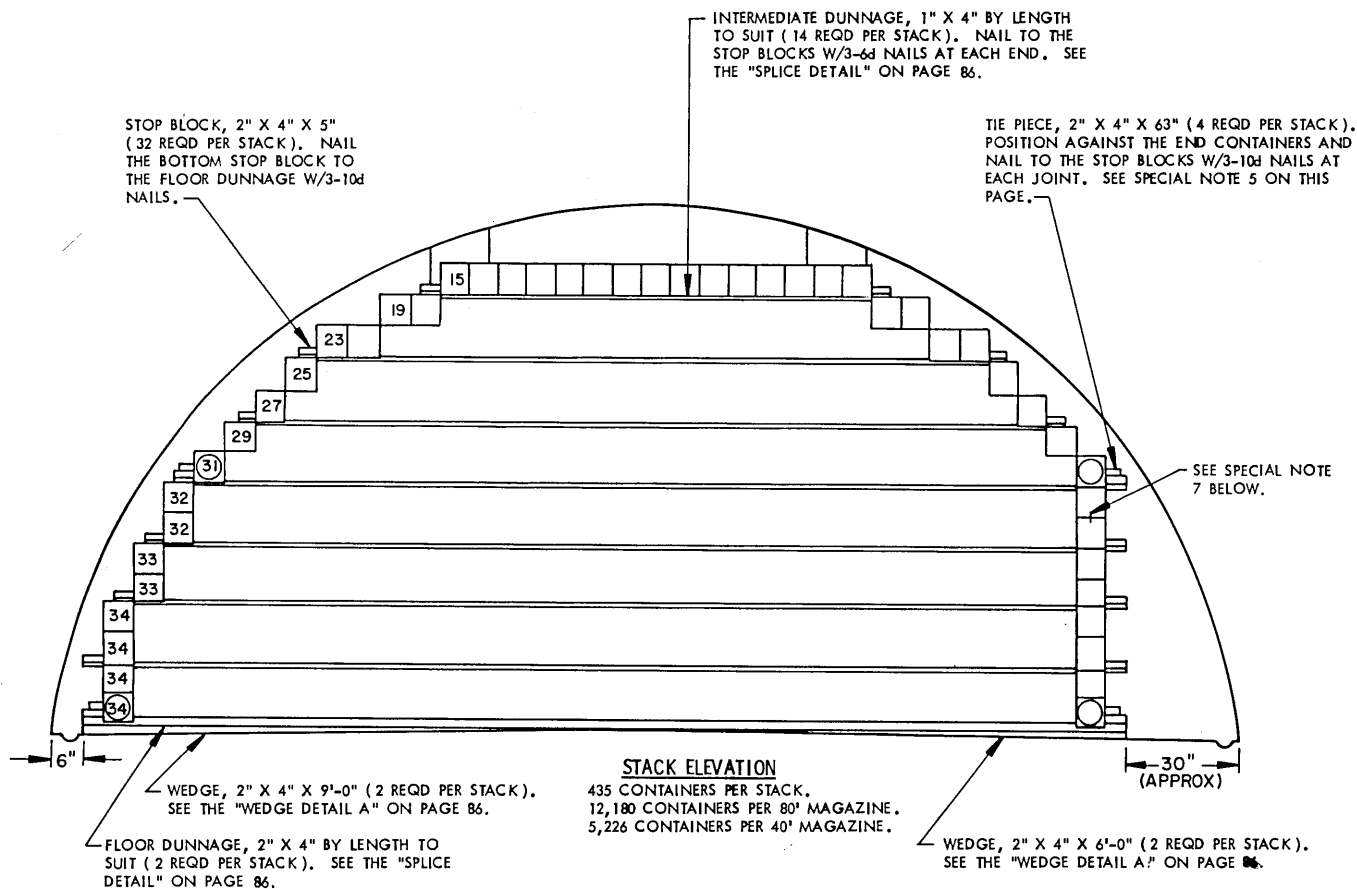
1. STORAGE AS SHOWN IS FOR THE PA95 CONTAINER. USE THIS SAME STORAGE FORMAT FOR ALL PA95 SERIES CONTAINERS.

CONTAINER DIMENSIONS --- 25" LONG BY 7-1/8" WIDE BY 7-1/8" HIGH.

2. THE NUMBERS SHOWN IN THE STACK ELEVATION INDICATE THE QUANTITY OF CONTAINERS PER LAYER IN A STACK.
3. SEE THE "TYPICAL PLAN VIEW A" ON PAGE 4.
4. STORE IN DOUBLE STACKS FOR BETTER STABILITY. SEE THE "PARTIAL END VIEW OF DOUBLE STACK" ON THIS PAGE.
5. NOTE: THE "TIE PIECE" EQUALS THE APPROXIMATE LENGTH OF TWO (2) CONTAINERS AND AIDS IN STABILIZING THE STACKS. A "TIE PIECE" IS USED ON THE BOTTOM LAYER AND AT THE FIFTH LAYER OF INTERMEDIATE DUNNAGE.
6. NOTE: JOINTS IN INTERMEDIATE DUNNAGE MUST BE STAGGERED BOTH HORIZONTALLY AND VERTICALLY.
7. NOTE: THE INTERLOCKING PINS ON EACH END OF A CONTAINER MUST INTERLOCK VERTICALLY WITH THE CONTAINER IN THE NEXT LAYER.
8. THERE WILL BE APPROXIMATELY 46" OF SPACE AT THE FRONT OF AN 80'-0" MAGAZINE. THERE WILL BE APPROXIMATELY 66" OF SPACE AT THE FRONT OF A 40'-0" MAGAZINE.

BILL OF MATERIAL ( PER STACK )		
LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	300	100
2" X 4"	70	47
NAILS	NO. REQD	POUNDS
6d (2")	96	3/4
10d (3")	36	3/4
WEDGES PER STACK		
LUMBER	LENGTH	NO. REQD
2" X 4"	6'-0"	2
2" X 4"	9'-0"	2





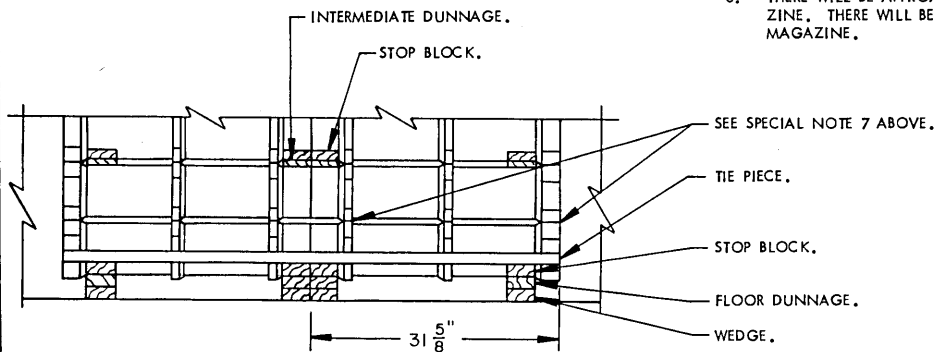
**STACK ELEVATION**

435 CONTAINERS PER STACK.  
 12,180 CONTAINERS PER 80' MAGAZINE.  
 5,226 CONTAINERS PER 40' MAGAZINE.

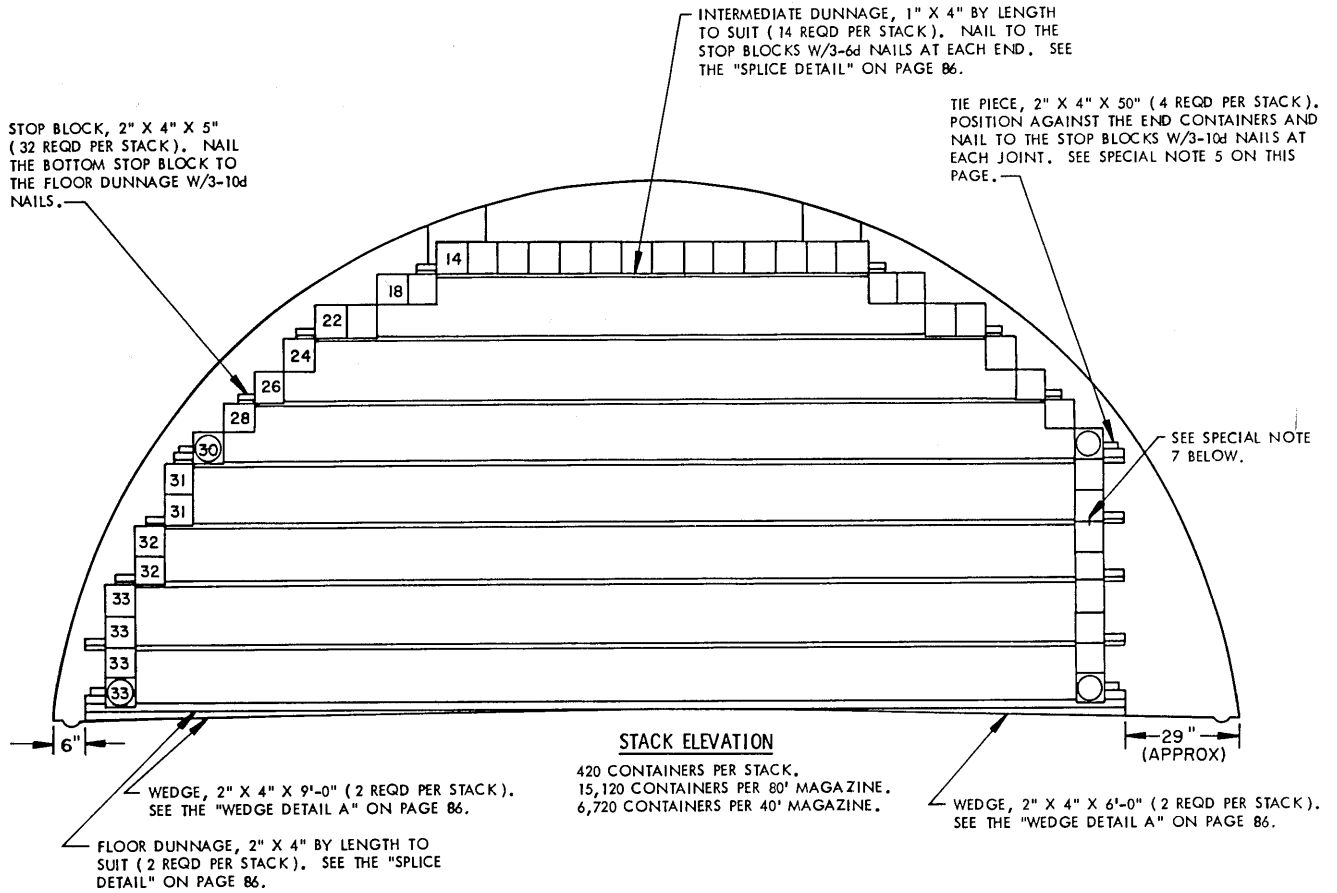
**SPECIAL NOTES:**

1. STORAGE AS SHOWN IS FOR THE PA96 CONTAINER. USE THIS SAME STORAGE FORMAT FOR ALL PA96 SERIES CONTAINERS.  
 CONTAINER DIMENSIONS --- 31-5/8" LONG BY 7-1/2" WIDE BY 7-1/2" HIGH.
2. THE NUMBERS SHOWN IN THE STACK ELEVATION INDICATE THE QUANTITY OF CONTAINERS PER LAYER IN A STACK.
3. SEE THE "TYPICAL PLAN VIEW A" ON PAGE 4.
4. STORE IN DOUBLE STACKS FOR BETTER STABILITY. SEE THE "PARTIAL END VIEW OF DOUBLE STACK" ON THIS PAGE.
5. NOTE: THE "TIE PIECE" EQUALS THE APPROXIMATE LENGTH OF TWO (2) CONTAINERS AND AIDS IN STABILIZING THE STACKS. A "TIE PIECE" IS USED ON THE BOTTOM LAYER AND AT THE FOURTH LAYER OF INTERMEDIATE DUNNAGE.
6. NOTE: JOINTS IN INTERMEDIATE DUNNAGE MUST BE STAGGERED BOTH HORIZONTALLY AND VERTICALLY.
7. NOTE: THE INTERLOCKING PINS ON EACH END OF A CONTAINER MUST INTERLOCK VERTICALLY WITH THE CONTAINER IN THE NEXT LAYER.
8. THERE WILL BE APPROXIMATELY 60" OF SPACE AT THE FRONT OF AN 80'-0" MAGAZINE. THERE WILL BE APPROXIMATELY 7'-2" OF SPACE AT THE FRONT OF A 40'-0" MAGAZINE.

BILL OF MATERIAL ( PER STACK )		
LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	275	92
2" X 4"	72	48
NAILS		POUNDS
6d (2")	84	1/2
10d (3")	36	3/4
WEDGES PER STACK		
LUMBER	LENGTH	NO. REQD
2" X 4"	6'-0"	2
2" X 4"	9'-0"	2



**PARTIAL END VIEW OF DOUBLE STACK**



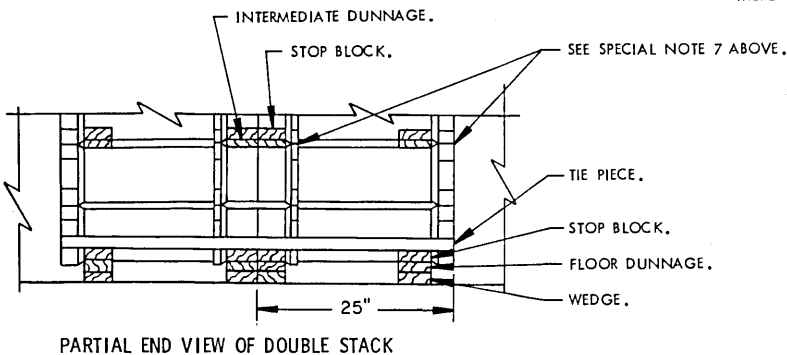
**STACK ELEVATION**

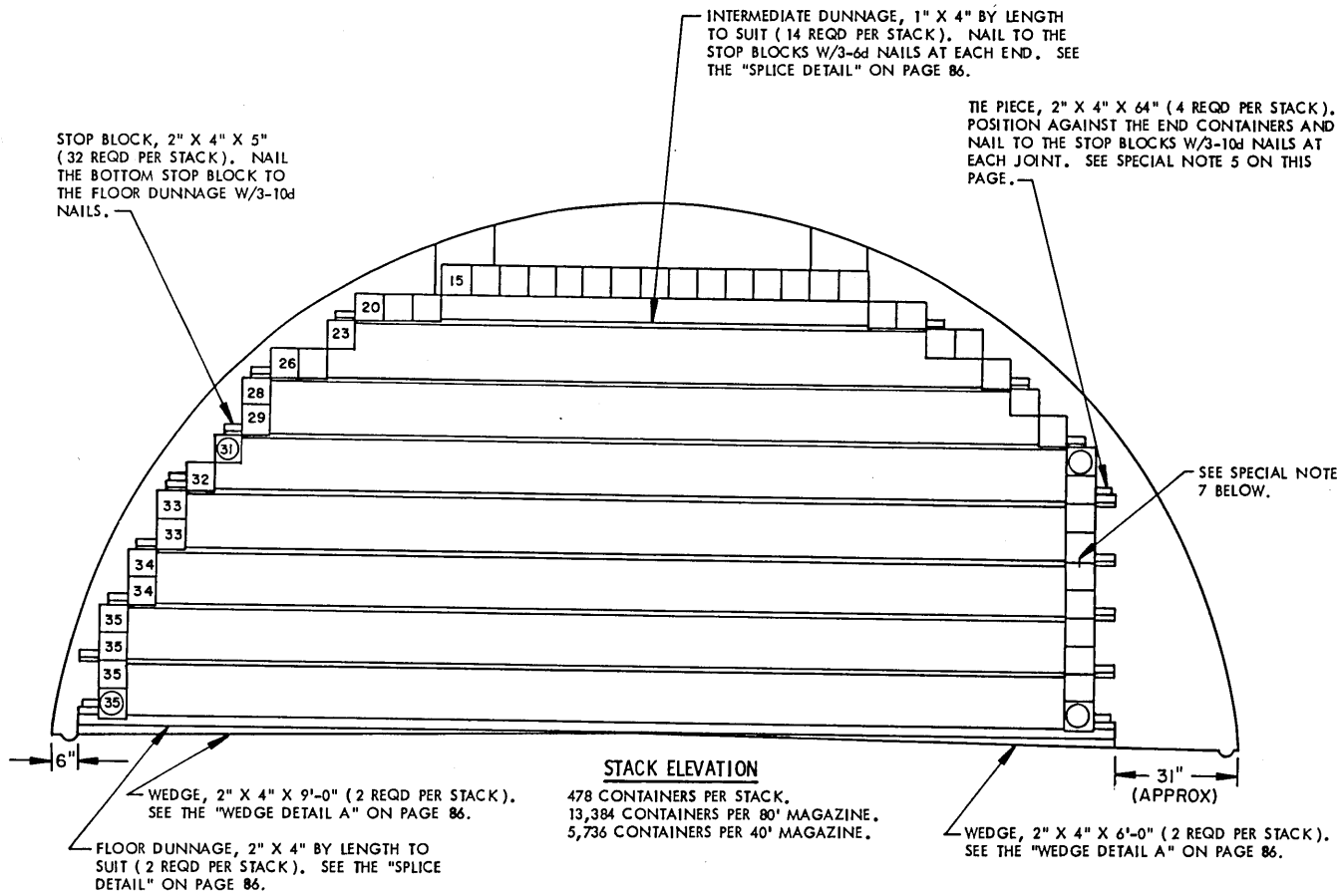
420 CONTAINERS PER STACK.  
 15,120 CONTAINERS PER 80' MAGAZINE.  
 6,720 CONTAINERS PER 40' MAGAZINE.

**SPECIAL NOTES:**

1. STORAGE AS SHOWN IS FOR THE PA97 CONTAINER. USE THIS SAME STORAGE FORMAT FOR ALL PA97 SERIES CONTAINERS.  
 CONTAINER DIMENSIONS --- 25" LONG BY 7-3/4" WIDE BY 7-3/4" HIGH.
2. THE NUMBERS SHOWN IN THE STACK ELEVATION INDICATE THE QUANTITY OF CONTAINERS PER LAYER IN A STACK.
3. SEE THE "TYPICAL PLAN VIEW A" ON PAGE 4.
4. STORE IN DOUBLE STACKS FOR BETTER STABILITY. SEE THE "PARTIAL END VIEW OF DOUBLE STACK" ON THIS PAGE.
5. **NOTE:** THE "TIE PIECE" EQUALS THE APPROXIMATE LENGTH OF TWO (2) CONTAINERS AND AIDS IN STABILIZING THE STACKS. A "TIE PIECE" IS USED ON THE BOTTOM LAYER AND AT THE FOURTH LAYER OF INTERMEDIATE DUNNAGE.
6. **NOTE:** JOINTS IN INTERMEDIATE DUNNAGE MUST BE STAGGERED BOTH HORIZONTALLY AND VERTICALLY.
7. **NOTE:** THE INTERLOCKING PINS ON EACH END OF A CONTAINER MUST INTERLOCK VERTICALLY WITH THE CONTAINER IN THE NEXT LAYER.
8. THERE WILL BE APPROXIMATELY 46" OF SPACE AT THE FRONT OF AN 80'-0" MAGAZINE. THERE WILL BE APPROXIMATELY 66" OF SPACE AT THE FRONT OF A 40'-0" MAGAZINE.

BILL OF MATERIAL ( PER STACK )		
LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	276	92
2" X 4"	69	46
NAILS	NO. REQD	POUNDS
6d (2")	84	1/2
10d (3")	36	3/4
WEDGES PER STACK		
LUMBER	LENGTH	NO. REQD
2" X 4"	6'-0"	2
2" X 4"	9'-0"	2





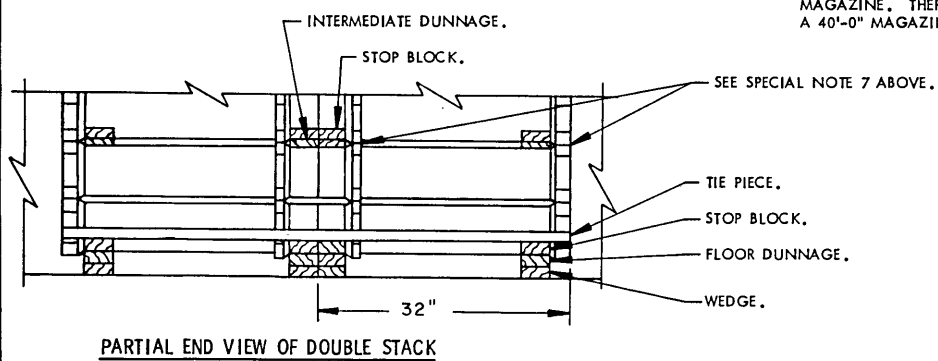
**STACK ELEVATION**

478 CONTAINERS PER STACK,  
13,384 CONTAINERS PER 80' MAGAZINE,  
5,736 CONTAINERS PER 40' MAGAZINE.

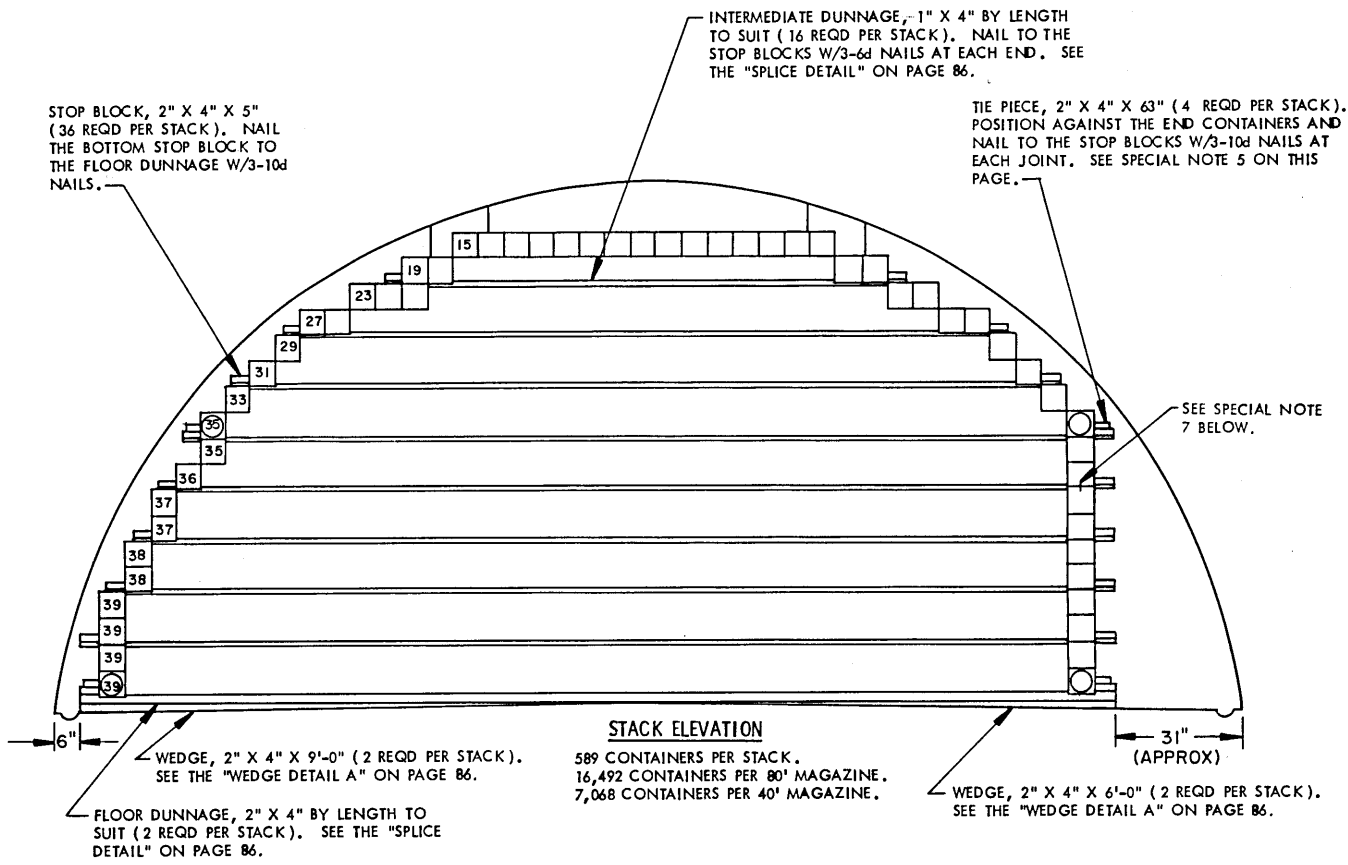
**SPECIAL NOTES:**

1. STORAGE AS SHOWN IS FOR THE PA99 CONTAINER. USE THIS SAME STORAGE FORMAT FOR ALL PA99 SERIES CONTAINERS.  
  
CONTAINER DIMENSIONS --- 32" LONG BY 7-1/4" WIDE BY 7-1/4" HIGH.
2. THE NUMBERS SHOWN IN THE STACK ELEVATION INDICATE THE QUANTITY OF CONTAINERS PER LAYER IN A STACK.
3. SEE THE "TYPICAL PLAN VIEW A" ON PAGE 4.
4. STORE IN DOUBLE STACKS FOR BETTER STABILITY. SEE THE "PARTIAL END VIEW OF DOUBLE STACK" ON THIS PAGE.
5. **NOTE:** THE "TIE PIECE" EQUALS THE APPROXIMATE LENGTH OF TWO (2) CONTAINERS AND AIDS IN STABILIZING THE STACKS. A "TIE PIECE" IS USED ON THE BOTTOM LAYER AND AT THE FOURTH LAYER OF INTERMEDIATE DUNNAGE.
6. **NOTE:** JOINTS IN INTERMEDIATE DUNNAGE MUST BE STAGGERED BOTH HORIZONTALLY AND VERTICALLY.
7. **NOTE:** THE INTERLOCKING PINS ON EACH END OF A CONTAINER MUST INTERLOCK VERTICALLY WITH THE CONTAINER IN THE NEXT LAYER.
8. THERE WILL BE APPROXIMATELY 50" OF SPACE AT THE FRONT OF AN 80'-0" MAGAZINE. THERE WILL BE APPROXIMATELY 6'-10" OF SPACE AT THE FRONT OF A 40'-0" MAGAZINE.

BILL OF MATERIAL ( PER STACK )		
LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	285	95
2" X 4"	72	48
NAILS	NO. REQD	POUNDS
6d (2")	84	1/2
10d (3")	36	3/4
WEDGES PER STACK		
LUMBER	LENGTH	NO. REQD
2" X 4"	6'-0"	2
2" X 4"	9'-0"	2



**PARTIAL END VIEW OF DOUBLE STACK**

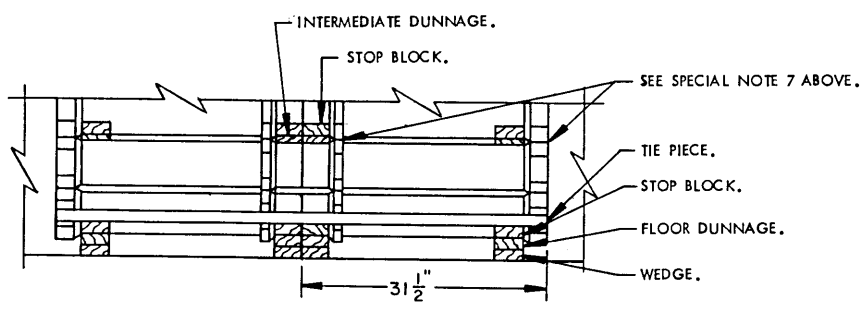


**STACK ELEVATION**  
 589 CONTAINERS PER STACK.  
 16,492 CONTAINERS PER 80' MAGAZINE.  
 7,068 CONTAINERS PER 40' MAGAZINE.

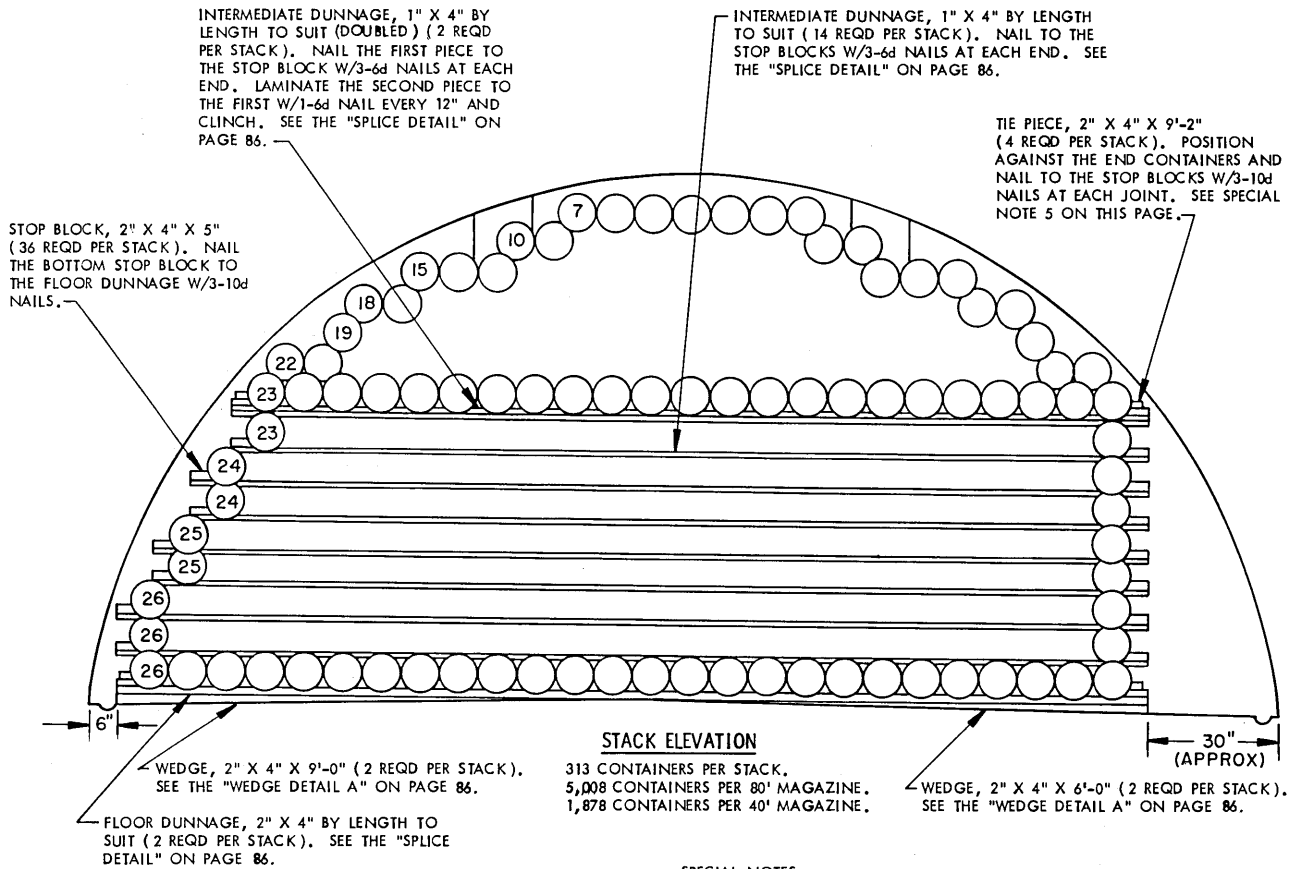
**SPECIAL NOTES:**

1. STORAGE AS SHOWN IS FOR THE PA100 CONTAINER. USE THIS SAME STORAGE FORMAT FOR ALL PA100 SERIES CONTAINERS.  
 CONTAINER DIMENSIONS--31-1/2" LONG BY 6-1/2" WIDE BY 6-1/2" HIGH.
2. THE NUMBERS SHOWN IN THE STACK ELEVATION INDICATE THE QUANTITY OF CONTAINERS PER LAYER IN A STACK.
3. SEE THE "TYPICAL PLAN VIEW A" ON PAGE 4.
4. STORE IN DOUBLE STACKS FOR BETTER STABILITY. SEE THE "PARTIAL END VIEW OF DOUBLE STACK" ON THIS PAGE.
5. **NOTE:** THE "TIE PIECE" EQUALS THE APPROXIMATE LENGTH OF TWO (2) CONTAINERS AND AIDS IN STABILIZING THE STACKS. A "TIE PIECE" IS USED ON THE BOTTOM LAYER AND AT THE FIFTH LAYER OF INTERMEDIATE DUNNAGE.
6. **NOTE:** JOINTS IN INTERMEDIATE DUNNAGE MUST BE STAGGERED BOTH HORIZONTALLY AND VERTICALLY.
7. **NOTE:** THE INTERLOCKING PINS ON EACH END OF A CONTAINER MUST INTERLOCK VERTICALLY WITH THE CONTAINER IN THE NEXT LAYER.
8. THERE WILL BE APPROXIMATELY 64" OF SPACE AT THE FRONT OF AN 80'-0" MAGAZINE. THERE WILL BE APPROXIMATELY 7'-4" OF SPACE AT THE FRONT OF A 40'-0" MAGAZINE.

BILL OF MATERIAL ( PER STACK )		
LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	322	108
2" X 4"	73	49
NAILS	NO. REQD	POUNDS
6d (2")	96	3/4
10d (3")	36	3/4
WEDGES PER STACK		
LUMBER	LENGTH	NO. REQD
2" X 4"	6'-0"	2
2" X 4"	9'-0"	2



**PARTIAL END VIEW OF DOUBLE STACK**

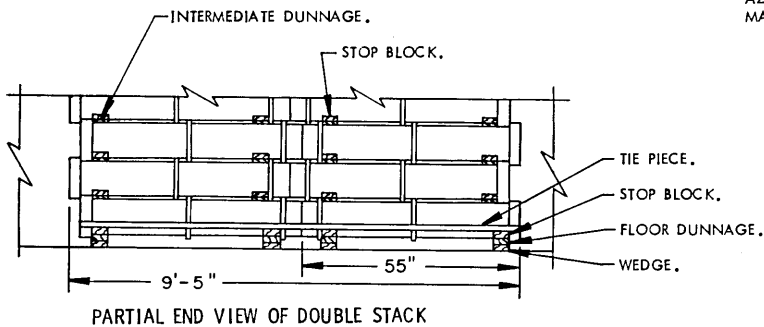


**STACK ELEVATION**  
 313 CONTAINERS PER STACK.  
 5,008 CONTAINERS PER 80" MAGAZINE.  
 1,878 CONTAINERS PER 40" MAGAZINE.

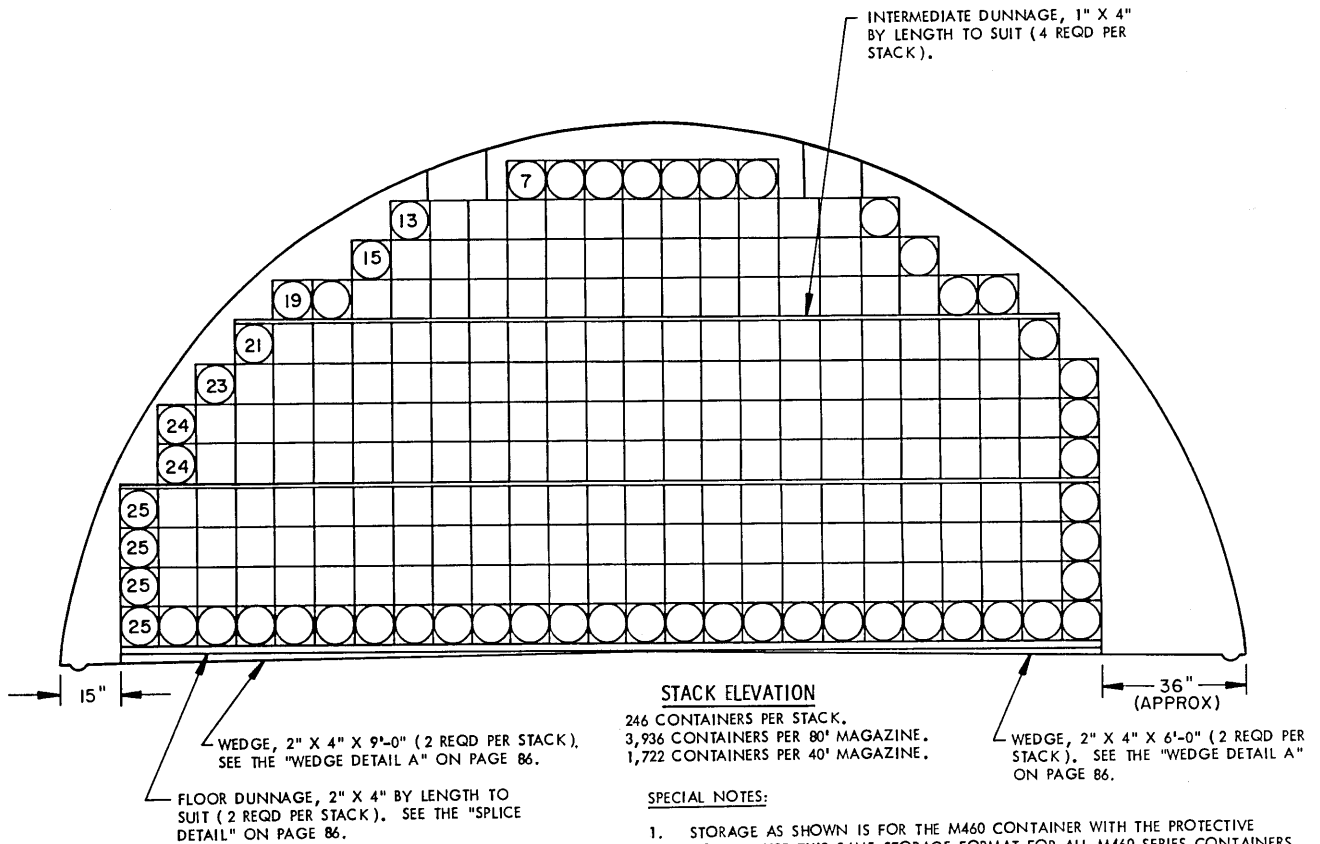
**SPECIAL NOTES:**

- STORAGE AS SHOWN IS FOR THE M460 CONTAINER. USE THIS SAME STORAGE FORMAT FOR ALL M460 SERIES CONTAINERS.  
 CONTAINER DIMENSIONS --- 55" LONG BY 9-13/16" DIAMETER.
- THE NUMBERS SHOWN IN THE STACK ELEVATION INDICATE THE QUANTITY OF CONTAINERS PER LAYER IN A STACK.
- SEE THE "TYPICAL PLAN VIEW A" ON PAGE 4.
- STORE IN DOUBLE STACKS FOR BETTER STABILITY. SEE THE "PARTIAL END VIEW OF DOUBLE STACK" ON THIS PAGE.
- NOTE: THE "TIE PIECE" EQUALS THE APPROXIMATE LENGTH OF TWO (2) CONTAINERS AND AIDS IN STABILIZING THE STACKS. A "TIE PIECE" IS USED ONLY ON THE BOTTOM LAYER AND TOP LAYER OF DUNNAGE.
- NOTE: JOINTS IN INTERMEDIATE DUNNAGE MUST BE STAGGERED BOTH HORIZONTALLY AND VERTICALLY.
- THE INTERMEDIATE DUNNAGE POSITIONED IMMEDIATELY UNDER THE NESTED CONTAINERS AT THE TOP OF THE STACK WILL BE OF DOUBLE THICKNESS 1" X 4" MATERIAL.
- ALL CONTAINERS POSITIONED ABOVE LAYER NINE (9) ARE NESTED.
- THERE WILL BE APPROXIMATELY 42" OF SPACE AT THE FRONT OF AN 80'-0" MAGAZINE. THERE WILL BE APPROXIMATELY 10'-7" OF SPACE AT THE FRONT OF A 40'-0" MAGAZINE.

BILL OF MATERIAL ( PER STACK )		
LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	402	134
2" X 4"	81	54
NAILS		POUNDS
6d ( 2" )	132	1
10d ( 3" )	36	3/4
WEDGES PER STACK		
LUMBER	LENGTH	NO. REQD
2" X 4"	6'-0"	2
2" X 4"	9'-0"	2





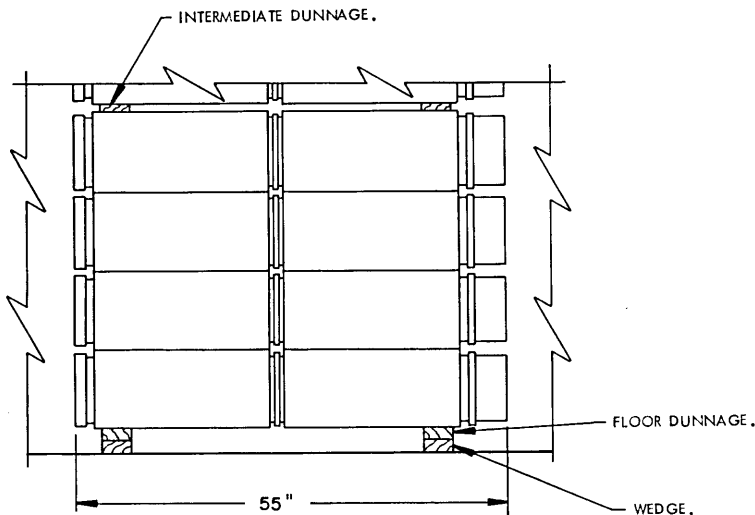


**STACK ELEVATION**  
 246 CONTAINERS PER STACK.  
 3,936 CONTAINERS PER 80' MAGAZINE.  
 1,722 CONTAINERS PER 40' MAGAZINE.

**SPECIAL NOTES:**

1. STORAGE AS SHOWN IS FOR THE M460 CONTAINER WITH THE PROTECTIVE COVER. USE THIS SAME STORAGE FORMAT FOR ALL M460 SERIES CONTAINERS HAVING THE PROTECTIVE COVER.
2. THE NUMBERS SHOWN IN THE STACK ELEVATION INDICATE THE QUANTITY OF CONTAINERS PER LAYER IN A STACK.
3. SEE THE "TYPICAL PLAN VIEW A" ON PAGE 4.
4. NOTE: JOINTS IN INTERMEDIATE DUNNAGE MUST BE STAGGERED BOTH HORIZONTALLY AND VERTICALLY.
5. THERE WILL BE APPROXIMATELY 66" OF SPACE AT THE FRONT OF AN 80'-0" MAGAZINE. THERE WILL BE APPROXIMATELY 6'-9" OF SPACE AT THE FRONT OF A 40'-0" MAGAZINE.

BILL OF MATERIAL ( PER STACK )		
LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	84	28
2" X 4"	45	30
WEDGES PER STACK		
LUMBER	LENGTH	NO. REQD
2" X 4"	6'-0"	2
2" X 4"	9'-0"	2

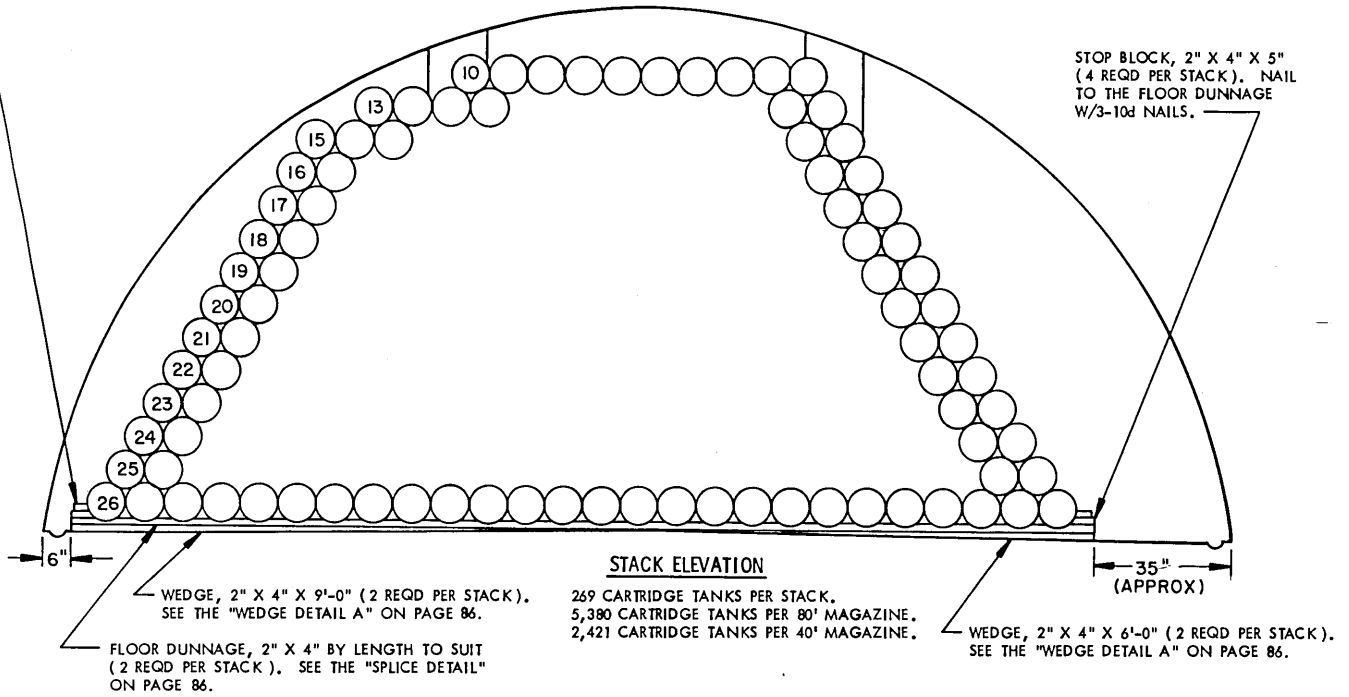


**PARTIAL END VIEW OF STACK**

**CHARGE, PROPELLING, IN M460 SERIES CONTAINER WITH PROTECTIVE COVER**

TIE PIECE, 2" X 4" X 38" (2 REQD PER STACK).  
POSITION AGAINST THE END TANK AND NAIL TO  
THE STOP BLOCKS W/3-10d NAILS AT EACH END.

STOP BLOCK, 2" X 4" X 5"  
(4 REQD PER STACK). NAIL  
TO THE FLOOR DUNNAGE  
W/3-10d NAILS.



**STACK ELEVATION**

269 CARTRIDGE TANKS PER STACK.  
5,380 CARTRIDGE TANKS PER 80' MAGAZINE.  
2,421 CARTRIDGE TANKS PER 40' MAGAZINE.

WEDGE, 2" X 4" X 9'-0" (2 REQD PER STACK).  
SEE THE "WEDGE DETAIL A" ON PAGE 86.  
FLOOR DUNNAGE, 2" X 4" BY LENGTH TO SUIT  
(2 REQD PER STACK). SEE THE "SPlice DETAIL"  
ON PAGE 86.

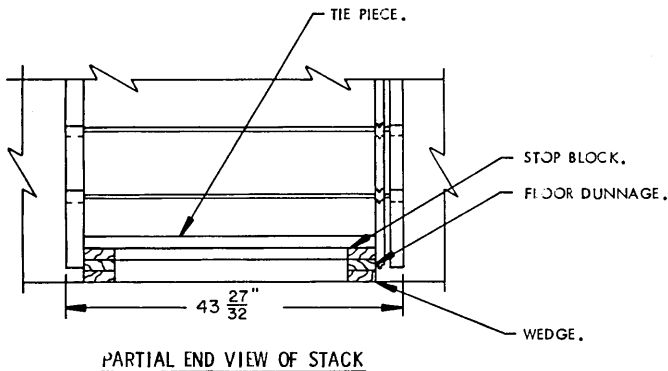
WEDGE, 2" X 4" X 6'-0" (2 REQD PER STACK).  
SEE THE "WEDGE DETAIL A" ON PAGE 86.

**SPECIAL NOTES:**

1. STORAGE AS SHOWN IS FOR THE MK4 CARTRIDGE TANK FOR 6"/47. USE THIS SAME STORAGE FORMAT FOR ALL MK4 CARTRIDGE TANK MODS.  
TANK DIMENSIONS --- 43-27/32" LONG BY 9-21/32" DIAMETER.
2. THE NUMBERS SHOWN IN THE STACK ELEVATION INDICATE THE QUANTITY OF TANKS PER LAYER IN A STACK.
3. SEE THE "TYPICAL PLAN VIEW A" ON PAGE 4.
4. STAGGER ALL JOINTS IN FLOOR DUNNAGE.
5. THERE WILL BE APPROXIMATELY 69" OF SPACE AT THE FRONT OF AN 80'-0" MAGAZINE. THERE WILL BE APPROXIMATELY 72" OF SPACE AT THE FRONT OF A 40'-0" MAGAZINE.

**BILL OF MATERIAL ( PER STACK )**

LUMBER	LINEAR FEET	BOARD FEET
2" X 4"	55	37
NAILS	NO. REQD	POUNDS
10d (3")	24	1/2
WEDGES PER STACK		
LUMBER	LENGTH	NO. REQD
2" X 4"	6'-0"	2
2" X 4"	9'-0"	2

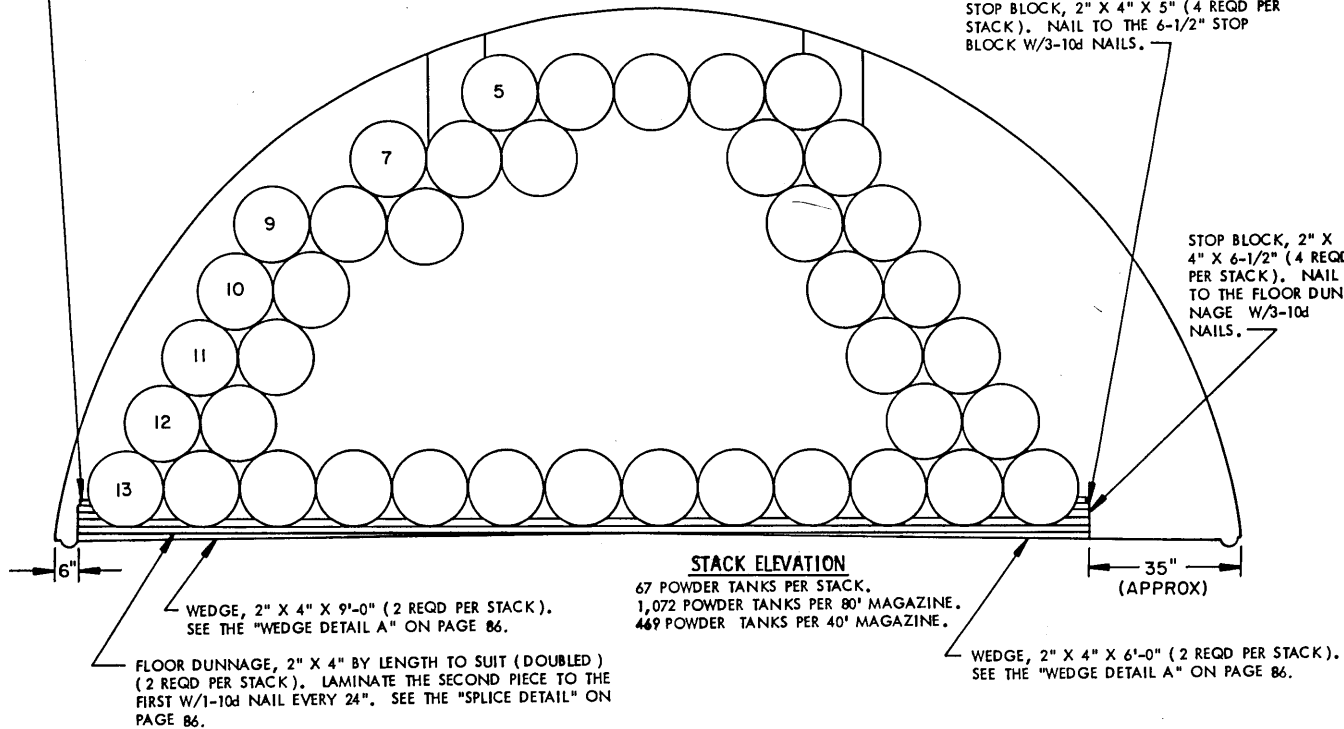


**PARTIAL END VIEW OF STACK**

TIE PIECE, 2" X 4" X 48" (2 REQD PER STACK). POSITION AGAINST THE END TANK AND NAIL TO THE STOP BLOCK W/3-10d NAILS AT EACH END.

STOP BLOCK, 2" X 4" X 5" (4 REQD PER STACK). NAIL TO THE 6-1/2" STOP BLOCK W/3-10d NAILS.

STOP BLOCK, 2" X 4" X 6-1/2" (4 REQD PER STACK). NAIL TO THE FLOOR DUNNAGE W/3-10d NAILS.



**STACK ELEVATION**  
 67 POWDER TANKS PER STACK.  
 1,072 POWDER TANKS PER 80' MAGAZINE.  
 469 POWDER TANKS PER 40' MAGAZINE.

WEDGE, 2" X 4" X 9'-0" (2 REQD PER STACK). SEE THE "WEDGE DETAIL A" ON PAGE 86.

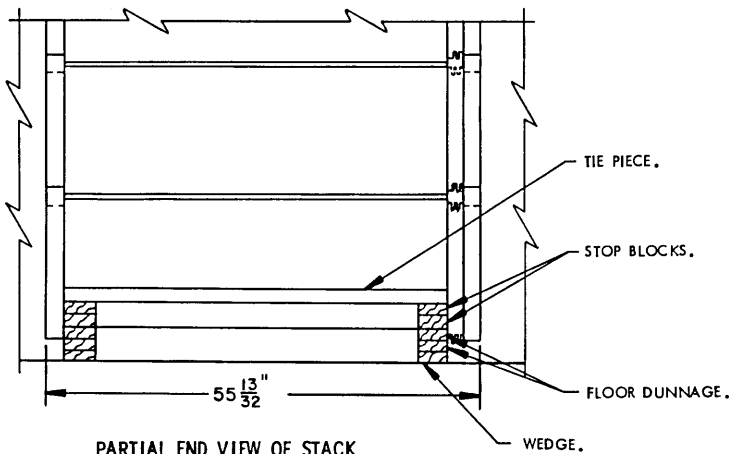
FLOOR DUNNAGE, 2" X 4" BY LENGTH TO SUIT (DOUBLED) (2 REQD PER STACK). LAMINATE THE SECOND PIECE TO THE FIRST W/1-10d NAIL EVERY 24". SEE THE "SPLICE DETAIL" ON PAGE 86.

WEDGE, 2" X 4" X 6'-0" (2 REQD PER STACK). SEE THE "WEDGE DETAIL A" ON PAGE 86.

**SPECIAL NOTES:**

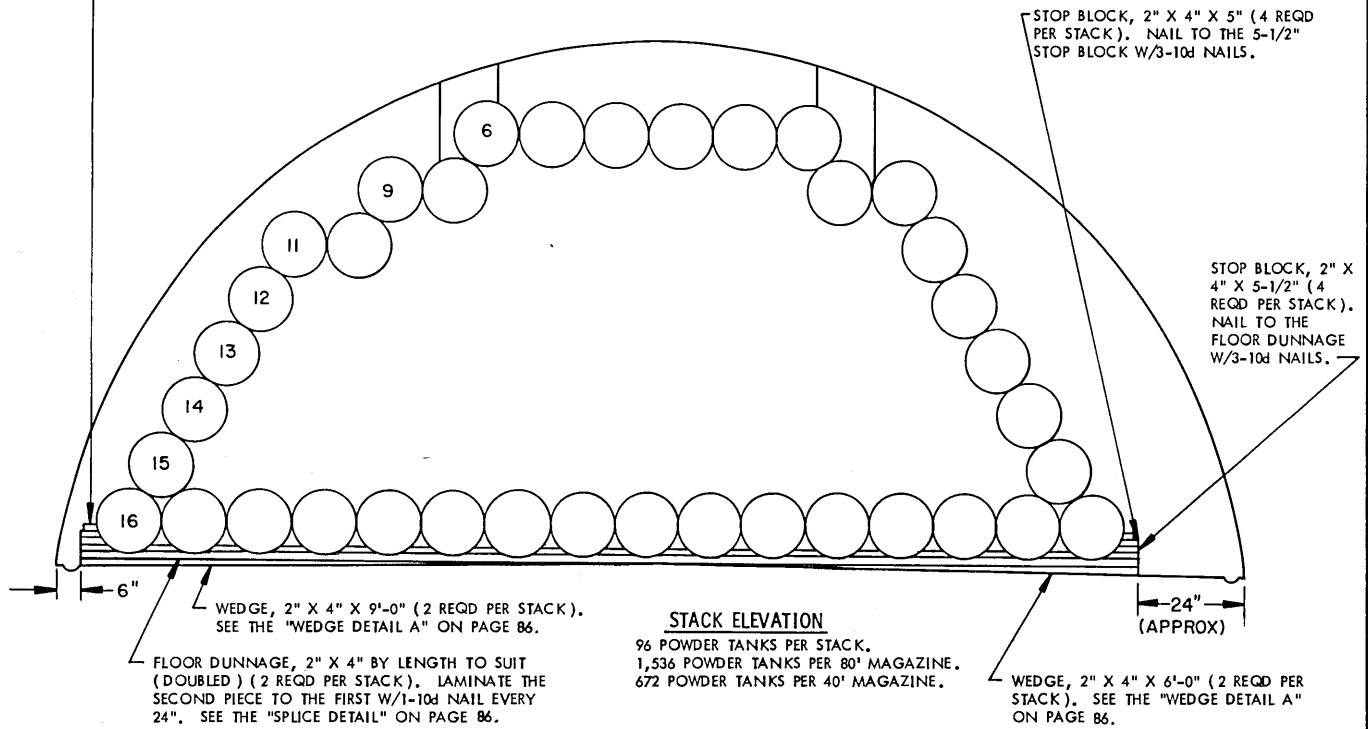
- STORAGE AS SHOWN IS FOR THE MK IV POWDER TANK FOR 16"/50. USE THIS SAME STORAGE FORMAT FOR ALL MK IV POWDER TANK MODS.  
 TANK DIMENSIONS-----55-13/32" LONG BY 15-1/2" DIAMETER.
- THE NUMBERS SHOWN IN THE STACK ELEVATION INDICATE THE QUANTITY OF POWDER TANKS PER LAYER IN A STACK.
- SEE THE "TYPICAL PLAN VIEW A" ON PAGE 4.
- STAGGER ALL JOINTS IN FLOOR DUNNAGE.
- THERE WILL BE APPROXIMATELY 60" OF SPACE AT THE FRONT OF AN 80'-0" MAGAZINE. THERE WILL BE APPROXIMATELY 6'-6" OF SPACE AT THE FRONT OF A 40'-0" MAGAZINE.

BILL OF MATERIAL ( PER STACK )		
LUMBER	LINEAR FEET	BOARD FEET
2" X 4"	105	70
NAILS	NO. REQD	POUNDS
10d ( 3" )	48	3/4
WEDGES PER STACK		
LUMBER	LENGTH	NO. REQD
2" X 4"	6'-0"	2
2" X 4"	9'-0"	2



**PARTIAL END VIEW OF STACK**

TIE PIECE, 2" X 4" X 48" (2 REQD PER STACK).  
POSITION AGAINST THE END TANK AND NAIL  
TO THE STOP BLOCKS W/3-10d NAILS AT EACH  
END.



**STACK ELEVATION**

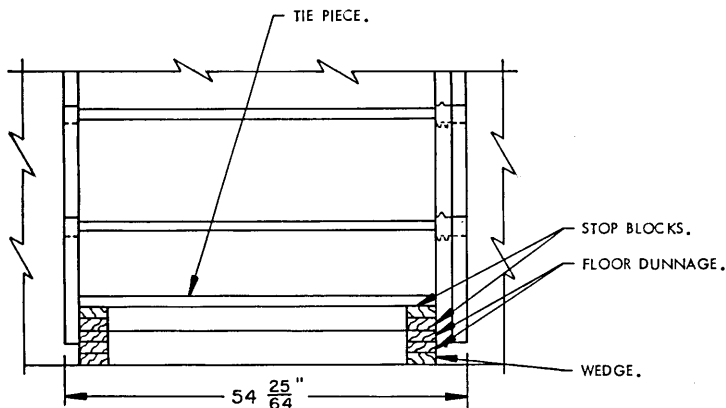
96 POWDER TANKS PER STACK.  
1,536 POWDER TANKS PER 80' MAGAZINE.  
672 POWDER TANKS PER 40' MAGAZINE.

**SPECIAL NOTES:**

1. STORAGE AS SHOWN IS FOR THE MK8 MOD. 0 POWDER TANK FOR 16". USE THIS SAME STORAGE FORMAT FOR ALL MK8 POWDER TANK MODS.  
  
TANK DIMENSIONS --- 54-25/64" LONG BY 16-1/4" DIAMETER.
2. THE NUMBERS SHOWN IN THE STACK ELEVATION INDICATE THE QUANTITY OF TANKS PER LAYER IN A STACK.
3. SEE THE "TYPICAL PLAN VIEW A" ON PAGE 4.
4. STAGGER ALL JOINTS IN FLOOR DUNNAGE.
5. THERE WILL BE APPROXIMATELY 6'-4" OF SPACE AT THE FRONT OF AN 80'-0" MAGAZINE. THERE WILL BE APPROXIMATELY 7'-2" OF SPACE AT THE FRONT OF A 40'-0" MAGAZINE.

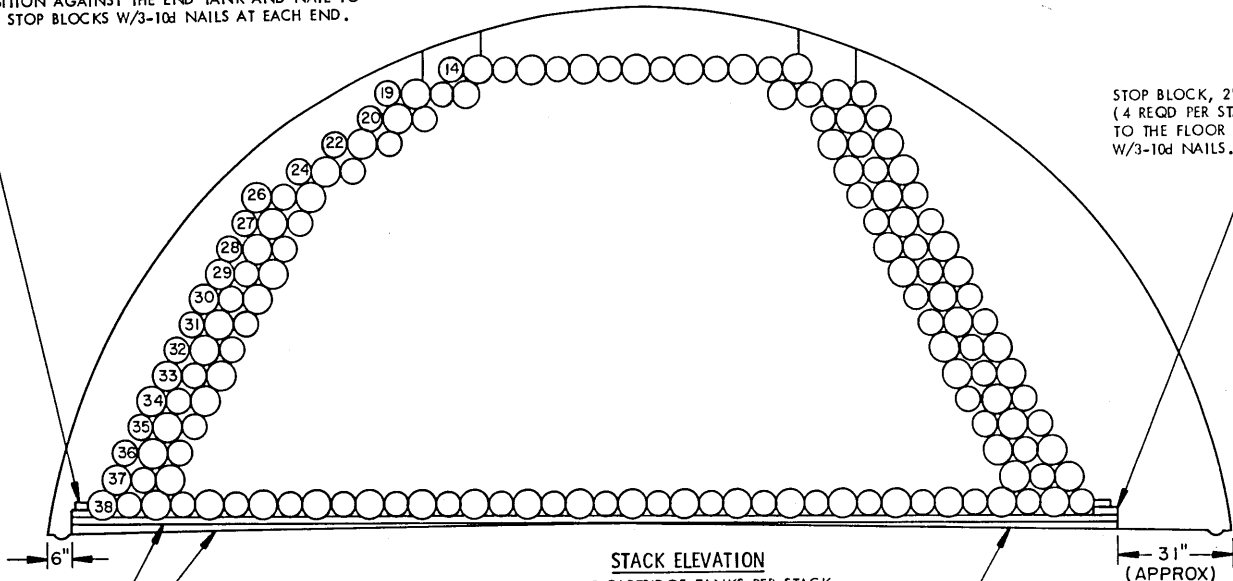
**BILL OF MATERIAL ( PER STACK )**

LUMBER	LINEAR FEET	BOARD FEET
2" X 4"	111	74
NAILS	NO. REQD	POUNDS
10d (3")	60	1
WEDGES PER STACK		
LUMBER	LENGTH	NO. REQD
2" X 4"	6'-0"	2
2" X 4"	9'-0"	2



**PARTIAL END VIEW OF STACK**

TIE PIECE, 2" X 4" X 21" (2 REQD PER STACK).  
POSITION AGAINST THE END TANK AND NAIL TO  
THE STOP BLOCKS W/3-10d NAILS AT EACH END.



STOP BLOCK, 2" X 4" X 5"  
(4 REQD PER STACK). NAIL  
TO THE FLOOR DUNNAGE  
W/3-10d NAILS.

**STACK ELEVATION**

515 CARTRIDGE TANKS PER STACK.  
14,935 CARTRIDGE TANKS PER 80' MAGAZINE.  
6,695 CARTRIDGE TANKS PER 40' MAGAZINE.

WEDGE, 2" X 4" X 9'-0" (2 REQD PER STACK).  
SEE THE "WEDGE DETAIL A" ON PAGE 86.

FLOOR DUNNAGE, 2" X 4" BY LENGTH TO SUIT  
(2 REQD PER STACK). SEE THE "SPLICE DETAIL"  
ON PAGE 86.

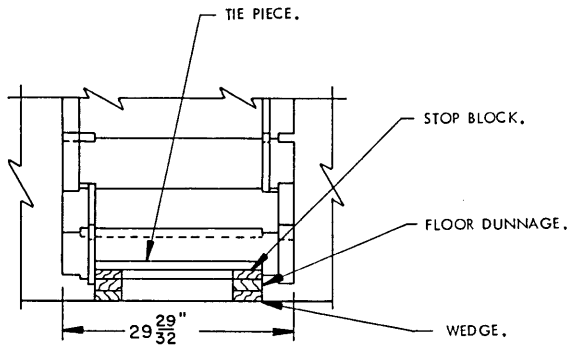
WEDGE, 2" X 4" X 6'-0" (2 REQD PER STACK).  
SEE THE "WEDGE DETAIL A" ON PAGE 86.

**SPECIAL NOTES:**

- STORAGE AS SHOWN IS FOR THE MK9, MOD. 1 AND MK15, MOD. 1 CARTRIDGE TANKS FOR 5"/38. USE THIS SAME STORAGE FORMAT FOR ALL MK9 AND MK15 CARTRIDGE TANK MODS.  
TANK DIMENSIONS---29-29/32" LONG BY 7-15/32" DIAMETER.
- THE NUMBERS SHOWN IN THE STACK ELEVATION INDICATE THE QUANTITY OF CARTRIDGE TANKS PER LAYER IN A STACK.
- SEE THE "TYPICAL PLAN VIEW A" ON PAGE 4.
- STAGGER ALL JOINTS IN FLOOR DUNNAGE.
- THERE WILL BE APPROXIMATELY 6'-7" OF SPACE AT THE FRONT OF AN 80'-0" MAGAZINE. THERE WILL BE APPROXIMATELY 6'-5" OF SPACE AT THE FRONT OF A 40'-0" MAGAZINE.

**BILL OF MATERIAL ( PER STACK )**

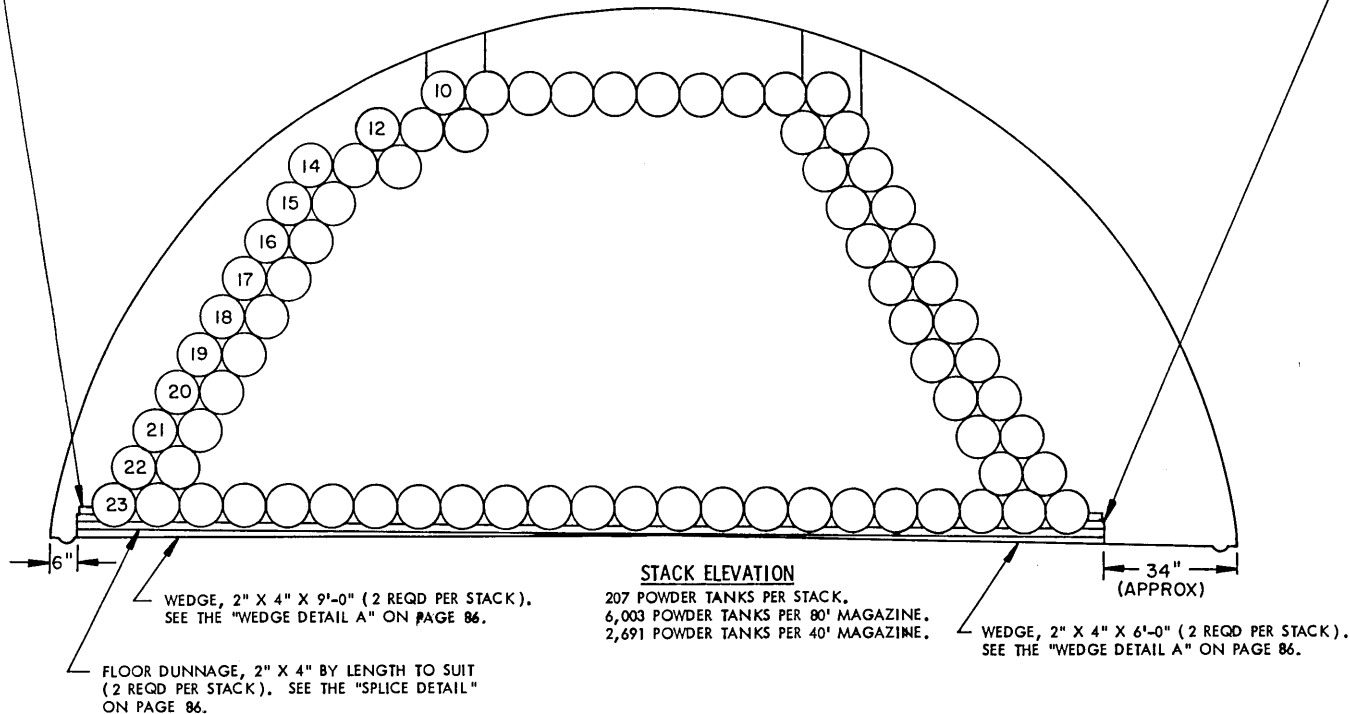
LUMBER	LINEAR FEET	BOARD FEET
2" X 4"	54	36
NAILS	NO. REQD	POUNDS
10d (3")	24	1/2
WEDGES PER STACK		
LUMBER	LENGTH	NO. REQD
2" X 4"	6'-0"	2
2" X 4"	9'-0"	2



**PARTIAL END VIEW OF STACK**

TIE PIECE, 2" X 4" X 25" (2 REQD PER STACK).  
POSITION AGAINST THE END TANK AND NAIL TO  
THE STOP BLOCKS W/3-10d NAILS AT EACH END.

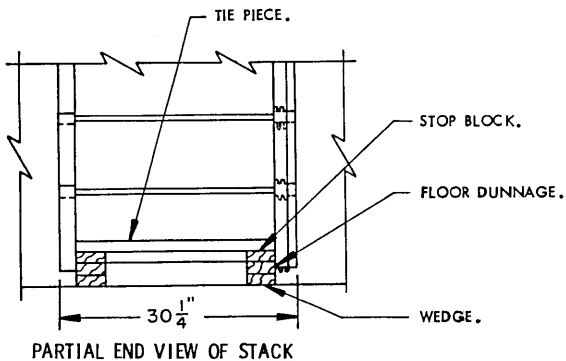
STOP BLOCK, 2" X 4" X 5" (4 REQD  
PER STACK). NAIL TO THE FLOOR  
DUNNAGE W/3-10d NAILS.



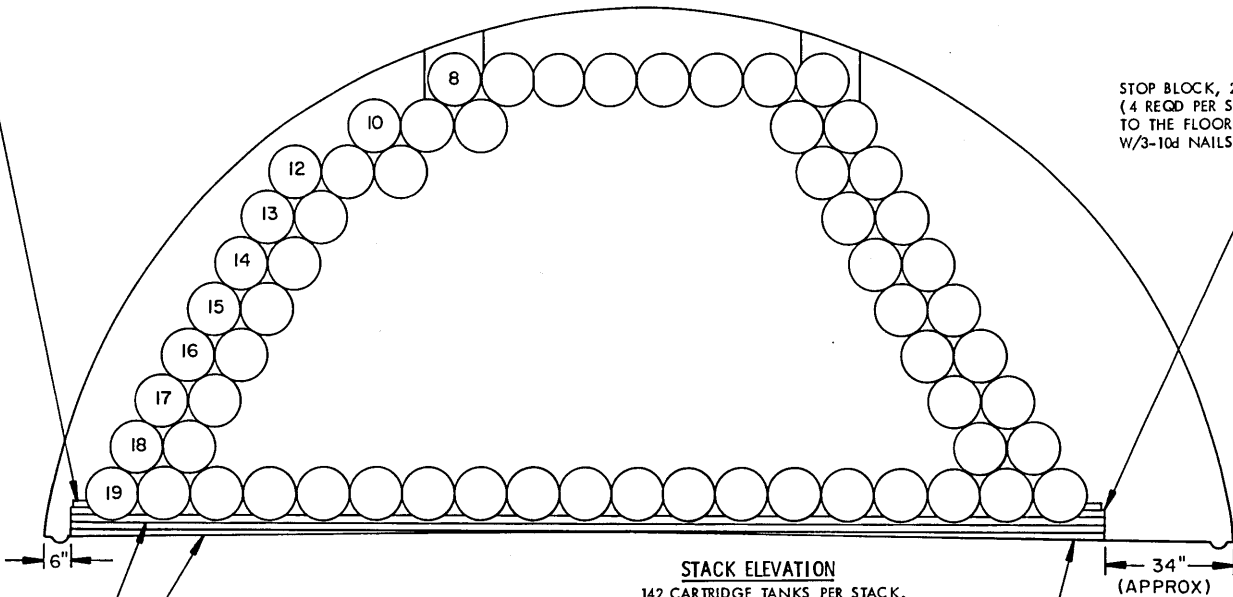
**SPECIAL NOTES:**

1. STORAGE AS SHOWN IS FOR THE MK10, MOD. 1 POWDER TANK FOR 8"/55. USE THIS SAME STORAGE FORMAT FOR ALL MK10 POWDER TANK MODS.  
TANK DIMENSIONS --- 30-1/4" LONG BY 10-59/64" DIAMETER.
2. THE NUMBERS SHOWN IN THE STACK ELEVATION INDICATE THE QUANTITY OF POWDER TANKS PER LAYER IN A STACK.
3. SEE THE "TYPICAL PLAN VIEW A" ON PAGE 4.
4. STAGGER ALL JOINTS IN FLOOR DUNNAGE.
5. THERE WILL BE APPROXIMATELY 69" OF SPACE AT THE FRONT OF AN 80'-0" MAGAZINE. THERE WILL BE APPROXIMATELY 72" OF SPACE AT THE FRONT OF A 40'-0" MAGAZINE.

BILL OF MATERIAL ( PER STACK )		
LUMBER	LINEAR FEET	BOARD FEET
2" X 4"	53	36
NAILS	NO. REQD	POUNDS
10d (3")	24	1/2
WEDGES PER STACK		
LUMBER	LENGTH	NO. REQD
2" X 4"	6'-0"	2
2" X 4"	9'-0"	2



TIE PIECE, 2" X 4" X 45" (2 REQD PER STACK).  
POSITION AGAINST THE END TANK AND NAIL TO  
THE STOP BLOCKS W/3-10d NAILS AT EACH END.



STOP BLOCK, 2" X 4" X 5"  
(4 REQD PER STACK). NAIL  
TO THE FLOOR DUNNAGE  
W/3-10d NAILS.

**STACK ELEVATION**

142 CARTRIDGE TANKS PER STACK.  
2,272 CARTRIDGE TANKS PER 80' MAGAZINE.  
994 CARTRIDGE TANKS PER 40' MAGAZINE.

WEDGE, 2" X 4" X 9'-0" (2 REQD PER STACK).  
SEE THE "WEDGE DETAIL A" ON PAGE 86.

FLOOR DUNNAGE, 2" X 4" BY LENGTH TO SUIT (DOUBLED)  
(2 REQD PER STACK). LAMINATE THE SECOND PIECE TO THE  
FIRST W/1-10d NAIL EVERY 24". SEE THE "SPlice DETAIL L" ON  
PAGE 86.

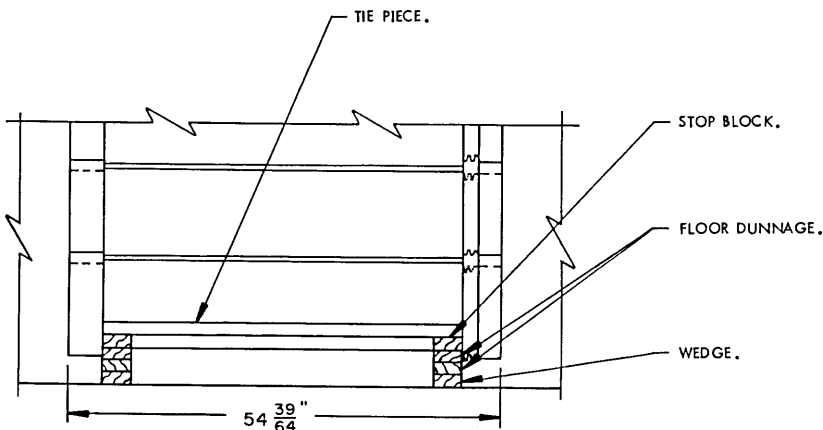
WEDGE, 2" X 4" X 6'-0" (2 REQD  
PER STACK). SEE THE "WEDGE  
DETAIL A" ON PAGE 86.

**BILL OF MATERIAL ( PER STACK )**

LUMBER	LINEAR FEET	BOARD FEET
2" X 4"	100	67
NAILS	NO. REQD	POUNDS
10d (3")	46	3/4
WEDGES PER STACK		
LUMBER	LENGTH	NO. REQD
2" X 4"	6'-0"	2
2" X 4"	9'-0"	2

**SPECIAL NOTES:**

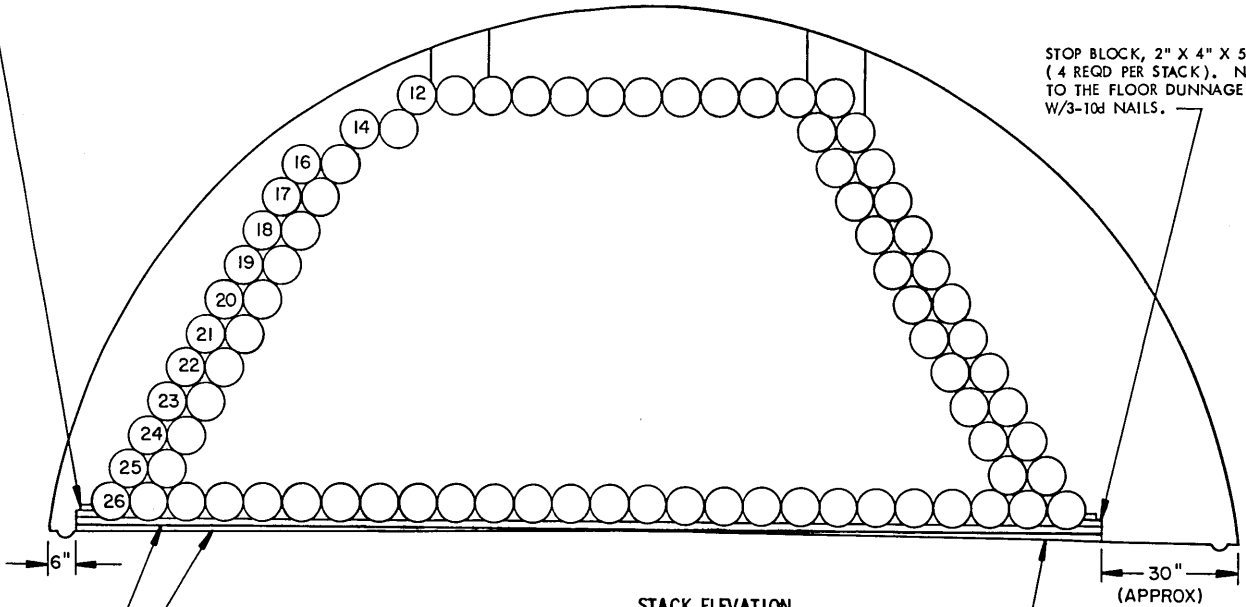
- STORAGE AS SHOWN IS FOR THE MK11, MOD. 0 AND MK13, MOD. 0 CARTRIDGE TANKS FOR 8"/55. USE THIS SAME STORAGE FORMAT FOR ALL MK11 AND MK13 CARTRIDGE TANK MODS.  
TANK DIMENSIONS --- 54-39/64" LONG BY 13-5/16" DIAMETER.
- THE NUMBERS SHOWN IN THE STACK ELEVATION INDICATE THE QUANTITY OF CARTRIDGE TANKS PER LAYER IN A STACK.
- SEE THE "TYPICAL PLAN VIEW A" ON PAGE 4.
- STAGGER ALL JOINTS IN FLOOR DUNNAGE.
- THERE WILL BE APPROXIMATELY 72" OF SPACE AT THE FRONT OF AN 80'-0" MAGAZINE. THERE WILL BE APPROXIMATELY 7'-0" OF SPACE AT THE FRONT OF A 40'-0" MAGAZINE.



**PARTIAL END VIEW OF STACK**

TIE PIECE, 2" X 4" X 24" (2 REQD PER STACK).  
POSITION AGAINST THE END TANK AND NAIL TO  
THE STOP BLOCKS W/3-10d NAILS AT EACH END.

STOP BLOCK, 2" X 4" X 5"  
(4 REQD PER STACK). NAIL  
TO THE FLOOR DUNNAGE  
W/3-10d NAILS.



**STACK ELEVATION**

257 POWDER TANKS PER STACK  
7,453 POWDER TANKS PER 80' MAGAZINE.  
3,341 POWDER TANKS PER 40' MAGAZINE.

FLOOR DUNNAGE, 2" X 4" BY LENGTH TO SUIT  
(2 REQD PER STACK). SEE THE "SPLICE DETAIL"  
ON PAGE 86.

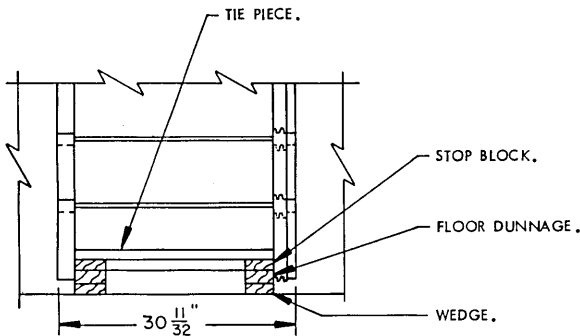
WEDGE, 2" X 4" X 6'-0" (2 REQD  
PER STACK). SEE THE "WEDGE DETAIL  
A" ON PAGE 86.

**SPECIAL NOTES:**

- STORAGE AS SHOWN IS FOR THE ONE-HALF REDUCED CHARGE IN THE MK13, MOD. 0 POWDER TANK FOR 8"/55. USE THIS SAME STORAGE FORMAT FOR ALL MK13 POWDER TANK MODS.  
  
TANK DIMENSIONS --- 30-11/32" LONG BY 9-7/8" DIAMETER.
- THE NUMBERS SHOWN IN THE STACK ELEVATION INDICATE THE QUANTITY OF POWDER TANKS PER LAYER IN A STACK.
- SEE THE "TYPICAL PLAN VIEW A" ON PAGE 4.
- STAGGER ALL JOINTS IN FLOOR DUNNAGE.
- THERE WILL BE APPROXIMATELY 66" OF SPACE AT THE FRONT OF AN 80'-0" MAGAZINE. THERE WILL BE APPROXIMATELY 72" OF SPACE AT THE FRONT OF A 40'-0" MAGAZINE.

**BILL OF MATERIAL ( PER STACK )**

LUMBER	LINEAR FEET	BOARD FEET
2" X 4"	53	36
NAILS	NO. REQD	POUNDS
10d ( 3" )	24	1/2
WEDGES PER STACK		
LUMBER	LENGTH	NO. REQD
2" X 4"	6'-0"	2
2" X 4"	9'-0"	2

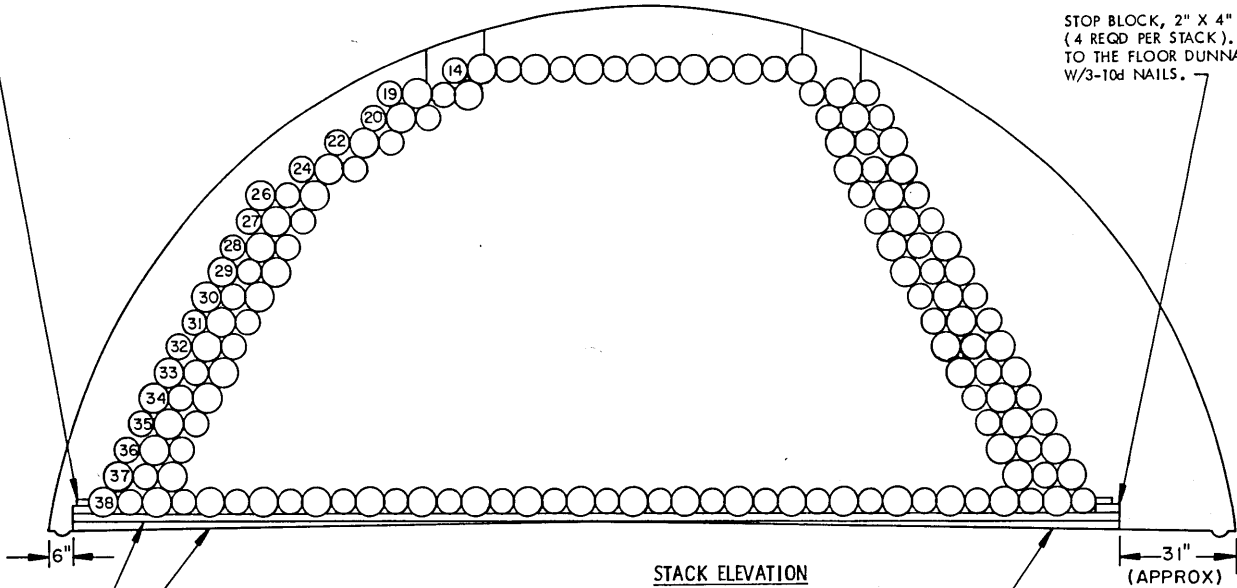


**PARTIAL END VIEW OF STACK**



TIE PIECE, 2" X 4" X 27" (2 REQD PER STACK).  
POSITION AGAINST THE END TANK AND NAIL TO  
THE STOP BLOCKS W/3-10d NAILS AT EACH END.

STOP BLOCK, 2" X 4" X 5"  
(4 REQD PER STACK). NAIL  
TO THE FLOOR DUNNAGE  
W/3-10d NAILS.



WEDGE, 2" X 4" X 9'-0" (2 REQD PER STACK).  
SEE THE "WEDGE DETAIL A" ON PAGE 86.

FLOOR DUNNAGE, 2" X 4" X BY LENGTH TO SUIT  
(2 REQD PER STACK). SEE THE "SPlice DETAIL" ON  
PAGE 86.

**STACK ELEVATION**  
515 CARTRIDGE TANKS PER STACK.  
12,360 CARTRIDGE TANKS PER 80' MAGAZINE.  
5,665 CARTRIDGE TANKS PER 40' MAGAZINE.

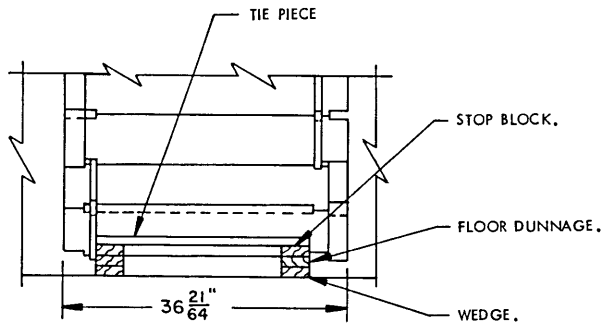
WEDGE, 2" X 4" X 6'-0" (2 REQD PER  
STACK). SEE THE "WEDGE DETAIL A" ON  
PAGE 86.

**SPECIAL NOTES:**

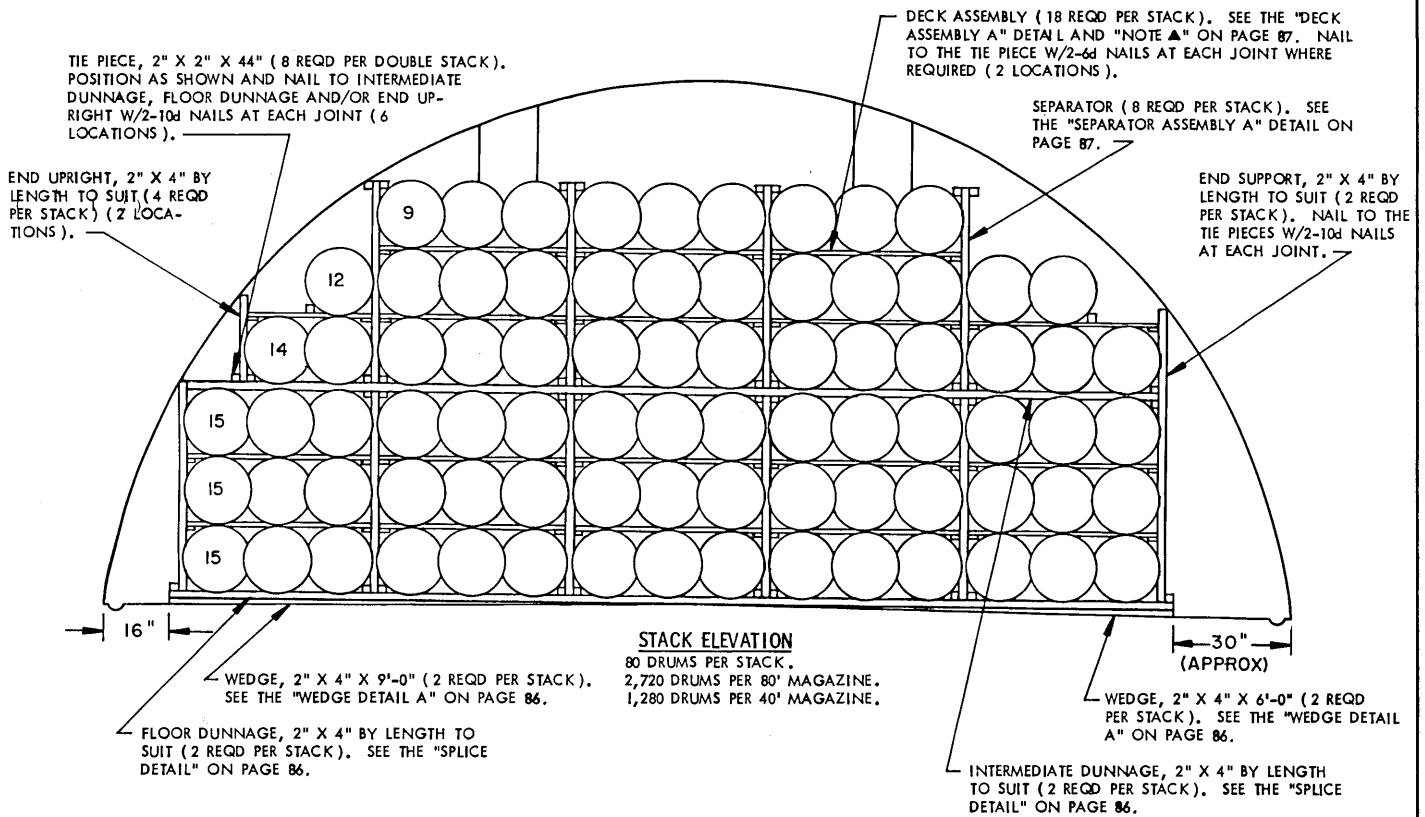
1. STORAGE AS SHOWN IS FOR THE MK14, MOD. 1 AND MK 21, MOD. 0 CARTRIDGE TANKS FOR 5"/54. USE THIS SAME STORAGE FORMAT FOR ALL MK14 AND MK21 CARTRIDGE TANK MODS.  
  
TANK DIMENSIONS --- 36-21/64" LONG BY 7-15/32" DIAMETER.
2. THE NUMBERS SHOWN IN THE STACK ELEVATION INDICATE THE QUANTITY OF CARTRIDGE TANKS PER LAYER IN A STACK.
3. SEE THE "TYPICAL PLAN VIEW A" ON PAGE 4.
4. STAGGER ALL JOINTS IN FLOOR DUNNAGE.
5. THERE WILL BE APPROXIMATELY 6'-2" OF SPACE AT THE FRONT OF AN 80'-0" MAGAZINE. THERE WILL BE APPROXIMATELY 66" OF SPACE AT THE FRONT OF A 40'-0" MAGAZINE.

**BILL OF MATERIAL ( PER STACK )**

LUMBER	LINEAR FEET	BOARD FEET
2" X 4"	53	36
NAILS	NO. REQD	POUNDS
10d (3")	24	1/2
WEDGES PER STACK		
LUMBER	LENGTH	NO. REQD
2" X 4"	6'-0"	2
2" X 4"	9'-0"	2



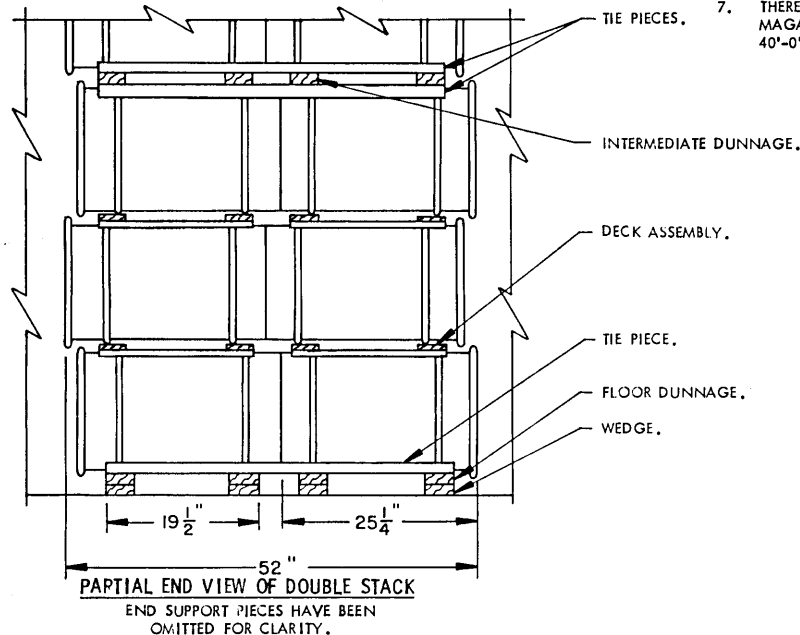
**PARTIAL END VIEW OF STACK**

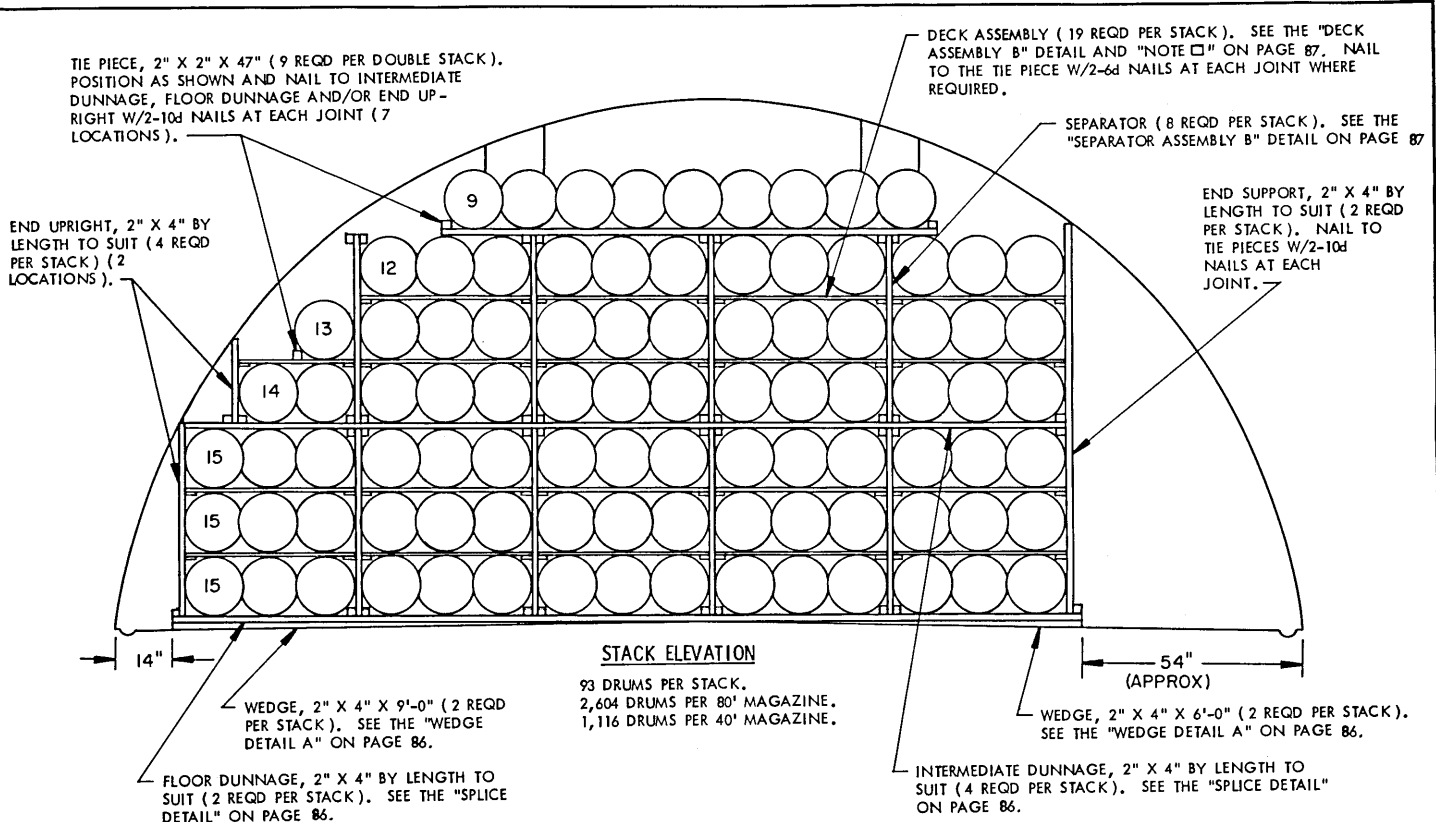


BILL OF MATERIAL ( PER STACK )		
LUMBER	LINEAR FEET	BOARD FEET
1" X 2"	60	10
1" X 4"	141	47
2" X 2"	68	23
2" X 4"	183	122
NAILS	NO. REQD	POUNDS
6d ( 2" )	144	1
10d ( 3" )	160	2-1/2
WEDGES PER STACK		
LUMBER	LENGTH	NO. REQD
2" X 4"	6'-0"	2
2" X 4"	9'-0"	2

**SPECIAL NOTES:**

- STORAGE AS SHOWN IS FOR THE PROPELLING CHARGES FOR THE 105MM HOWITZER PACKED IN METAL DRUM.  
 DRUM DIMENSIONS --- 25-1/4" HIGH BY 16-7/8" DIAMETER.
- THE NUMBERS SHOWN IN THE STACK ELEVATION INDICATE THE QUANTITY OF DRUMS PER LAYER IN A STACK.
- SEE THE "TYPICAL PLAN VIEW A" ON PAGE 4.
- STORE IN DOUBLE STACKS FOR BETTER STABILITY. SEE THE "PARTIAL END VIEW OF DOUBLE STACK" ON THIS PAGE.
- JOINTS IN INTERMEDIATE DUNNAGE MUST BE STAGGERED BOTH HORIZONTALLY AND VERTICALLY.
- END SUPPORT AND/OR END UPRIGHT PIECES MUST CONTACT THE MAGAZINE WALL FOR SUPPORT.
- THERE WILL BE APPROXIMATELY 62" OF SPACE AT THE FRONT OF AN 80'-0" MAGAZINE. THERE WILL BE APPROXIMATELY 50" OF SPACE AT THE FRONT OF A 40'-0" MAGAZINE.





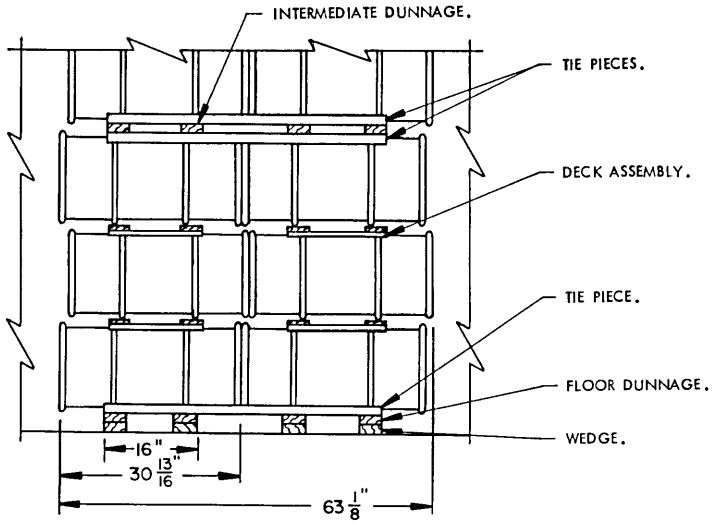
**STACK ELEVATION**

93 DRUMS PER STACK.  
 2,604 DRUMS PER 80' MAGAZINE.  
 1,116 DRUMS PER 40' MAGAZINE.

BILL OF MATERIAL ( PER STACK )		
LUMBER	LINEAR FEET	BOARD FEET
1" X 2"	51	9
1" X 4"	140	47
2" X 2"	61	21
2" X 4"	217	145
NAILS		
	NO. REQD	POUNDS
6d (2")	156	1
10d (3")	164	2-1/2
WEDGES PER STACK		
LUMBER	LENGTH	NO. REQD
2" X 4"	6'-0"	2
2" X 4"	9'-0"	2

**SPECIAL NOTES:**

- STORAGE AS SHOWN IS FOR PROPELLING CHARGES FOR THE 75MM AND 105MM HOWITZER PACKED IN METAL DRUM.  
 DRUM DIMENSIONS --- 30-13/16" HIGH BY 15" DIAMETER.
- THE NUMBERS SHOWN IN THE STACK ELEVATION INDICATE THE QUANTITY OF DRUMS PER LAYER IN A STACK.
- SEE THE "TYPICAL PLAN VIEW A" ON PAGE 4.
- STORE IN DOUBLE STACKS FOR BETTER STABILITY. SEE THE "PARTIAL END VIEW OF DOUBLE STACK" ON THIS PAGE.
- JOINTS IN INTERMEDIATE DUNNAGE MUST BE STAGGERED BOTH HORIZONTALLY AND VERTICALLY.
- END SUPPORT AND/OR END UPRIGHT PIECES MUST CONTACT THE MAGAZINE WALL FOR SUPPORT.
- THERE WILL BE APPROXIMATELY 62" OF SPACE AT THE FRONT OF AN 80'-0" MAGAZINE. THERE WILL BE APPROXIMATELY 8'-4" OF SPACE AT THE FRONT OF A 40'-0" MAGAZINE.

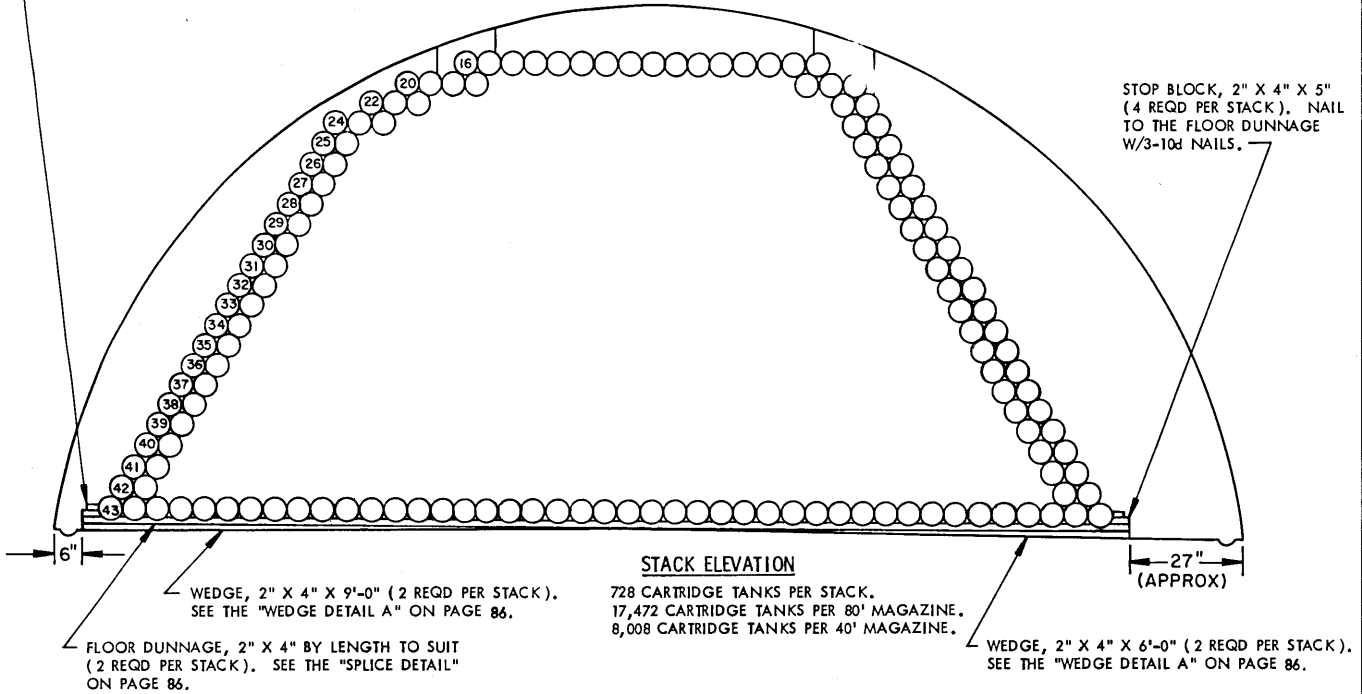


**PARTIAL END VIEW OF DOUBLE STACK**

END SUPPORT PIECES HAVE BEEN OMITTED FOR CLARITY.

TIE PIECE, 2" X 4" X 29" (2 REQD PER STACK).  
POSITION AGAINST THE END TANK AND NAIL  
TO THE STOP BLOCKS W/3-10d NAILS AT EACH  
END.

STOP BLOCK, 2" X 4" X 5"  
(4 REQD PER STACK). NAIL  
TO THE FLOOR DUNNAGE  
W/3-10d NAILS.



**STACK ELEVATION**

728 CARTRIDGE TANKS PER STACK.  
17,472 CARTRIDGE TANKS PER 80' MAGAZINE.  
8,008 CARTRIDGE TANKS PER 40' MAGAZINE.

FLOOR DUNNAGE, 2" X 4" BY LENGTH TO SUIT  
(2 REQD PER STACK). SEE THE "SPLICE DETAIL"  
ON PAGE 86.

WEDGE, 2" X 4" X 9'-0" (2 REQD PER STACK).  
SEE THE "WEDGE DETAIL A" ON PAGE 86.

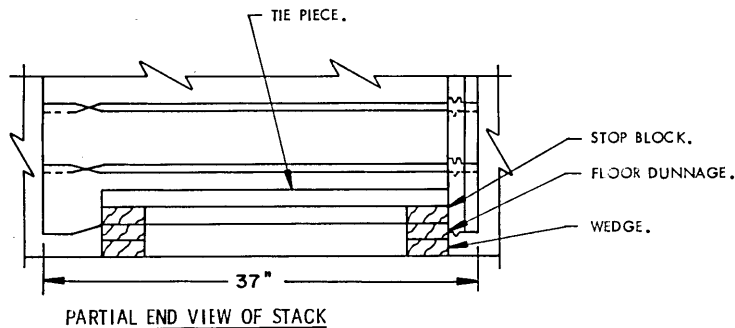
WEDGE, 2" X 4" X 6'-0" (2 REQD PER STACK).  
SEE THE "WEDGE DETAIL A" ON PAGE 86.

**SPECIAL NOTES:**

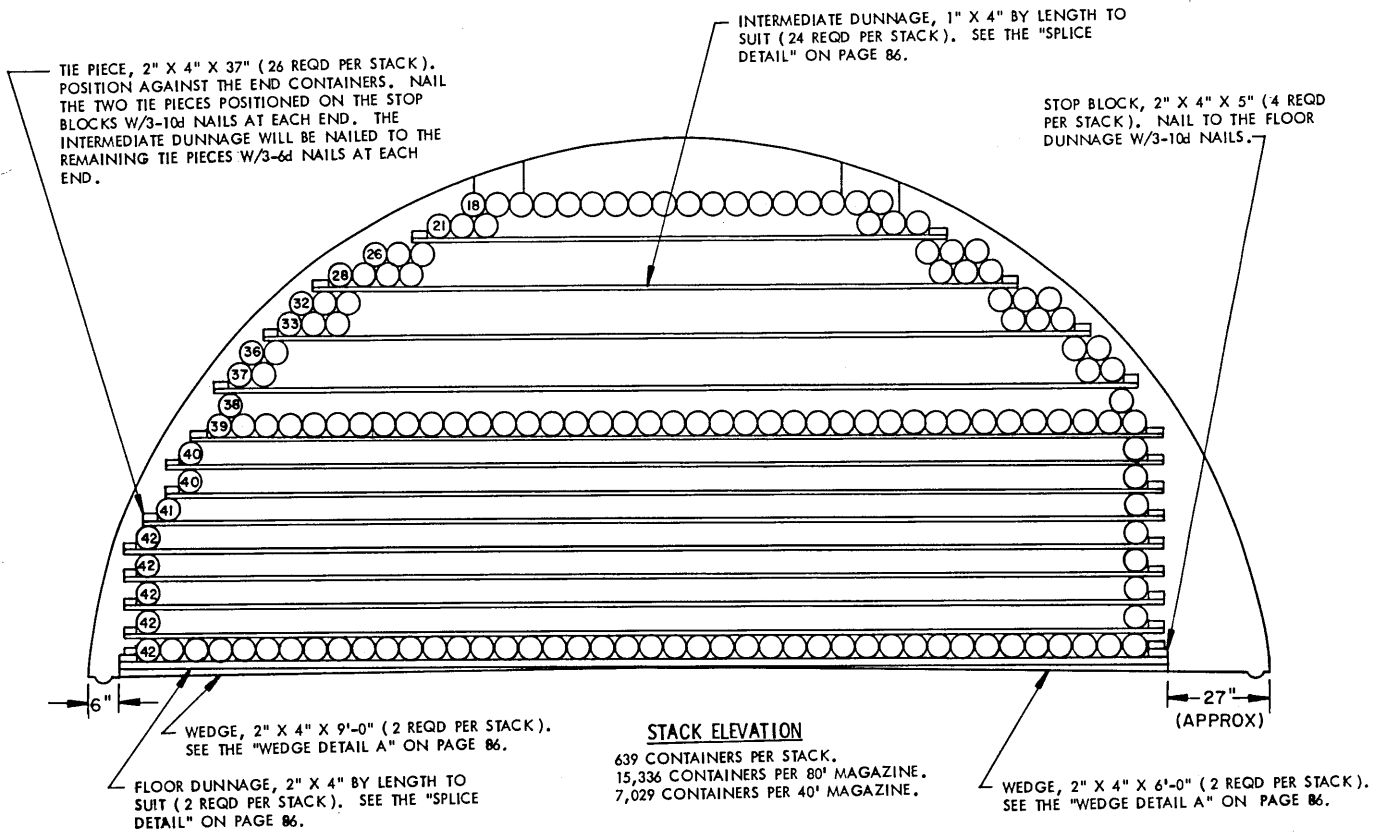
1. STORAGE AS SHOWN IS FOR THE MK5, MOD. 2 CARTRIDGE TANK FOR 3"/50. USE THIS SAME STORAGE FORMAT FOR ALL MK5 CARTRIDGE TANK MODS.  
TANK DIMENSIONS --- 37" LONG BY 5-63/64" DIAMETER.
2. THE NUMBERS SHOWN IN THE STACK ELEVATION INDICATE THE QUANTITY OF TANKS PER LAYER IN A STACK.
3. SEE THE "TYPICAL PLAN VIEW A" ON PAGE 4.
4. STAGGER ALL JOINTS IN FLOOR DUNNAGE.
5. THERE WILL BE APPROXIMATELY 58" OF SPACE AT THE FRONT OF AN 80'-0" MAGAZINE. THERE WILL BE APPROXIMATELY 59" OF SPACE AT THE FRONT OF A 40'-0" MAGAZINE.

**BILL OF MATERIAL ( PER STACK )**

LUMBER	LINEAR FEET	BOARD FEET
2" X 4"	54	36
NAILS	NO. REQD	POUNDS
10d ( 3" )	24	1/2
WEDGES PER STACK		
LUMBER	LENGTH	NO. REQD
2" X 4"	6'-0"	2
2" X 4"	9'-0"	2



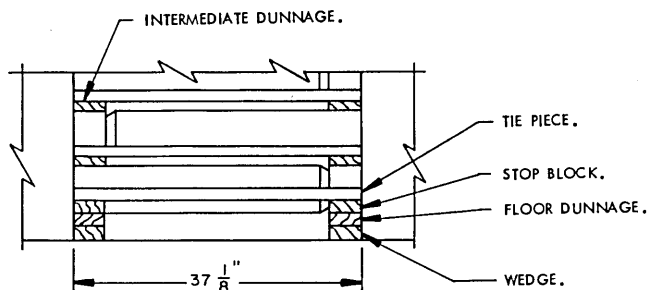
**PARTIAL END VIEW OF STACK**



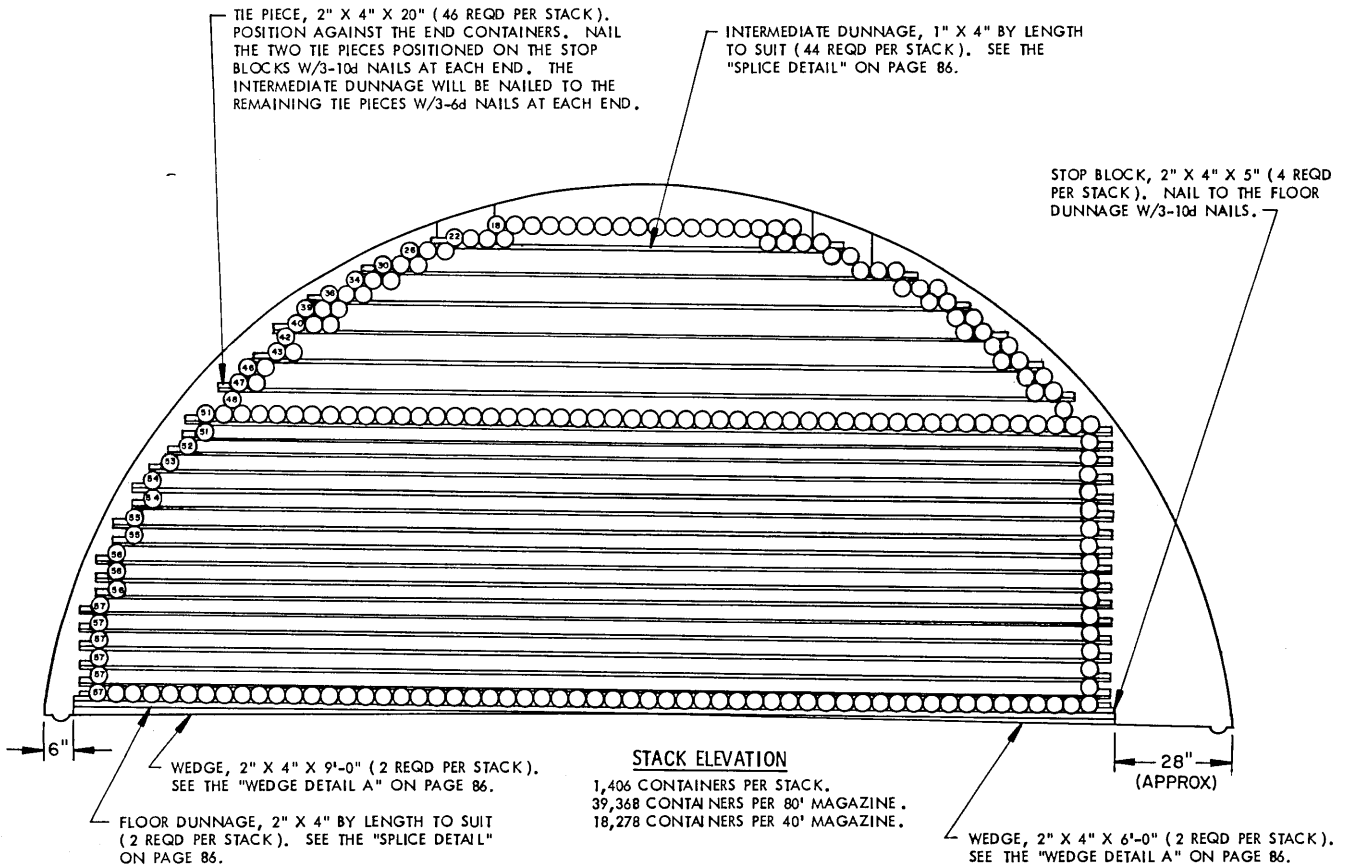
BILL OF MATERIAL ( PER STACK )		
LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	556	186
2" X 4"	130	87
NAILS	NO. REQD	POUNDS
6d (2")	144	1
10d (3")	24	1/2
WEDGES PER STACK		
LUMBER	LENGTH	NO. REQD
2" X 4"	6'-0"	2
2" X 4"	9'-0"	2

**SPECIAL NOTES:**

- STORAGE AS SHOWN IS FOR THE M152 SERIES CONTAINER. USE THIS SAME STORAGE FORMAT FOR ALL M152 SERIES CONTAINERS.  
 CONTAINER DIMENSIONS --- 37-1/8" LONG BY 6-1/8" DIAMETER.
- THE NUMBERS SHOWN IN THE STACK ELEVATION INDICATE THE QUANTITY OF CONTAINERS PER LAYER IN A STACK.
- SEE THE "TYPICAL PLAN VIEW A" ON PAGE 4.
- NOTE: JOINTS IN INTERMEDIATE DUNNAGE MUST BE STAGGERED BOTH HORIZONTALLY AND VERTICALLY.
- THERE WILL BE APPROXIMATELY 55" OF SPACE AT THE FRONT OF AN 80'-0" MAGAZINE. THERE WILL BE APPROXIMATELY 58" OF SPACE AT THE FRONT OF A 40'-0" MAGAZINE.



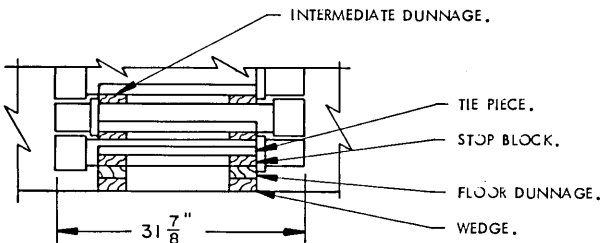
**PARTIAL END VIEW OF STACK**



BILL OF MATERIAL ( PER STACK )		
LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	924	308
2" X 4"	126	84
NAILS	NO. REQD	POUNDS
6d (2")	264	1-3/4
10d (3")	24	1/2
WEDGES PER STACK		
LUMBER	LENGTH	NO. REQD
2" X 4"	6'-0"	2
2" X 4"	9'-0"	2

**SPECIAL NOTES:**

- STORAGE AS SHOWN IS FOR THE M154 SERIES CONTAINER. USE THIS SAME STORAGE FORMAT FOR ALL M154 SERIES CONTAINERS.  
 CONTAINER DIMENSIONS ---- 31-7/8" LONG BY 4-1/2" DIAMETER.
- THE NUMBERS SHOWN IN THE STACK ELEVATION INDICATE THE QUANTITY OF CONTAINERS PER LAYER IN A STACK.
- SEE THE "TYPICAL PLAN VIEW A" ON PAGE 4.
- NOTE: JOINTS IN INTERMEDIATE DUNNAGE MUST BE STAGGERED BOTH HORIZONTALLY AND VERTICALLY.
- THERE WILL BE APPROXIMATELY 54" OF SPACE AT THE FRONT OF AN 80'-0" MAGAZINE. THERE WILL BE APPROXIMATELY 52" OF SPACE AT THE FRONT OF A 40'-0" MAGAZINE.

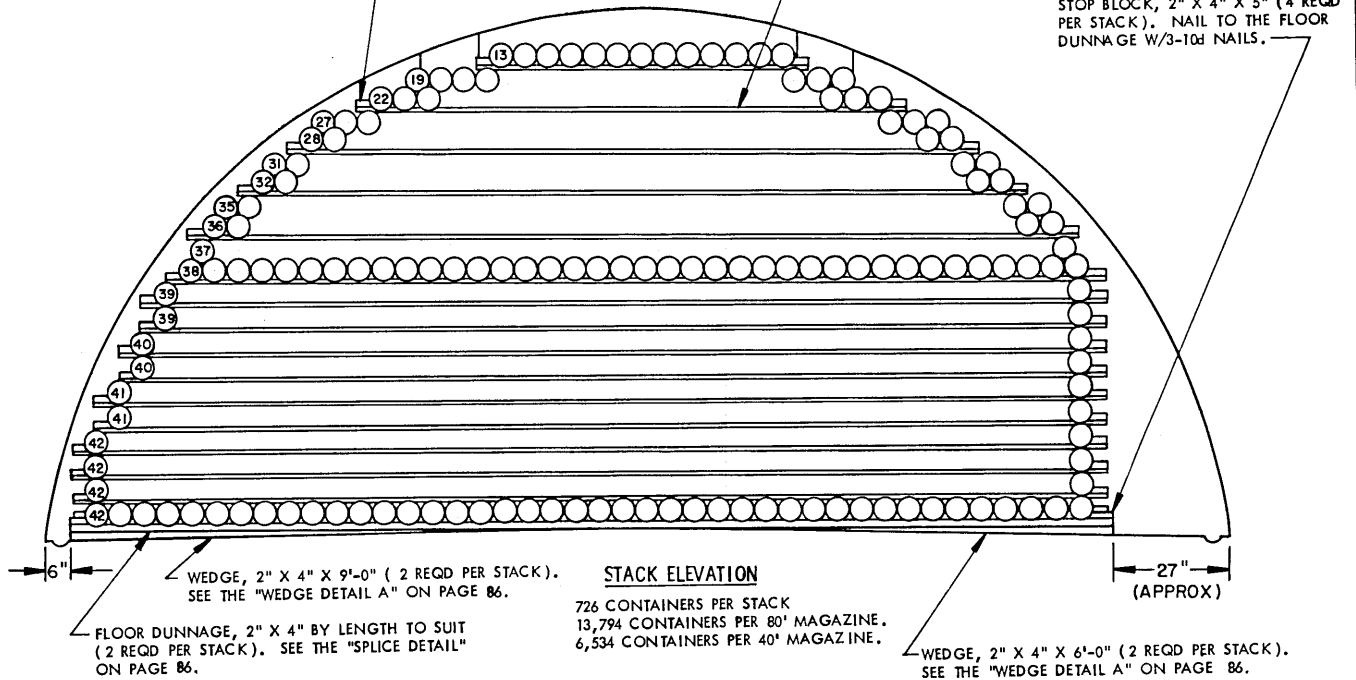


**PARTIAL END VIEW OF STACK**

TIE PIECE, 2" X 4" X 29" (32 REQD PER STACK). POSITION AGAINST THE END CONTAINERS. NAIL THE TWO TIE PIECES POSITIONED ON THE STOP BLOCKS W/3-10d NAILS AT EACH END. THE INTERMEDIATE DUNNAGE WILL BE NAILED TO THE REMAINING TIE PIECES W/3-6d NAILS AT EACH END.

INTERMEDIATE DUNNAGE, 1" X 4" BY LENGTH TO SUIT (30 REQD PER STACK). SEE THE "SPLICE DETAIL" ON PAGE 86.

STOP BLOCK, 2" X 4" X 5" (4 REQD PER STACK). NAIL TO THE FLOOR DUNNAGE W/3-10d NAILS.



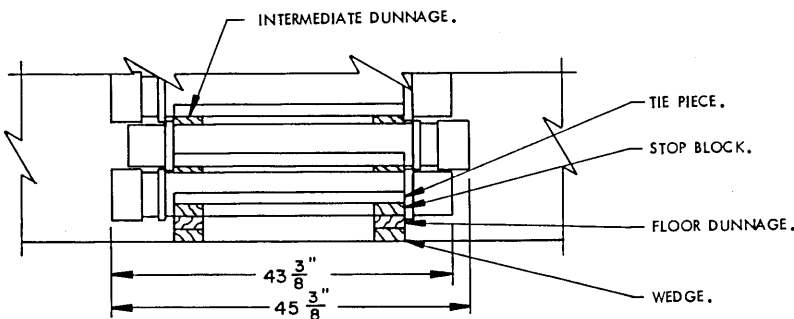
**STACK ELEVATION**

726 CONTAINERS PER STACK  
 13,794 CONTAINERS PER 80' MAGAZINE.  
 6,534 CONTAINERS PER 40' MAGAZINE.

BILL OF MATERIAL ( PER STACK )		
LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	615	205
2" X 4"	127	85
NAILS		POUNDS
6d (2")	180	1-1/4
10d (3")	24	1/2
WEDGES PER STACK		
LUMBER	LENGTH	NO. REQD
2" X 4"	6'-0"	2
2" X 4"	9'-0"	2

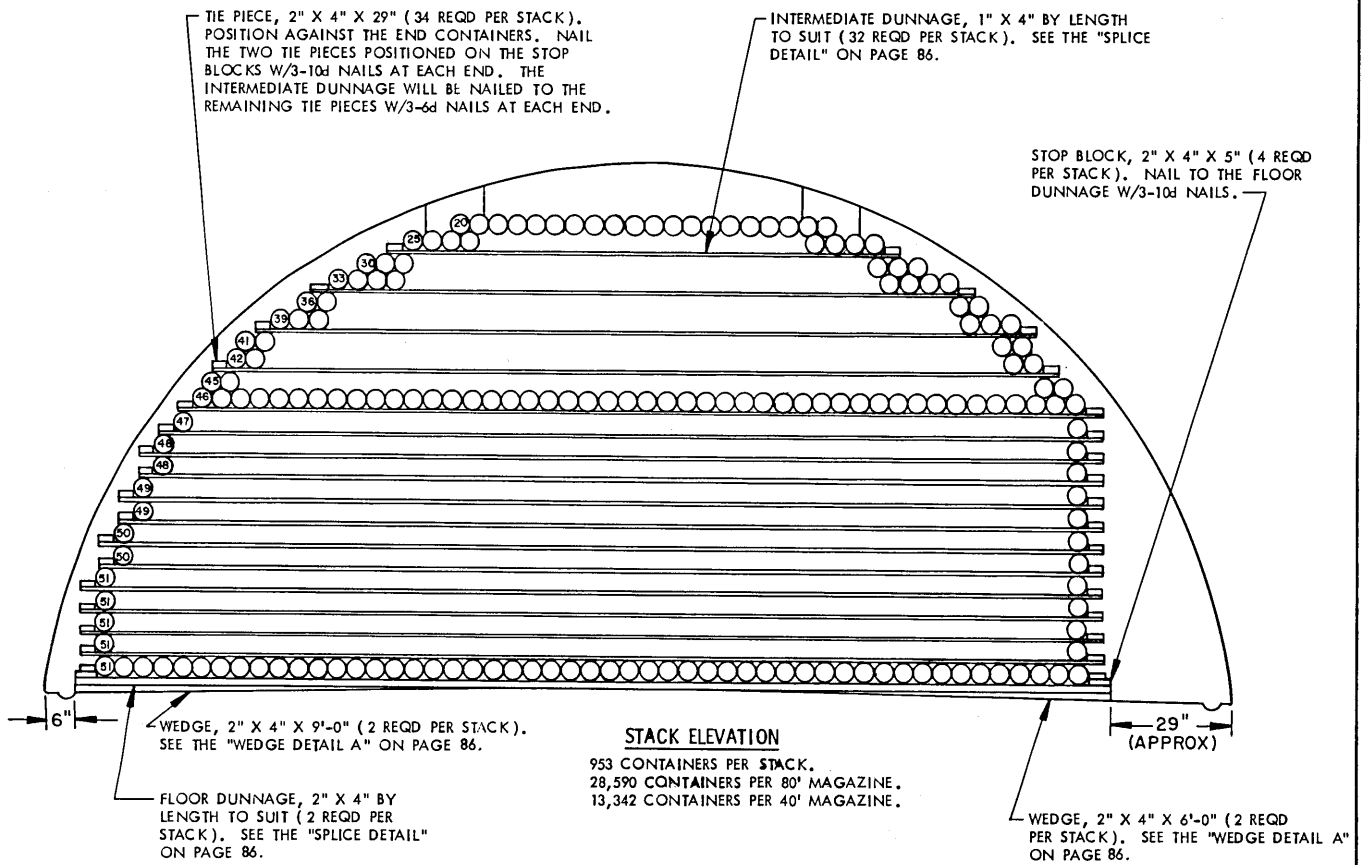
**SPECIAL NOTES:**

- STORAGE AS SHOWN IS FOR THE M159 SERIES CONTAINER. USE THIS SAME STORAGE FORMAT FOR ALL M159 SERIES CONTAINERS.  
 CONTAINER DIMENSIONS --- 43-3/8" LONG BY 6-1/8" DIAMETER.
- THE NUMBERS SHOWN IN THE STACK ELEVATION INDICATE THE QUANTITY OF CONTAINERS PER LAYER IN A STACK.
- SEE THE "TYPICAL PLAN VIEW A" ON PAGE 4.
- NOTE:** JOINTS IN INTERMEDIATE DUNNAGE MUST BE STAGGERED BOTH HORIZONTALLY AND VERTICALLY.
- THERE WILL BE APPROXIMATELY 7'-0" OF SPACE AT THE FRONT OF AN 80'-0" MAGAZINE. THERE WILL BE APPROXIMATELY 58" OF SPACE AT THE FRONT OF A 40'-0" MAGAZINE.



**PARTIAL END VIEW OF STACK**

COMPLETE ROUND IN M159 SERIES CONTAINER



**STACK ELEVATION**

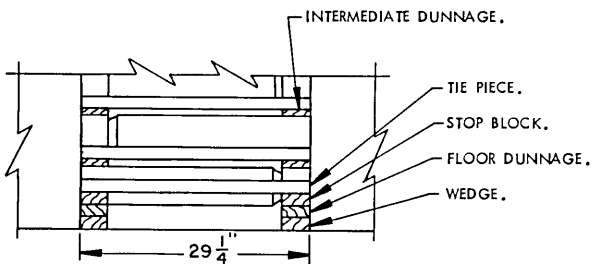
953 CONTAINERS PER STACK.  
 28,590 CONTAINERS PER 80' MAGAZINE.  
 13,342 CONTAINERS PER 40' MAGAZINE.

**BILL OF MATERIAL ( PER STACK )**

LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	685	229
2" X 4"	132	88
NAJLS	NO. REQD	POUNDS
6d (2")	192	1-1/4
10d (3")	24	1/2
WEDGES PER STACK		
LUMBER	LENGTH	NO. REQD
2" X 4"	6'-0"	2
2" X 4"	9'-0"	2

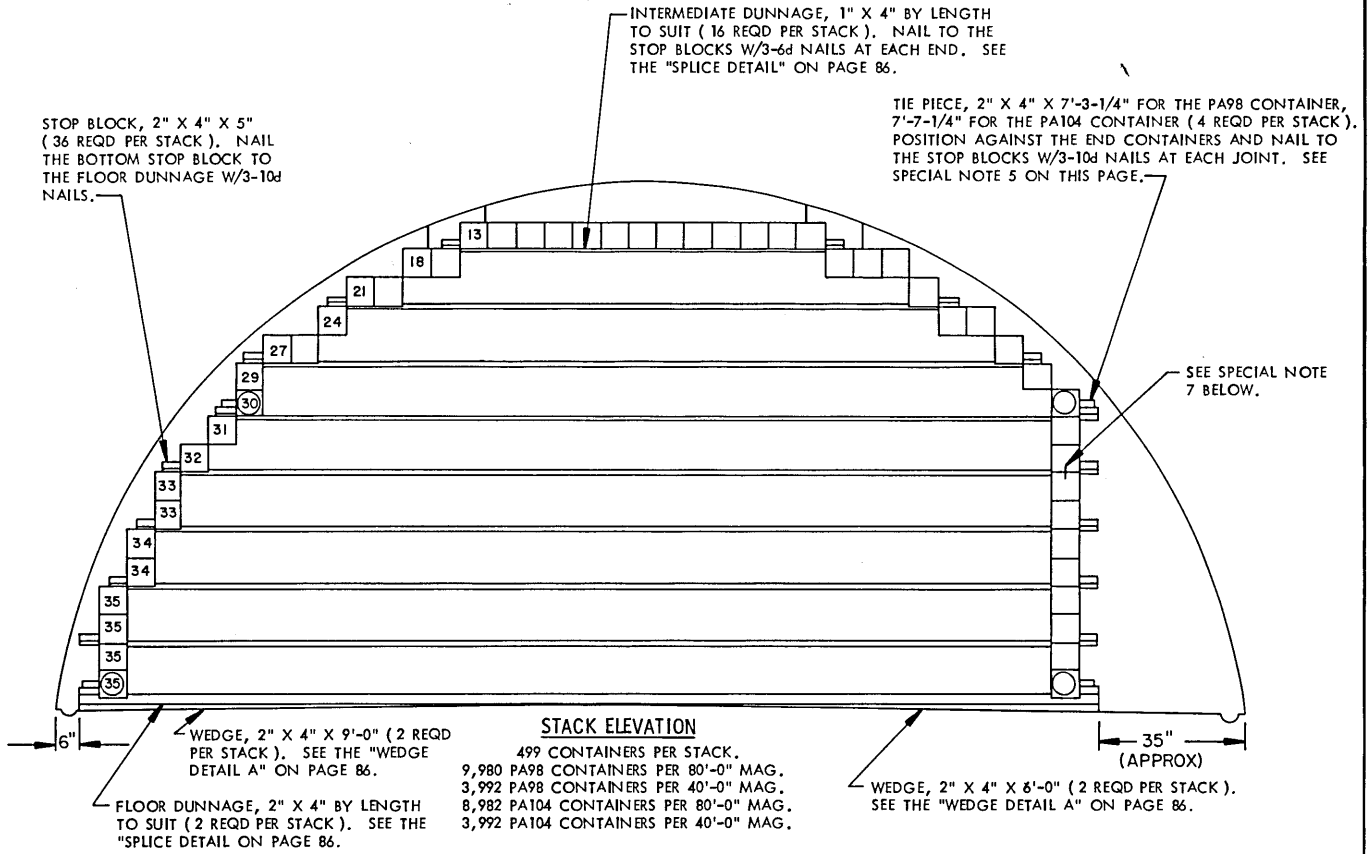
**SPECIAL NOTES:**

1. STORAGE AS SHOWN IS FOR THE M173 SERIES CONTAINER. USE THIS SAME STORAGE FORMAT FOR ALL M173 AND T53 SERIES CONTAINERS.  
 CONTAINER DIMENSIONS----29-1/4" LONG BY 5" DIAMETER.
2. THE NUMBERS SHOWN IN THE STACK ELEVATION INDICATE THE QUANTITY OF CONTAINERS PER LAYER IN A STACK.
3. SEE THE "TYPICAL PLAN VIEW A" ON PAGE 4.
4. NOTE: JOINTS IN INTERMEDIATE DUNNAGE MUST BE STAGGERED BOTH HORIZONTALLY AND VERTICALLY.
5. THERE WILL BE APPROXIMATELY 69" OF SPACE AT THE FRONT OF AN 80'-0" MAGAZINE. THERE WILL BE APPROXIMATELY 57" OF SPACE AT THE FRONT OF A 40'-0" MAGAZINE.



PARTIAL END VIEW OF STACK





**STACK ELEVATION**

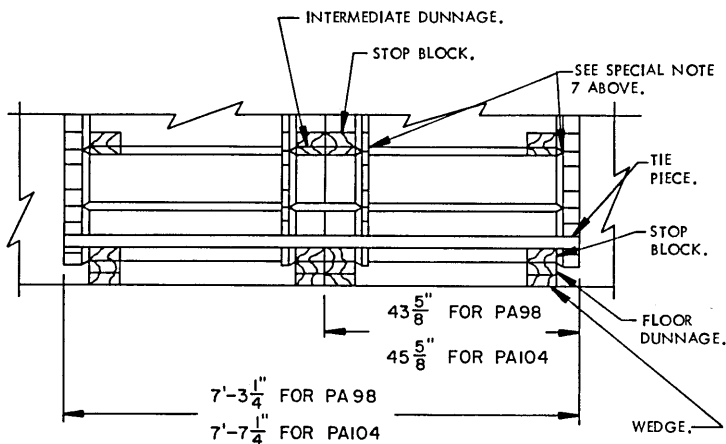
499 CONTAINERS PER STACK.  
 9,980 PA98 CONTAINERS PER 80'-0" MAG.  
 3,992 PA98 CONTAINERS PER 40'-0" MAG.  
 8,982 PA104 CONTAINERS PER 80'-0" MAG.  
 3,992 PA104 CONTAINERS PER 40'-0" MAG.

**SPECIAL NOTES:**

- STORAGE AS SHOWN IS FOR THE PA98 AND PA104 CONTAINERS. USE THIS SAME STORAGE FORMAT FOR ALL PA98 AND PA104 CONTAINERS.  
 PA98 CONTAINER DIMENSIONS - 43-5/8" LONG BY 7-1/8" WIDE BY 7-1/8" HIGH.  
 PA104 CONTAINER DIMENSIONS - 45-5/8" LONG BY 7-1/8" WIDE BY 7-1/8" HIGH.
- THE NUMBERS SHOWN IN THE STACK ELEVATION INDICATE THE QUANTITY OF CONTAINERS PER LAYER IN A STACK.
- SEE THE "TYPICAL PLAN VIEW A" ON PAGE 4.
- STORE IN DOUBLE STACKS FOR BETTER STABILITY. SEE THE "PARTIAL END VIEW OF DOUBLE STACK" ON THIS PAGE.
- NOTE:** THE "TIE PIECE" EQUALS THE APPROXIMATE LENGTH OF TWO (2) CONTAINERS AND AIDS IN STABILIZING THE STACKS. A "TIE PIECE" IS USED ON THE BOTTOM LAYER AND AT THE FIFTH LAYER OF INTERMEDIATE DUNNAGE.
- NOTE:** JOINTS IN INTERMEDIATE DUNNAGE MUST BE STAGGERED BOTH HORIZONTALLY AND VERTICALLY.
- NOTE:** THE INTERLOCKING PINS ON EACH END OF A CONTAINER MUST INTERLOCK VERTICALLY WITH THE CONTAINER IN THE NEXT LAYER.
- FOR THE PA98 CONTAINER THERE WILL BE APPROXIMATELY 6'-1" OF SPACE AT THE FRONT OF AN 80'-0" LONG MAGAZINE. THERE WILL BE APPROXIMATELY 9'-9" OF SPACE AT THE FRONT OF A 40'-0" LONG MAGAZINE.
- FOR THE PA104 CONTAINER THERE WILL BE APPROXIMATELY 10'-4" OF SPACE AT THE FRONT OF AN 80'-0" LONG MAGAZINE. THERE WILL BE APPROXIMATELY 8'-5" OF SPACE AT THE FRONT OF A 40'-0" LONG MAGAZINE.

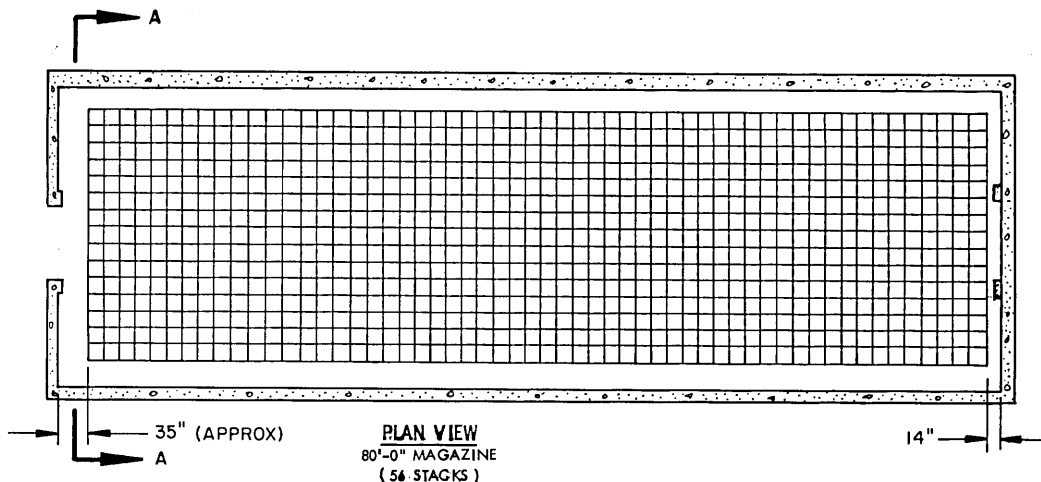
**BILL OF MATERIAL (PER STACK)**

LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	300	100
2" X 4"	74	50
NAILS	NO. REQD	POUNDS
6d (2")	96	3/4
10d (3")	36	3/4
WEDGES PER STACK		
LUMBER	LENGTH	NO. REQD
2" X 4"	6'-0"	2
2" X 4"	9'-0"	2



**PARTIAL END VIEW OF DOUBLE STACK**

**COMPLETE ROUND, IN PA98 AND PA104 SERIES CONTAINERS**



**STORAGE IN 80'-0" MAGAZINE**

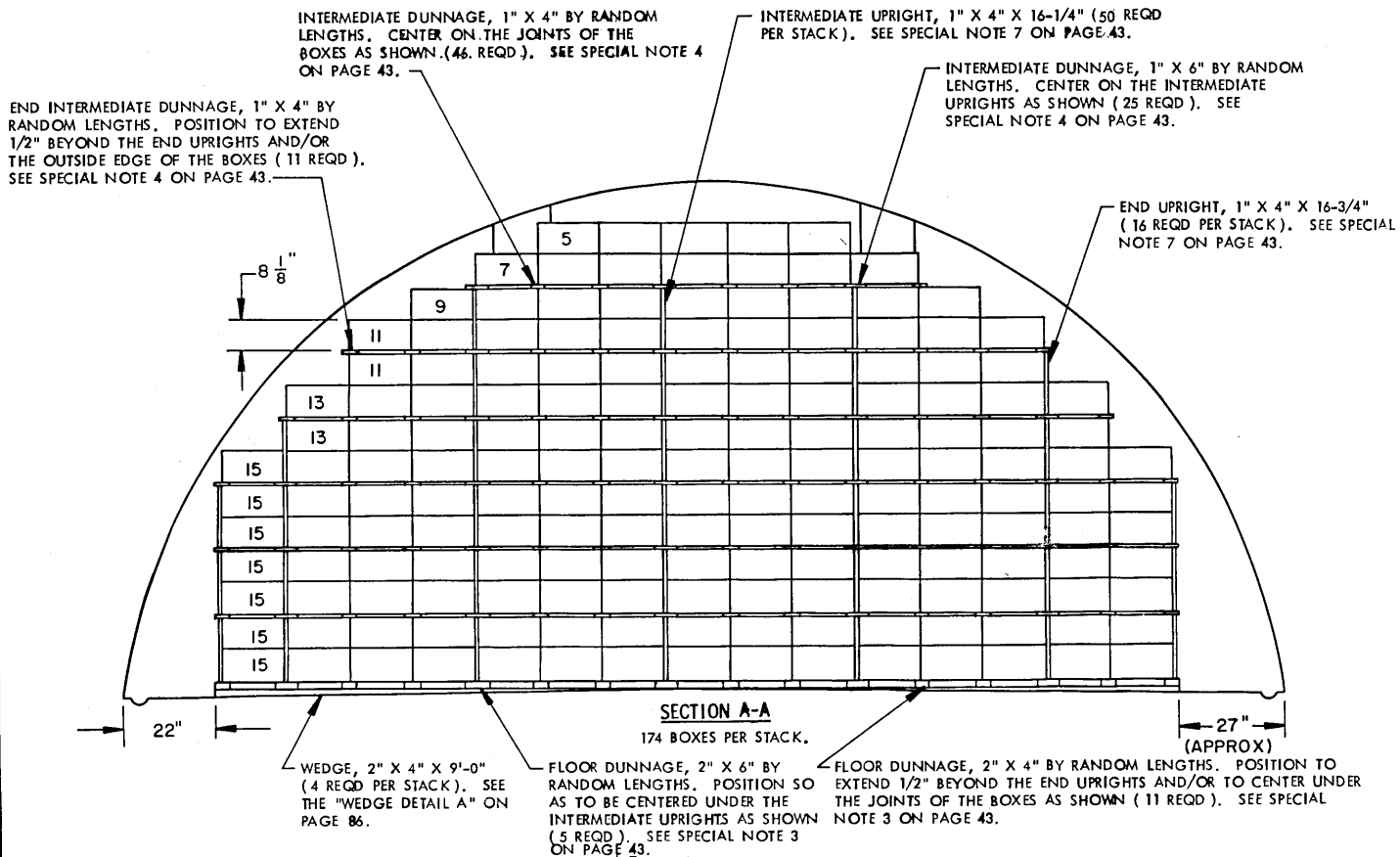
ITEM	QUANTITY	EXPLOSIVE WEIGHT
FIBERBOARD BOX	9,744	389,760 LBS

**\* STORAGE IN 40'-0" MAGAZINE**

ITEM	QUANTITY	EXPLOSIVE WEIGHT
FIBERBOARD BOX	4,698	187,920 LBS

27 STACKS WITH 35" (APPROX) SPACE REMAINING AT FRONT.

SEE GENERAL NOTE "E" ON PAGE 2 AND SPECIAL NOTES 2 AND 8, AND "TABLE 1" ON PAGE 43.



INTERMEDIATE DUNNAGE, 1" X 4" BY RANDOM LENGTHS. CENTER ON THE JOINTS OF THE BOXES AS SHOWN (46 REQD.). SEE SPECIAL NOTE 4 ON PAGE 43.

INTERMEDIATE UPRIGHT, 1" X 4" X 16-1/4" (50 REQD PER STACK). SEE SPECIAL NOTE 7 ON PAGE 43.

INTERMEDIATE DUNNAGE, 1" X 6" BY RANDOM LENGTHS. CENTER ON THE INTERMEDIATE UPRIGHTS AS SHOWN (25 REQD). SEE SPECIAL NOTE 4 ON PAGE 43.

END UPRIGHT, 1" X 4" X 16-3/4" (16 REQD PER STACK). SEE SPECIAL NOTE 7 ON PAGE 43.

END INTERMEDIATE DUNNAGE, 1" X 4" BY RANDOM LENGTHS. POSITION TO EXTEND 1/2" BEYOND THE END UPRIGHTS AND/OR THE OUTSIDE EDGE OF THE BOXES (11 REQD). SEE SPECIAL NOTE 4 ON PAGE 43.

WEDGE, 2" X 4" X 9'-0" (4 REQD PER STACK). SEE THE "WEDGE DETAIL A" ON PAGE 86.

FLOOR DUNNAGE, 2" X 6" BY RANDOM LENGTHS. POSITION SO AS TO BE CENTERED UNDER THE INTERMEDIATE UPRIGHTS AS SHOWN (5 REQD). SEE SPECIAL NOTE 3 ON PAGE 43.

FLOOR DUNNAGE, 2" X 4" BY RANDOM LENGTHS. POSITION TO EXTEND 1/2" BEYOND THE END UPRIGHTS AND/OR TO CENTER UNDER THE JOINTS OF THE BOXES AS SHOWN (11 REQD). SEE SPECIAL NOTE 3 ON PAGE 43.

**STORAGE METHOD A**

**TNC, PENTOLITE, POTASSIUM PICRATE, COMP D-2,  
MAX 2, AND MOX 28 (PACKED IN FIBERBOARD BOX)**

**SPECIAL NOTES:**

1. STORAGE AS SHOWN IS FOR TNC AND SIMILAR BULK EXPLOSIVES PACKED IN FIBERBOARD BOX NO. 2. FOR DETAILS OF BOX SEE DRAWING NO. 7548645. SEE SPECIAL NOTE 8.

DIMENSIONS ----- 16-1/4" LONG BY 16-1/4" WIDE BY 8-1/8" HIGH. EXPLOSIVE WEIGHT - 40 POUNDS.

2. STORAGE AS SHOWN IS FOR FIBERBOARD BOXES CONTAINING TNC. THE PROCEDURES ARE APPLICABLE FOR ALL THE ITEMS LISTED IN TABLE I. FULL STACKS ARE SHOWN IN THE PLAN VIEW ON PAGE 42. ONE ADDITIONAL FULL OR PARTIAL STACK OF ANY OF THE LISTED ITEMS MAY BE STORED IN A MAGAZINE IF THE SPACE PERMITS AND PROVIDED THE EXPLOSIVE LIMIT FOR THE MAGAZINE IS NOT EXCEEDED.

3. RANDOM LENGTH MATERIAL MAY BE USED FOR THE 2" X 4" AND 2" X 6" FLOOR DUNNAGE PIECES. JOINTS IN THE RANDOM LENGTH MATERIAL MUST BE CENTERED ON THE WEDGES AS NEAR AS POSSIBLE. JOINTS IN LATERALLY ADJACENT FLOOR DUNNAGE PIECES NEED NOT BE STAGGERED.

4. RANDOM LENGTH MATERIAL, OF NOT LESS THAN 48" LENGTHS, MAY BE USED FOR THE 1" X 4" END INTERMEDIATE DUNNAGE AND/OR THE 1" X 4" AND 1" X 6" INTERMEDIATE DUNNAGE PIECES. THE JOINTS IN THE INTERMEDIATE DUNNAGE PIECES MUST BE LOCATED APPROXIMATELY CENTERED BETWEEN THE INTERMEDIATE AND/OR END UPRIGHT PIECES. THE JOINTS OF ADJACENT INTERMEDIATE DUNNAGE PIECES IN A LAYER WILL BE STAGGERED AT LEAST 16" FROM EACH OTHER AND/OR FROM A JOINT IN AN END INTERMEDIATE DUNNAGE PIECE. ALSO, THE JOINTS OF END INTERMEDIATE AND/OR THE INTERMEDIATE DUNNAGE PIECES IN AN UPPER LAYER WILL BE STAGGERED AT LEAST 16" FROM THE JOINTS IN THE NEXT LOWER LAYER.

5. CAUTION: TNC PACKED IN FIBERBOARD BOXES OF THE SIZE SHOWN AND SIMILAR BULK EXPLOSIVES PACKED IN FIBERBOARD BOXES WHICH ARE APPROXIMATELY THE SAME HEIGHT MUST NOT BE STACKED MORE THAN FIFTEEN ( 15 ) BOXES HIGH.

6. THE NUMBERS SHOWN IN SECTION A-A INDICATE THE QUANTITY OF BOXES PER LAYER IN A STACK.

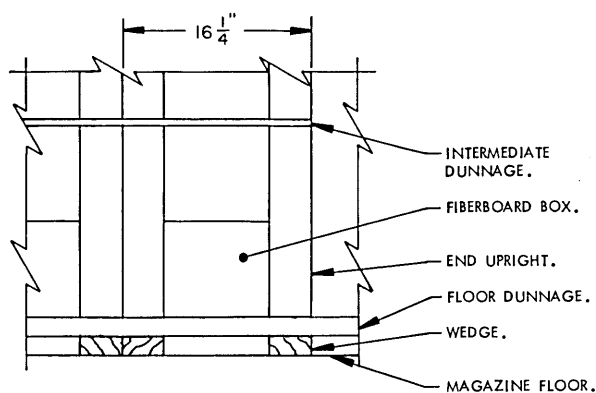
7. WHEN STORING BOXES OF A HEIGHT OTHER THAN 8-1/8", THE LENGTH OF THE UPRIGHT PIECES MUST BE ADJUSTED TO COMPLY WITH THE FOLLOWING CRITERIA:

A. INTERMEDIATE UPRIGHT PIECES MUST BE OF A LENGTH EQUAL TO THE HEIGHT OF TWO BOXES.

B. END UPRIGHT PIECES MUST BE 1/2" LONGER THAN INTERMEDIATE UPRIGHT PIECES.

8. THE STORAGE PROCEDURES ON PAGES 42 AND 43 SHOULD ONLY BE USED IN GEOGRAPHICAL AREAS WHICH HAVE LOW HUMIDITY LEVELS. FOR PROCEDURES APPLICABLE TO THE STORAGE OF FIBERBOARD BOXES OF TNC, ETC., IN GEOGRAPHICAL AREAS HAVING HIGH HUMIDITY, REFER TO THE PROCEDURES ON PAGES 80 AND 81.

9. IF PALLETIZED BOXES ARE TO BE STORED, REFER TO U.S. ARMY AMC DRAWING 19-48-4097-1-3-4-14-22PA1009 FOR PROCEDURES TO BE USED. FOR UNITIZATION PROCEDURES ( SIDE PANEL METHOD ) REFER TO USAMC AMMUNITION CENTER DRAWING C-AMXSV-4071. FOR UNITIZATION PROCEDURES ( STRETCH NET METHOD ) REFER TO U.S. ARMY AMC DRAWING 19-48-4177/1-20PA1007.



**PARTIAL END VIEW OF STACKS**

**TABLE I**

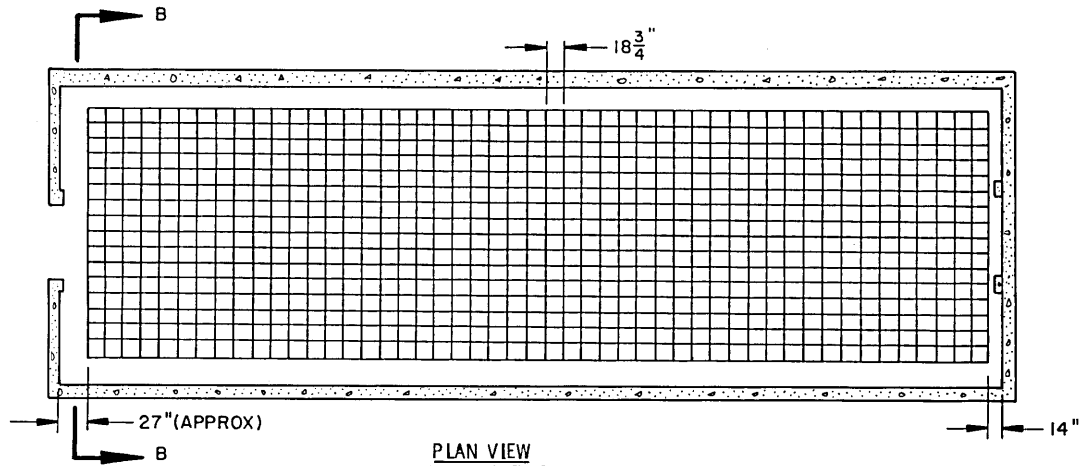
ITEM	EXPL WT/BOX	80'-0" MAGAZINE		40'-0" MAGAZINE	
		MAX QUANTITY	MAX EXPLOSIVE	MAX QUANTITY	MAX EXPLOSIVE
PENTOLITE	35 LBS	9,744	341,040 LBS	4,698	164,430 LBS
POTASSIUM PICRATE	35 LBS	9,744	341,040 LBS	4,698	164,430 LBS
COMPOSITION D-2	30 LBS	9,744	292,320 LBS	4,698	140,940 LBS
MAX 2	50 LBS	9,744	487,300 LBS	4,698	234,900 LBS
MOX 2B	50 LBS	9,744	487,200 LBS	4,698	234,900 LBS

**BILL OF MATERIAL ( PER STACK )**

LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	154	52
1" X 6"	34	17
2" X 4"	15	10
2" X 6"	7	4
WEDGES PER STACK		
LUMBER	LENGTH	N.O. REQD
2" X 4"	9'-0"	4

**STORAGE METHOD A**

TNC, PENTOLITE, POTASSIUM PICRATE, COMP D-2, MAX 2, AND MOX 2B ( PACKED IN FIBERBOARD BOX )



PLAN VIEW  
80'-0" MAGAZINE  
(49 STACKS)

STORAGE IN 80'-0' MAGAZINE

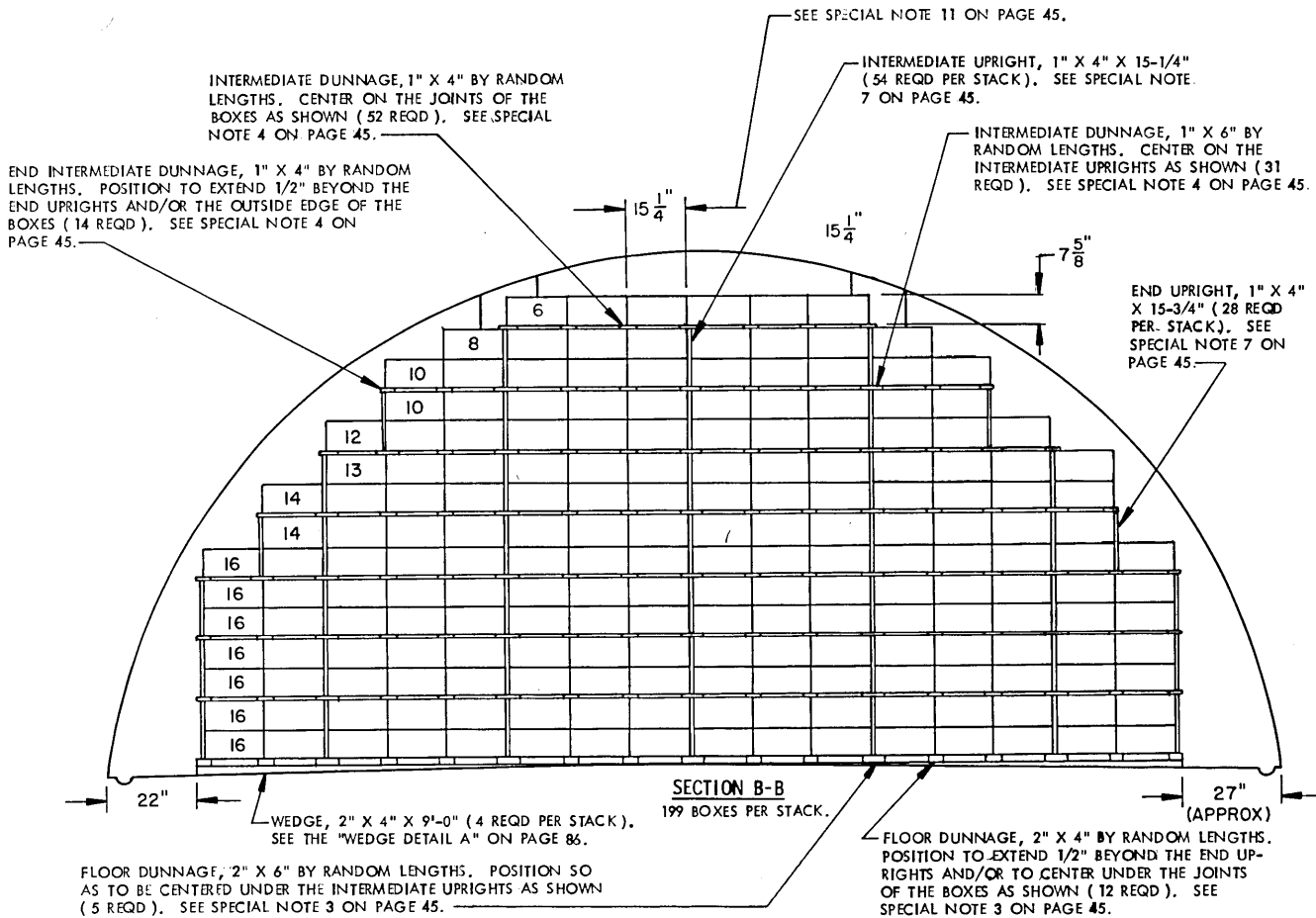
ITEM	QUANTITY	EXPLOSIVE WEIGHT
FIBERBOARD BOX	9,751	487,550 LBS

\* STORAGE IN 40'-0' MAGAZINE

ITEM	QUANTITY	EXPLOSIVE WEIGHT
FIBERBOARD BOX	4,577	228,850 LBS

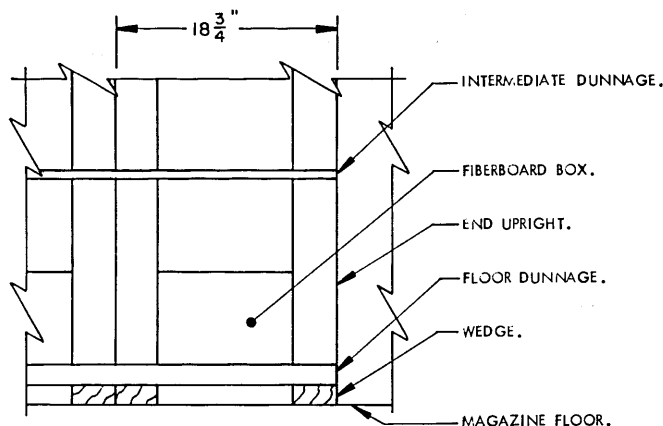
\* 23 STACKS WITH 34" (APPROX) SPACE REMAINING AT FRONT.

SEE GENERAL NOTE "E" ON PAGE 2 AND SPECIAL NOTES 2 AND 9, AND "TABLE 2" ON PAGE 45.



SECTION B-B  
199 BOXES PER STACK.

STORAGE METHOD A  
TNT, ALL COMP A, ALL COMP B, COMP C-3 & C-4, EXPLOSIVE D,  
CYCLOTOL, OCTOL, PBX AND TETRYL (PACKED IN FIBERBOARD BOX)



**PARTIAL END VIEW OF STACKS**

(SPECIAL NOTES CONTINUED)

8. STORAGE AS SHOWN IS FOR FIBERBOARD BOXES CONTAINING 50 POUNDS OF TNT. THE PROCEDURES ARE ALSO APPLICABLE FOR 55-POUND BOXES OF TNT AND FOR ALL THE ITEMS LISTED IN TABLE 2 BELOW. NOTE THAT TNT IN 55-POUND BOXES IS LIMITED TO A MAXIMUM OF 9,090 BOXES. 9,751 BOXES OF TOVEX, PBXN 6 AND OF EXPLOSIVE D MAY BE STORED IF THE EXPLOSIVE LIMIT FOR THE MAGAZINE IS NOT EXCEEDED. THE NUMBER OF STACKS OF ALL THE OTHER ITEMS MUST BE REDUCED FROM THAT SHOWN IN ORDER TO AVOID EXCEEDING THE 500,000 POUND MAXIMUM EXPLOSIVE LIMIT.
9. THE STORAGE PROCEDURES ON PAGES 44 AND 45 SHOULD ONLY BE USED IN GEOGRAPHICAL AREAS WHICH HAVE LOW HUMIDITY LEVELS. FOR PROCEDURES APPLICABLE TO THE STORAGE OF FIBERBOARD BOXES OF TNT, ETC. IN GEOGRAPHICAL AREAS HAVING HIGH HUMIDITY, REFER TO THE PROCEDURES ON PAGES 82 AND 83.
10. IF PALLETIZED BOXES ARE TO BE STORED, REFER TO U.S. ARMY AMC DRAWING 19-48-4097-1-3-4-14-22PA1009 FOR PROCEDURES TO BE USED. FOR UNITIZATION PROCEDURES (SIDE PANEL METHOD) REFER TO USAMC AMMUNITION CENTER DRAWING C-AMXSV-4071. FOR UNITIZATION PROCEDURES (STRETCH NET METHOD) REFER TO U.S. ARMY AMC DRAWING 19-48-4177/1-20PA1007.
11. IN LIEU OF STORING BOXES SO THE 15-1/4" DIMENSION IS ACROSS THE WIDTH OF THE MAGAZINE, AS SHOWN, BOXES MAY BE PLACED WITH THE 18-3/4" DIMENSION ACROSS THE MAGAZINE IF STACK STABILITY IS IMPROVED BY DOING SO. THE NUMBER OF BOXES ACROSS THE MAGAZINE MUST BE REDUCED ACCORDINGLY.

**SPECIAL NOTES:**

1. STORAGE AS SHOWN IS FOR TNT AND SIMILAR BULK EXPLOSIVES PACKED IN FIBERBOARD BOX NO. 4. FOR DETAILS OF THE BOX SEE DRAWING NO. 7548645. SEE SPECIAL NOTE 9.

DIMENSIONS ----- 18-3/4" LONG BY 15-1/4" WIDE BY 7-5/8" HIGH.  
EXPLOSIVE WEIGHT--- 50 OR 55 POUNDS. SEE SPECIAL NOTE 8.

2. STORAGE AS SHOWN IS FOR FIBERBOARD BOXES CONTAINING 50 POUNDS OF TNT. THE NUMBER OF STACKS OF 55-POUND BOXES OF TNT AND OF ALL THE OTHER ITEMS LISTED IN TABLE 2, WITH THE EXCEPTION OF EXPLOSIVE D, TOVEX, AND PBXN 6, MUST BE REDUCED FROM THAT SHOWN IN ORDER TO AVOID EXCEEDING THE 500,000 POUND MAXIMUM EXPLOSIVE LIMIT. REFER TO TABLE 2 FOR GUIDANCE.
3. RANDOM LENGTH MATERIAL MAY BE USED FOR THE 2" X 4" AND 2" X 6" FLOOR DUNNAGE PIECES. JOINTS IN THE RANDOM LENGTH MATERIAL MUST BE CENTERED ON THE WEDGES AS NEAR AS POSSIBLE. JOINTS IN LATERALLY ADJACENT FLOOR DUNNAGE PIECES NEED NOT BE STAGGERED.
4. RANDOM LENGTH MATERIAL, OF NOT LESS THAN 48" LENGTHS, MAY BE USED FOR THE 1" X 4" END INTERMEDIATE DUNNAGE AND/OR THE 1" X 4" AND 1" X 6" INTERMEDIATE DUNNAGE PIECES. THE JOINTS IN THE INTERMEDIATE DUNNAGE PIECES MUST BE LOCATED APPROXIMATELY CENTERED BETWEEN THE INTERMEDIATE AND/OR END UPRIGHT PIECES. THE JOINTS OF ADJACENT INTERMEDIATE DUNNAGE PIECES IN A LAYER WILL BE STAGGERED AT LEAST 16" FROM EACH OTHER AND/OR FROM A JOINT IN AN END INTERMEDIATE DUNNAGE PIECE. ALSO, THE JOINTS OF END INTERMEDIATE AND/OR THE INTERMEDIATE DUNNAGE PIECES IN AN UPPER LAYER WILL BE STAGGERED AT LEAST 16" FROM THE JOINTS IN THE NEXT LOWER LAYER.
5. **CAUTION:** TNT PACKED IN FIBERBOARD BOXES OF THE SIZE SHOWN AND SIMILAR BULK EXPLOSIVES PACKED IN FIBERBOARD BOXES WHICH ARE APPROXIMATELY THE SAME HEIGHT MUST NOT BE STACKED MORE THAN FIFTEEN (15) BOXES HIGH.
6. THE NUMBERS SHOWN IN SECTION B-B INDICATE THE QUANTITY OF BOXES PER LAYER IN A STACK.
7. WHEN STORING BOXES OF A HEIGHT OTHER THAN 7-5/8", THE LENGTH OF THE UPRIGHT PIECES MUST BE ADJUSTED TO COMPLY WITH THE FOLLOWING CRITERIA:
  - A. INTERMEDIATE UPRIGHT PIECES MUST BE OF A LENGTH EQUAL TO THE HEIGHT OF TWO BOXES.
  - B. END UPRIGHT PIECES MUST BE 1/2" LONGER THAN INTERMEDIATE UPRIGHT PIECES.

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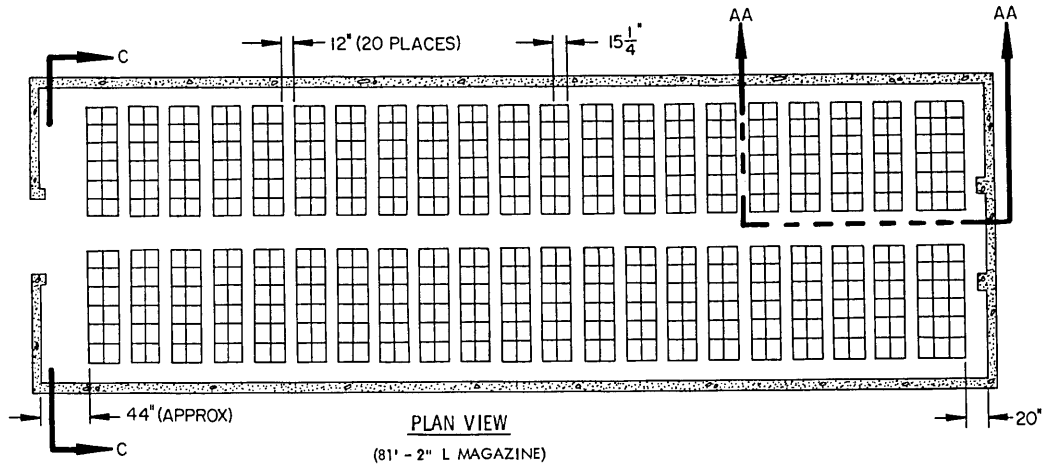
**TABLE 2**

ITEM	EXPL WT/BX	80'-0" MAGAZINE		40'-0" MAGAZINE	
		MAX QUANTITY	MAX EXPLOSIVE	MAX QUANTITY	MAX EXPLOSIVE
TNT	50 LBS	9,751	487,550 LBS	4,577	228,850 LBS
TNT	55 LBS	9,090	499,950 LBS	4,577	228,850 LBS
ALL COMPOSITION A	60 LBS	8,333	499,980 LBS	4,577	274,620 LBS
ALL COMPOSITION B	60 LBS	8,333	499,980 LBS	4,577	274,620 LBS
COMPOSITION C-3 AND C-4	60 LBS	8,333	499,980 LBS	4,577	274,620 LBS
EXPLOSIVE D	50 LBS	9,751	487,550 LBS	4,577	228,850 LBS
CYCLOTOL	60 LBS	8,333	499,980 LBS	4,577	274,620 LBS
OCTOL	60 LBS	8,333	499,980 LBS	4,577	274,620 LBS
PBX	60 LBS (MAX.)	8,333	499,980 LBS	4,577	274,620 LBS
TETRYL	60 LBS	8,333	499,980 LBS	4,577	274,620 LBS
TOVEX	50 LBS	9,751	487,550 LBS	4,577	228,850 LBS
PBXN 6	50 LBS	9,751	487,550 LBS	4,577	228,850 LBS

**BILL OF MATERIAL (PER STACK)**

LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	225	75
1" X 6"	49	25
2" X 4"	19	13
2" X 6"	8	8
WEDGES PER STACK		
LUMBER	LENGTH	NO. REQD
2" X 4"	9'-0"	4

STORAGE METHOD A  
TNT, ALL COMP A, ALL COMP B, COMP C-3 & C-4, EXPLOSIVE D,  
CYCLOTOL, OCTOL, PBX AND TETRYL (PACKED IN FIBERBOARD BOX)

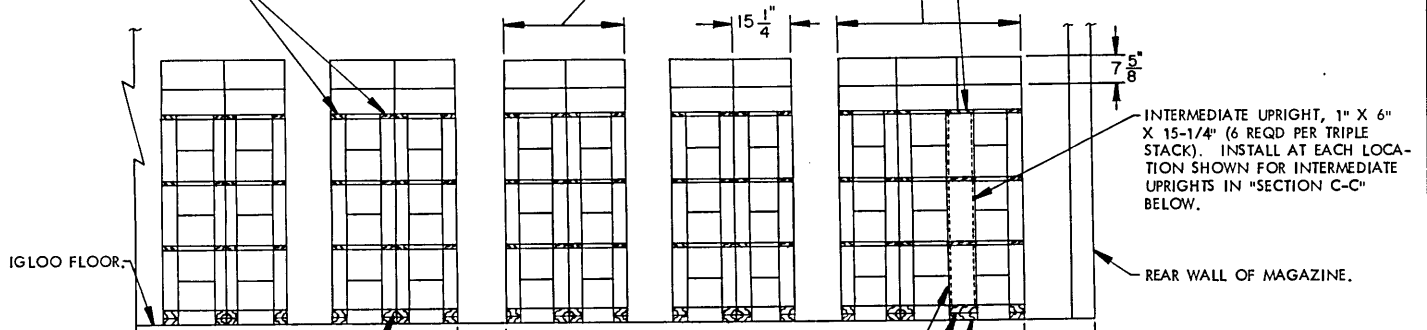


INTERMEDIATE DUNNAGE, 1" X 4" BY A LENGTH TO SUIT (REF: 9' - 8"). POSITION TO EXTEND 1/2" BEYOND THE END UPRIGHTS. (24 REQ'D PER DOUBLE OR TRIPLE STACK).

INDICATES A DOUBLE STACK. SEE SPECIAL NOTE 8 ON PAGE 47.

INDICATES A TRIPLE STACK. SEE SPECIAL NOTE 7 ON PAGE 47.

INTERMEDIATE DUNNAGE, 1" X 6" BY A LENGTH TO SUIT (REF: 9' - 8"). POSITION TO EXTEND 1/2" BEYOND THE END UPRIGHTS (6 REQ'D PER TRIPLE STACK).



FLOOR DUNNAGE, 2" X 4" BY A LENGTH TO EXTEND 1/2" BEYOND THE END UPRIGHTS (REF: 9' - 8") (8 REQ'D PER DOUBLE OR TRIPLE STACK).

12" (20 PLACES)

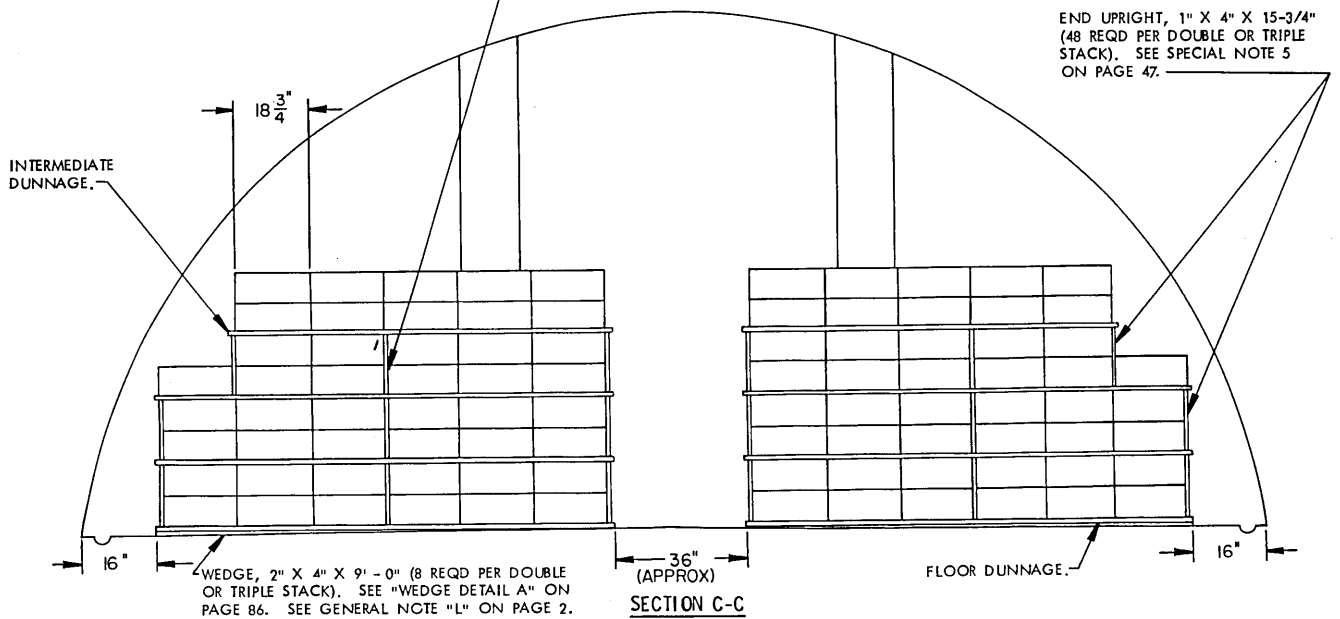
**VIEW AA-AA**

END UPRIGHT, 1" X 6" X 15-3/4" (12 REQ'D PER TRIPLE STACK). SEE SPECIAL NOTE 5 ON PAGE 47.

WEDGE, 2" X 6" X 9' - 0" (2 REQ'D PER TRIPLE STACK). SEE "WEDGE DETAIL A" ON PAGE 86. SEE GENERAL NOTE "L" ON PAGE 2.

INTERMEDIATE UPRIGHT, 1" X 4" X 15-1/4" (24 REQ'D PER DOUBLE OR TRIPLE STACK). SEE SPECIAL NOTE 5 ON PAGE 47.

FLOOR DUNNAGE, 2" X 6" BY A LENGTH TO EXTEND 1/2" BEYOND THE END UPRIGHTS (REF: 9' - 8") (2 REQ'D PER TRIPLE STACK).



**SMALL LOT STORAGE**

TNT, ALL COMP A, ALL COMP B, COMP C-3 & C-4, EXPLOSIVE D, CYCLOTOL, OCTOL, PBX AND TETRYL (PACKED IN FIBERBOARD BOX)

SPECIAL NOTES:

1. STORAGE AS SHOWN IS TYPICAL ONLY, AND APPLIES TO NUMEROUS SMALL LOTS OF TNT AND SIMILAR BULK EXPLOSIVES PACKED IN FIBERBOARD BOX NO. 4. FOR DETAILS OF THE BOX SEE PICATINNY ARSENAL DRAWING NO. 7548645.

DIMENSIONS ----- 18-3/4" LONG BY 15-1/4" WIDE BY 7-5/8" HIGH. EXPLOSIVE WEIGHT ----50 POUNDS. SEE SPECIAL NOTE 6.

2. SIMILAR BULK EXPLOSIVES INCLUDE:

ITEM

- |                              |              |
|------------------------------|--------------|
| (a) ALL COMPOSITION A.       | (f) OCTOL.   |
| (b) ALL COMPOSITION B.       | (g) PBX.     |
| (c) COMPOSITION C-3 AND C-4. | (h) TETRYL.  |
| (d) EXPLOSIVE D.             | (i) TOVEX.   |
| (e) CYCLOTOL.                | (k) PBX N 6. |
|                              | (l) TNC.     |

3. IF PALLETIZED BOXES ARE TO BE STORED, REFER TO U.S. ARMY AMC DRAWING 19-48-4097-1-3-4-14-20PA1009 FOR PROCEDURES TO BE USED. FOR UNITIZATION PROCEDURES (SIDE PANEL METHOD) REFER TO USAMC AMMUNITION CENTER DRAWING C-AMXSV-4071. FOR UNITIZATION PROCEDURES (STRETCH NET METHOD) REFER TO U.S. ARMY AMC DRAWING 19-48-4177/1-20PA1007

4. CAUTION: TNT PACKED IN FIBERBOARD BOXES OF THE SIZE SHOWN AND SIMILAR BULK EXPLOSIVES PACKED IN FIBERBOARD BOXES WHICH ARE APPROXIMATELY THE SAME HEIGHT MUST NOT BE STACKED MORE THAN EIGHT (8) BOXES HIGH.

5. WHEN STORING BOXES OF A HEIGHT OTHER THAN 7-5/8", THE LENGTH OF THE UPRIGHT PIECES MUST BE ADJUSTED TO COMPLY WITH THE FOLLOWING CRITERIA:

- A. INTERMEDIATE UPRIGHT PIECES MUST BE OF A LENGTH EQUAL TO THE HEIGHT OF TWO BOXES.
- B. END UPRIGHT PIECES MUST BE 1/2" LONGER THAN INTERMEDIATE UPRIGHT PIECES.

6. STORAGE AS SHOWN IS FOR FIBERBOARD BOXES CONTAINING 50 POUNDS OF TNT. THE EXPLOSIVE WEIGHT FOR THE ITEM LISTED IN THIS NOTE AND IN SPECIAL NOTE 2 ABOVE WILL VARY FROM 40 TO 60 POUNDS. NOTE THAT BOXES ARE STORED WITH THE LABELS FACING A 12" AISLE FOR EASIER IDENTIFICATION.

7. GENERALLY, THE LARGEST LOT SHOULD BE STORED IN THE REAR OR ON ONE SIDE OF THE MAGAZINE. THE TRIPLE STACK IN THE REAR OF THE MAGAZINE MAY ONLY CONTAIN TWO SEPARATE LOTS SINCE IDENTIFICATION OF THE BURIED ROW WOULD NOT BE POSSIBLE.

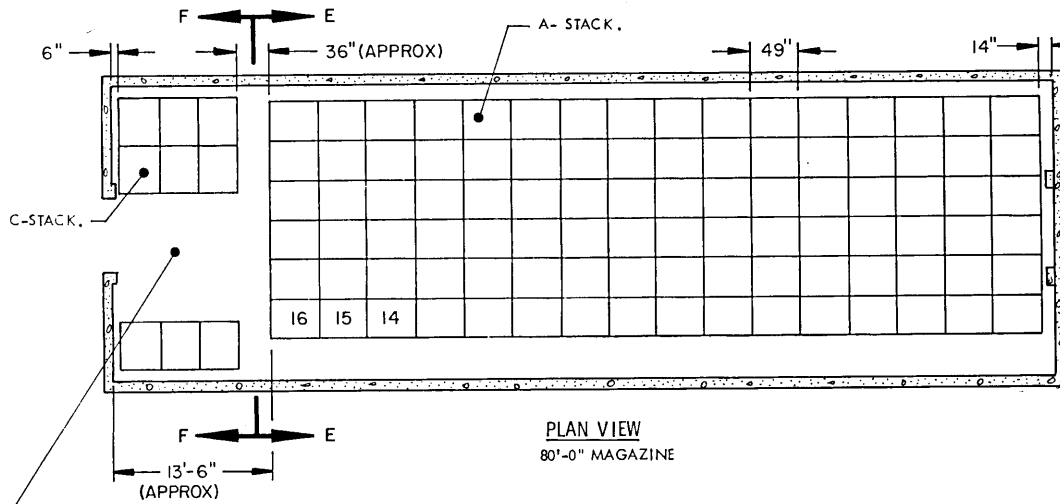
8. A DOUBLE STACK MAY CONSIST OF EITHER ONE INDIVIDUAL LOT, OR TWO SEPARATE LOTS, AS LONG AS THE SIDE OF THE BOX DISPLAYING THE LABEL FACES THE 12" AISLE.

BILL OF MATERIAL (PER TRIPLE STACK)		
LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	244	82
1" X 6"	61	31
2" X 4"	81	54
2" X 6"	41	41
WEDGES		
LUMBER	LENGTH	NO. REQD
2" X 4"	9' - 0"	8
2" X 6"	9' - 0"	2

BILL OF MATERIAL (PER DOUBLE STACK)		
LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	244	82
2" X 4"	81	31
WEDGES		
LUMBER	LENGTH	NO. REQD
2" X 4"	9' - 0"	8

SMALL LOT STORAGE

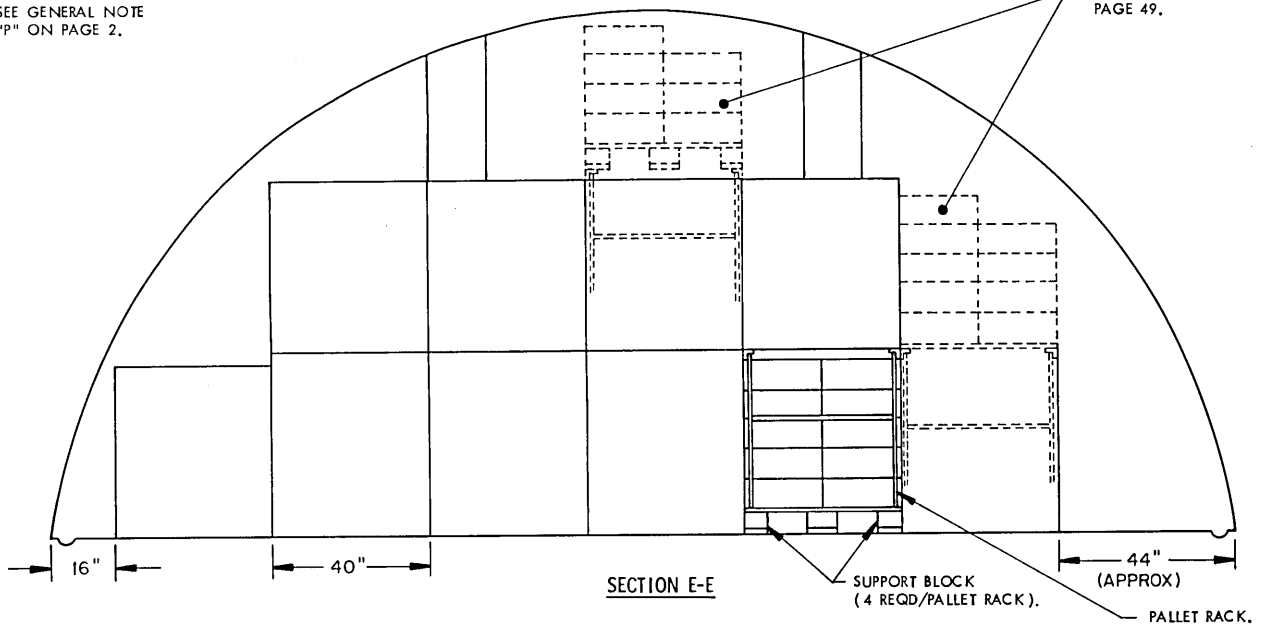
TNT, ALL COMP A, ALL COMP B, COMP C-3 & C-4, EXPLOSIVE D, CYCLOTOL, OCTOL, PBX AND TETRYL (PACKED IN FIBERBOARD BOX)



STORAGE IN 80'-0" MAGAZINE	
ITEM	QUANTITY
FULL PALLET UNIT	----- 172
* STORAGE IN 40'-0" MAGAZINE	
ITEM	QUANTITY
FULL PALLET UNIT	----- 78
* 7 A-STACKS.	
2 C-STACKS.	
SEE GENERAL NOTE "E" ON PAGE 2.	

PLAN VIEW  
80'-0" MAGAZINE

SEE SPECIAL NOTE 2 ON PAGE 49.



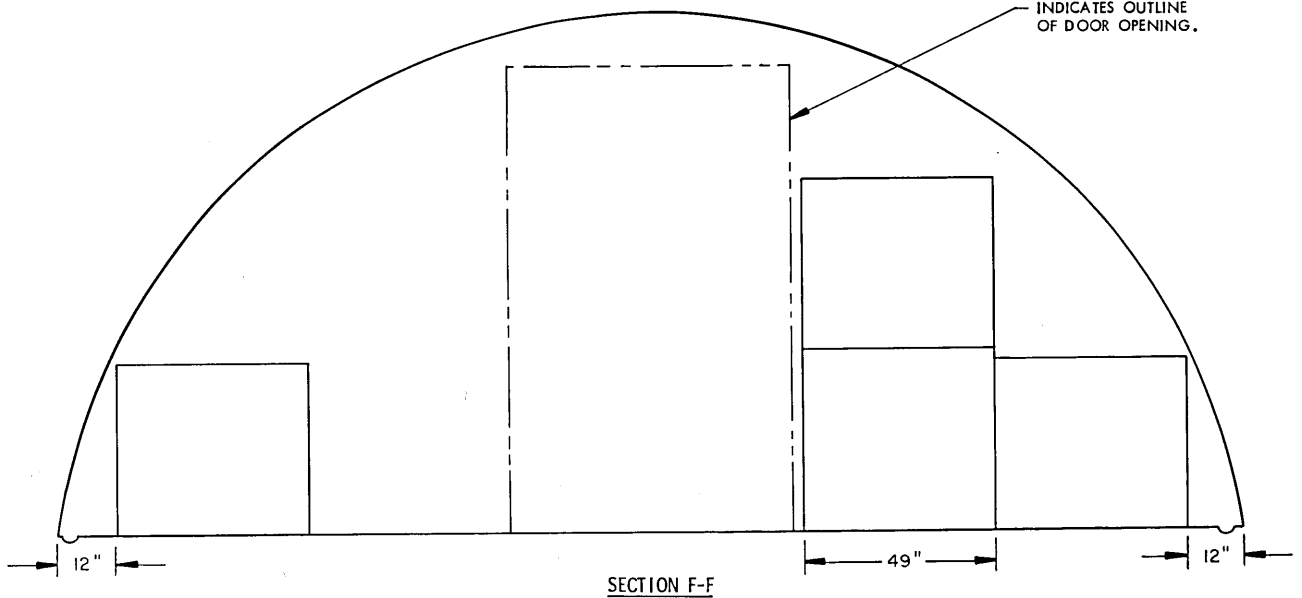
SECTION E-E

SUPPORT BLOCK  
(4 REQD/PALLETT RACK).

(APPROX)

PALLETT RACK.

INDICATES OUTLINE OF DOOR OPENING.



SECTION F-F

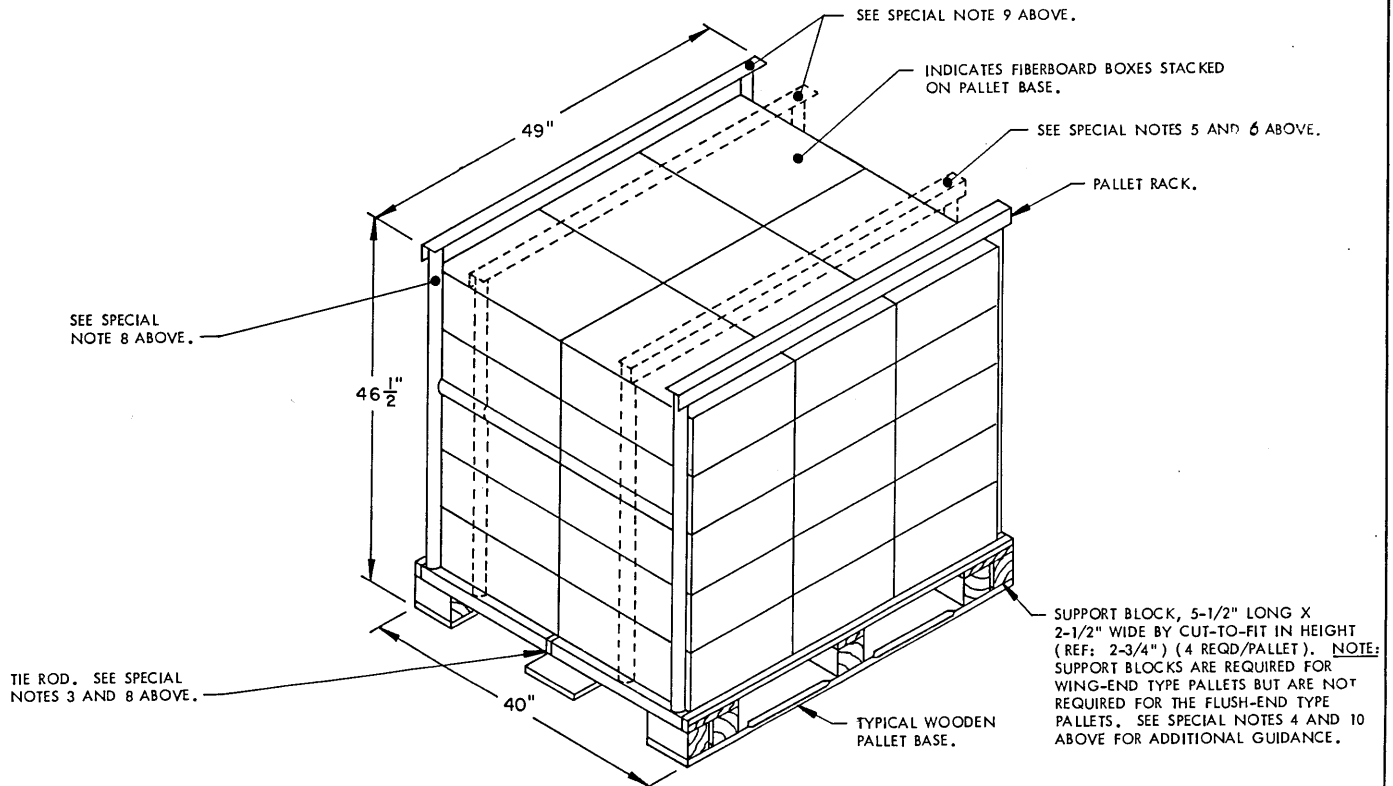


**SPECIAL NOTES:**

**(SPECIAL NOTES CONTINUED)**

1. EACH PALLET WHICH VERTICALLY SUPPORTS ANOTHER PALLET REQUIRES THE USE OF A PALLET RACK, INSTALLED AS TYPICALLY SHOWN BY THE "RACK INSTALLATION" DETAIL BELOW. THE STACK SHOWN IN SECTION E-E WILL REQUIRE SIX PALLET RACKS. THE STACK SHOWN IN SECTION F-F WILL REQUIRE ONLY ONE PALLET RACK. THE STORAGE ARRANGEMENT DELINEATED ON PAGE 48 SHOWS A TYPICAL STORAGE METHOD BASED ON THE 30-BOX PALLET UNIT DISPLAYED BELOW. ADJUSTMENTS MAY BE MADE AS REQUIRED TO THE STORAGE METHOD SHOWN TO COMPENSATE FOR A DIFFERENT SIZE PALLET UNIT. DIFFERENT TYPE AND SIZE PALLETS CAN BE USED WITH PALLET RACKS.
2. PALLET RACKS ARE ONLY SHOWN ON THE PALLETS WHICH ARE VERTICALLY SUPPORTING ANOTHER PALLET WITHIN THE STORAGE VIEWS ON PAGE 48. ON SOME OF THE "TOP PALLET UNITS" DEPICTED, PARTIAL PALLET UNITS CAN BE STORED IN THE UNUSED SPACE DUE TO THE CURVATURE OF THE MAGAZINE SIDE WALLS. A PALLET CAN BE USED UNDER A PARTIAL UNIT OR IN LIEU OF A PALLET A SHEET OF 3/4" THICK PLYWOOD MAY BE USED TO SUPPORT A PARTIAL UNIT. CAUTION: AN EXPLOSIVE WEIGHT LIMIT FOR A MAGAZINE IS NOT TO BE EXCEEDED.
3. THE PALLET RACK DEPICTED IN THE "RACK INSTALLATION" DETAIL BELOW IS DESIGNATED IN TM743-200-1 CHAPTER 5, AS A PALLET SUPPORT SET. THE PALLET RACK SHOWN IS MIL SPEC MIL-S-21859 ( NSN-3990-00-542-4771 FOR A 40" X 48" PALLET). A TIE ROD MUST BE INSTALLED TO TIE THE BASES OF THE TWO VERTICAL FRAME MEMBERS TOGETHER. OTHER TYPE PALLET RACKS MAY ALSO BE USED.
4. WHEN WIDE-TYPE PALLET RACKS ARE USED, A SUPPORT BLOCK 5-1/2" LONG BY 2-1/2" WIDE BY CUT-TO-FIT IN HEIGHT MUST BE POSITIONED UNDER THE WING OF THE PALLET AT EACH CORNER BETWEEN THE BOTTOM DECK BOARD AND THE STRINGER BOARD OF THE PALLET TO SUPPORT THE VERTICAL MEMBERS OF THE PALLET RACK. THE SUPPORT BLOCK IS REQUIRED FOR WING-END TYPE PALLETS. STACKING OF BOX PALLET UNITS EQUIPPED WITH WIDE-TYPE PALLET RACKS CAN BE ACCOMPLISHED BY SIDE-HANDLING OR END HANDLING WITH A FORKLIFT TRUCK, AS DESIRED, TO PRODUCE MOST EFFICIENT SPACE UTILIZATION.
5. WHEN NARROW-TYPE PALLET RACKS ARE USED, A SUPPORT BLOCK 4" X 4" X 8" (4 REQD PER FIRST LAYER UNIT) WILL BE REQUIRED AS SHOWN ON PAGE 50. THE HEIGHT OF THE BLOCKS WILL BE AS REQUIRED FOR EITHER THE FLUSH STRINGER TYPE OR FLUSH POST TYPE PALLET, SO AS TO TRANSMIT THE WEIGHT OF THE UPPER UNITS TO THE MAGAZINE FLOOR, THROUGH THE VERTICAL MEMBERS OF THE PALLET RACKS DOWN THROUGH THE SUPPORT BLOCKS.
6. WHEN STORING BOX PALLET UNITS OF CONTAINERS, OTHER THAN FIBERBOARD BOXES, PALLET RACKS CAN ONLY BE USED IF THE HEIGHT OF THE CONTAINERS DOES NOT EXCEED THE HEIGHT OF THE PALLET RACK. IF NARROW-TYPE PALLET RACKS ARE USED AND THE HEIGHT OF THE CONTAINERS DOES NOT PERMIT THE PALLET STRINGERS OF AN UPPER PALLET UNIT TO BEAR DIRECTLY ON THE TOP HORIZONTAL MEMBERS OF THE PALLET RACK, AS SHOWN IN THE STACKING PROCEDURES FOR END-HANDLED UNITS ON PAGE 50, SPANNER ASSEMBLIES MUST BE USED BETWEEN LAYERS OF UNITS SO THAT THE WEIGHT OF AN UPPER UNIT DOES NOT CONTACT THE TOP OF THE CONTAINERS OF THE LOWER UNIT. IF NARROW-TYPE PALLET RACKS ARE USED AND THE PALLET IS BEING SIDE-HANDLED, A SPANNER ASSEMBLY MUST BE USED TO PERMIT THE REMOVAL OF FORKLIFT TINES. IF WIDE-TYPE PALLET RACKS ARE USED AND THE BOTTOM DECK BOARDS (RUNNERS) OF THE UPPER PALLET BEAR DIRECTLY ON THE TOP HORIZONTAL MEMBERS OF THE PALLET RACK, SPANNER ASSEMBLIES WILL NOT BE REQUIRED.
7. THE FIBERBOARD BOXES, DRUMS, OR OTHER CONTAINERS, STORED ON THE PALLET BASES MUST BE OF A SIZE WHICH WILL FIT BETWEEN THE VERTICAL FRAME MEMBERS OF THE PALLET RACK. HOWEVER, A SLIGHT OVERHANG AT THE OTHER TWO SIDES OF A PALLET IS PERMITTED. THE USE OF AN OVERHANG PATTERN MAY BE BENEFICIAL DUE TO THE SIZE OF THE UNIT PACK BEING STORED.
8. METAL-TO-METAL PINCH POINTS WITHIN A PALLET RACK ASSEMBLY MUST BE KEPT FREE OF EXPLOSIVE MATERIAL. FOR EXAMPLE, PIECES OF FIBERBOARD OR HEAVY PAPER SHOULD BE USED TO COVER ENDS OF TIE RODS, AND SLIP TYPE SOCKET JOINTS OF THE ASSEMBLY MUST BE CLEANED BEFORE ASSEMBLING PALLET RACK.
9. IF A RACK HAS PALLET LOCATING DEVICES ATTACHED TO THE TOP HORIZONTAL MEMBERS AND THEY INTERFERE WITH PROPER STACKING, PIECES OF WOODEN DUNNAGE SHOULD BE USED ON TOP OF THE HORIZONTAL MEMBERS TO PROVIDE A LEVEL SURFACE FOR AN UPPER BOX PALLET UNIT.
10. SHIMS OF REQUIRED THICKNESS PLYWOOD WILL BE USED IN CONJUNCTION WITH 4" X 4" X 8" SUPPORT BLOCKS TO PROVIDE SOLID CONTACT WITH THE STRINGER BOARD OF THE PALLET UNIT.
11. REFER TO PAGES 51 AND 52 FOR TYPICAL MULTIPLE LOT STORAGE PROCEDURES.
12. PALLETIZATION OF BOXES IS SOLELY FOR THE CONVENIENCE OF STORAGE AND WILL NOT BE USED FOR SHIPPING BOXES.

(CONTINUED AT RIGHT)



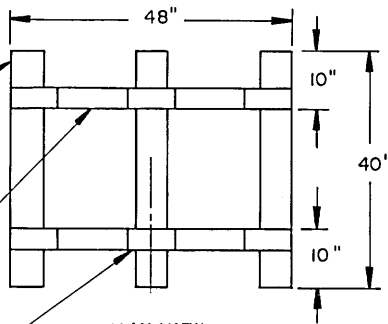
**RACK INSTALLATION**

A TYPICAL PALLET UNIT IS SHOWN WITH A PALLET RACK INSTALLED ON A 4-WAY ENTRY, WING-END TYPE PALLET (MIL-P-15011). USE OF FLUSH-END TYPE PALLETS NEGATES THE REQUIREMENT FOR SUPPORT BLOCKS.

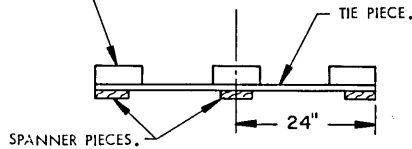
SPANNER PIECE, 2" X 6" X 40" (3 REQD).  
NAIL THROUGH THE TIE PIECES TO EACH  
SUPPORT BLOCK W/2-12d NAILS.

TIE PIECE, 1" X 4" X 48" (2 REQD).  
NAIL TO THE SUPPORT BLOCKS W/2-6d  
NAILS EACH.

SUPPORT BLOCK, 4" X 4" X 8"  
(6 REQD). SEE SPECIAL NOTES 5  
AND 10 ON PAGE 49.

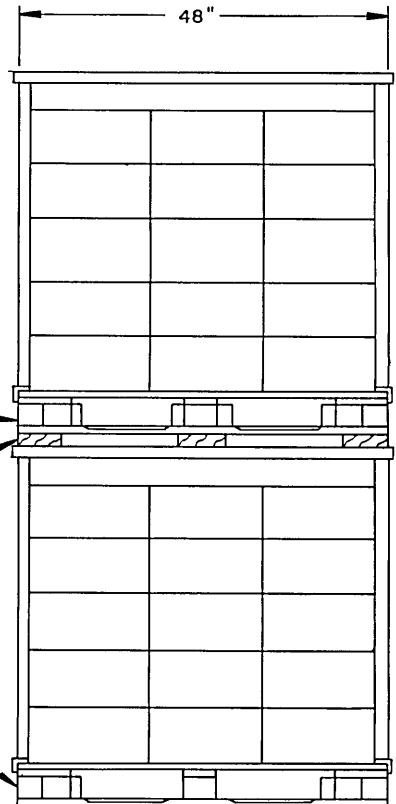
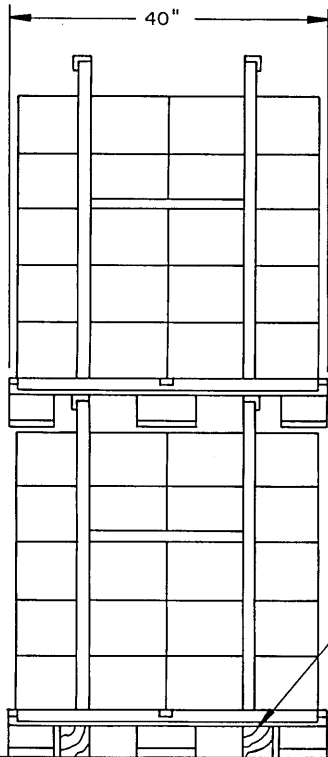


PLAN VIEW



END VIEW

SPANNER ASSEMBLY



PROVIDE SHIMS AS REQUIRED.  
SEE SPECIAL NOTE 10 ON  
PAGE 49.

SPANNER ASSEMBLY. REQUIRED  
BETWEEN LAYERS WHEN PALLET  
UNITS ARE SIDE-HANDLED.

4" X 4" X 8" SUPPORT BLOCK (4  
REQD PER FIRST-LAYER UNIT EQUIPPED  
WITH NARROW-TYPE PALLET RACK).  
POSITION TO BE UNDER THE VERTI-  
CAL MEMBERS OF THE PALLET RACK.  
SEE SPECIAL NOTES 5 AND 10 ON  
PAGE 49.

STACKING PROCEDURES FOR END-HANDLED PALLET UNITS

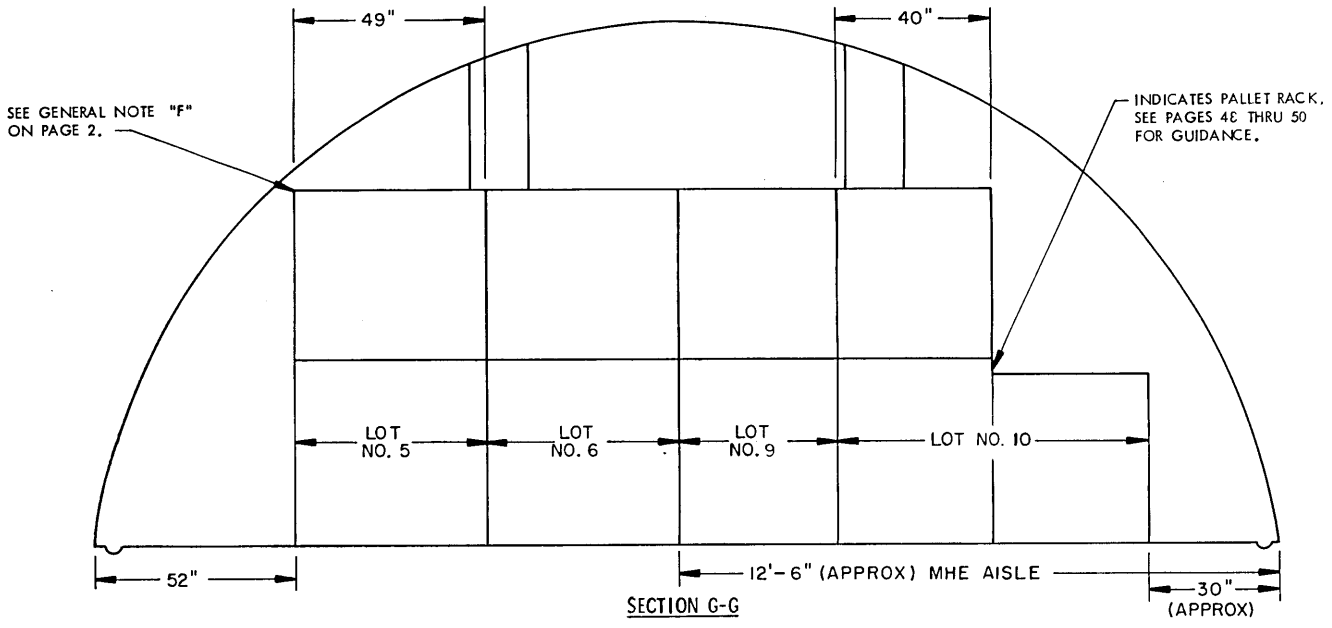
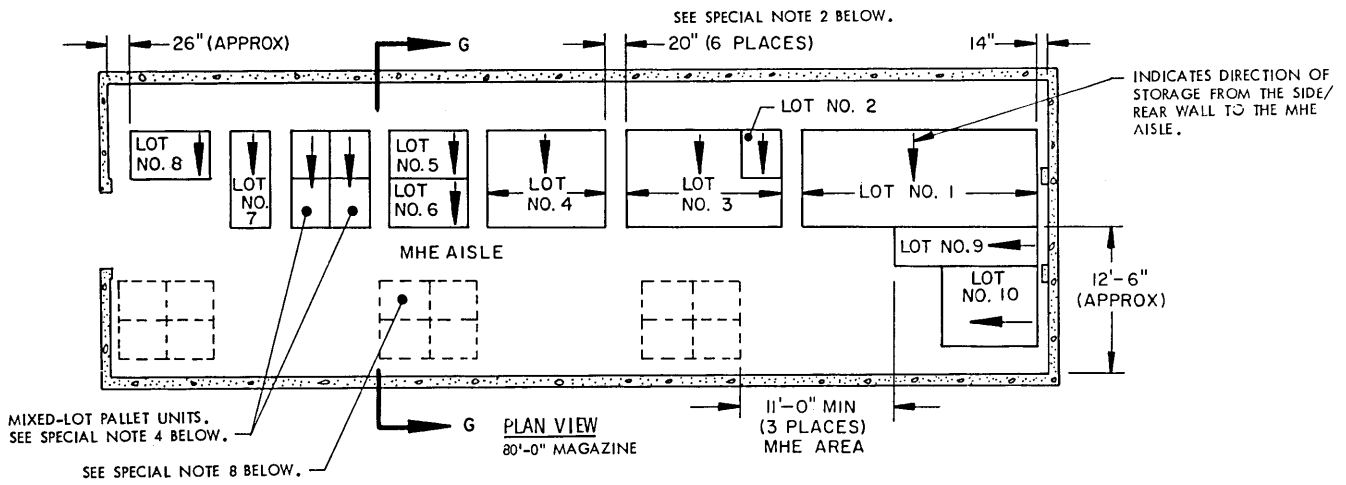
THE ABOVE VIEW DEPICTS THE USE OF THE  
NARROW-TYPE PALLET RACK.

STACKING PROCEDURES FOR SIDE-HANDLED PALLET UNITS

THE ABOVE VIEW DEPICTS THE USE OF THE NARROW-TYPE  
PALLET RACK.

NOTE:

IF DESIRED, IN LIEU OF 4" X 4" MATERIAL, TWO  
PIECES OF 2" X 4" MATERIAL MAY BE POSITIONED  
ON EDGE AND LAMINATED.



**SPECIAL NOTES:**

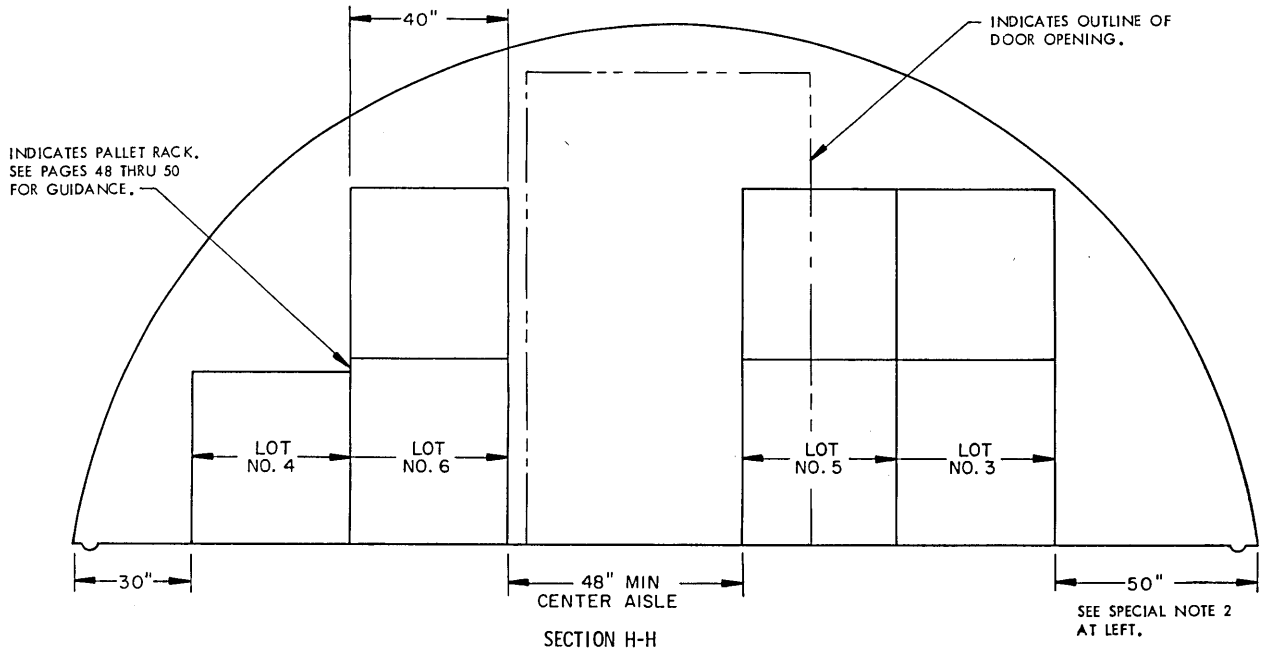
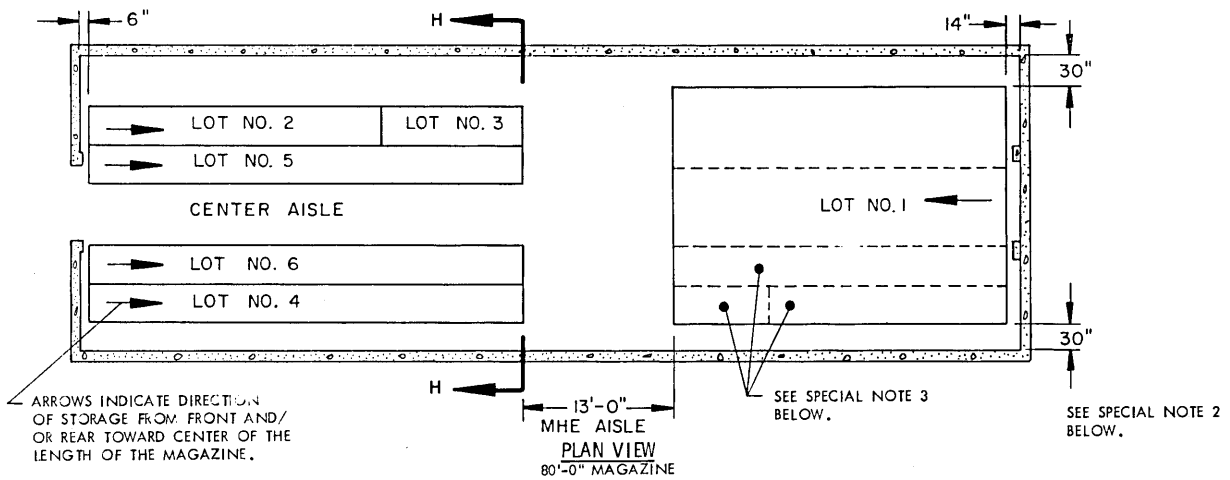
1. THE STORAGE PLANS AND CONFIGURATIONS SHOWN ON THIS PAGE ARE TYPICAL ONLY AND APPLY TO STORAGE OF NUMEROUS SMALL LOTS. ADAPTATIONS MAY BE MADE AS NUMBER AND SIZES OF LOTS TO BE STORED IN MAGAZINE REQUIRE.
2. AN INSPECTION AISLE NOT LESS THAN 18" WIDE MUST BE PROVIDED AT ONE SIDE OF EACH "BURIED" LOT.
3. GENERALLY, THE LARGEST LOT SHOULD BE STORED IN THE REAR OF THE MAGAZINE. HOWEVER, THE REAR AREA MAY BE USED TO STORE MORE THAN ONE LOT BY ERECTING STACKS SIMILAR TO THOSE SHOWN IN THE FRONTAL AREA. AN MHE AISLE WILL BE REQUIRED ON ONE SIDE OF THE MAGAZINE, AND EACH LOT MUST BE ACCESSIBLE FOR REMOVAL AND INSPECTION/INVENTORY IN ACCORDANCE WITH OTHER CRITERIA SPECIFIED IN THESE SPECIAL NOTES AND IN THE GENERAL NOTES ON PAGE 2.
4. A MIXED-LOT PALLET UNIT MAY HAVE FROM TWO LOTS PER PALLET UNIT UPWARDS TO AS MANY DIFFERENT LOTS AS THERE ARE CONTAINERS WITHIN THAT UNIT. HOWEVER, ALL LOTS WITHIN THE PALLET UNIT MUST HAVE THE SAME NATIONAL STOCK NUMBER AND CONDITION CODE.
5. EACH LOT WITHIN THE MAGAZINE MUST BE ACCESSIBLE FOR MOVEMENT BY MHE. PALLET UNITS OF A SINGLE-LOT OR MIXED-LOT PALLET UNITS ARE CONSIDERED "ACCESSIBLE" IF NO MORE THAN TWELVE (12) "LIFTS" \* OF ANOTHER LOT OR LOTS HAVE TO BE MADE TO GAIN ACCESS TO THE SINGLE-LOT OR MIXED-LOT UNITS.
6. FOR STORAGE OF MULTIPLE LOTS, THE DISTANCE FROM THE SIDEWALL WILL BE BASED ON THE OVERHEAD CLEARANCE REQUIRED FOR MHE.
7. WHEN TWO OR MORE LOTS ARE STORED ADJACENT TO EACH OTHER, THEY SHOULD BE SEPARATED BY AT LEAST 1" TO PROVIDE CLEARANCE FOR REMOVAL OF EITHER LOT.

(SPECIAL NOTES CONTINUED AT RIGHT)

(SPECIAL NOTES CONTINUED)

8. AREAS ENCLOSED BY DOTTED LINES INDICATE LOCATIONS WHERE ADDITIONAL LOTS MAY BE STORED OR WHERE ADDITIONAL ITEMS MAY BE STORED, THAT ARE FROM THE LOT OR LOTS WHICH ARE DIRECTLY OR ALMOST DIRECTLY ACROSS THE CENTER AISLE ON THE OTHER SIDE OF THE MAGAZINE. COMPLIANCE WITH ALL OF THE MULTIPLE-LOT CRITERIA AS SET FORTH ON THIS PAGE MUST BE OBSERVED. THE SIZE OF THE LOTS BEING STORED AND THE CRITERIA OF SPECIAL NOTE 5, RELATIVE TO "12 LIFTS", WILL BE MAJOR FACTORS IMPACTING ON THE NUMBER OF UNIT LOADS THAT CAN BE STORED IN AN "ADDITIONAL STORAGE LOCATION". MORE OR FEWER STACKS THAN SHOWN MAY BE STORED AT ANY ONE OF THE ADDITIONAL STORAGE LOCATIONS. AN 11'-0" MHE OPERATING AREA HAS BEEN SPECIFIED FOR ACCESS TO EACH "ADDITIONAL LOCATION" BY FORKLIFT TRUCK. THIS OPERATING AREA IS BASED ON REQUIREMENTS OF FORKLIFT TRUCKS COMMONLY USED IN STORAGE MAGAZINES. THE MHE OPERATING AREA CAN BE ENLARGED AS REQUIRED TO SUIT AVAILABLE FORKLIFT TRUCKS, AND SHOULD BE MADE SMALLER IF AVAILABLE MHE PERMITS. A "CENTER AISLE" (SPACE BETWEEN STORAGE ON ONE SIDE OF A MAGAZINE AND AN "ADDITIONAL STORAGE LOCATION") IS TO BE AT LEAST 48" WIDE. AN AISLE SLIGHTLY WIDER THAN 48" WILL ENHANCE FORKLIFT TRUCK MOVEMENT WITHIN A MAGAZINE; HOWEVER, THIS AISLE SHOULD NOT BE WIDER IF A LOSS IN STORAGE RESULTS.
9. ALTHOUGH STORAGE AS SHOWN DEPICTS THE USE OF PALLET RACKS, THE PRINCIPLES CAN BE APPLIED FOR OTHER PALLET CONFIGURATIONS.

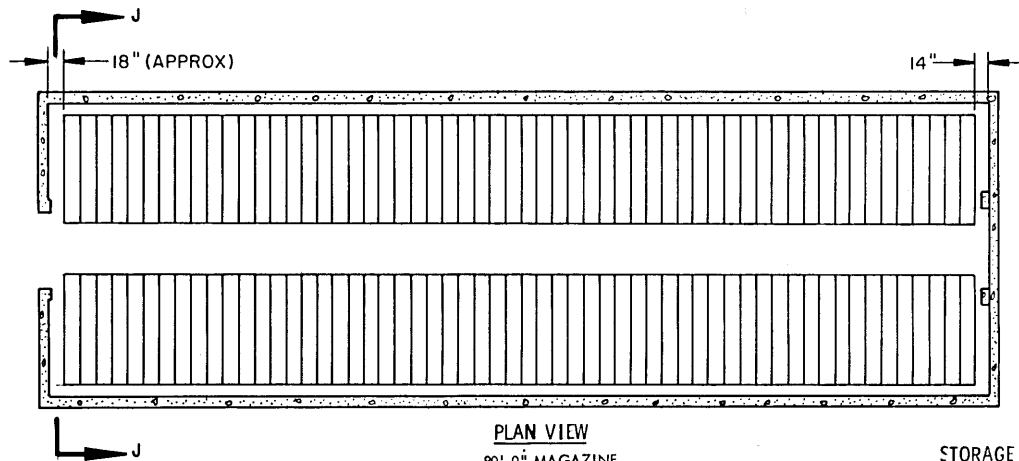
\* A "LIFT" MAY CONSIST OF ONE (1) OR MORE PALLET UNITS, PROVIDING THE CAPACITY OF MHE PERMITS, AND SAFE HANDLING IS NOT JEOPARDIZED.



**SPECIAL NOTES:**

1. THE STORAGE PLANS AND CONFIGURATIONS SHOWN ON THIS PAGE ARE TYPICAL ONLY AND APPLY TO RELATIVELY LARGE LOTS. ADAPTATIONS MAY BE MADE AS NUMBER AND SIZES OF LOTS TO BE STORED IN MAGAZINE REQUIRE.
2. AN INSPECTION/INVENTORY AISLE MUST BE PROVIDED AT ONE SIDE OR END OF EACH LOT.
3. GENERALLY, THE LARGEST LOT SHOULD BE STORED IN THE REAR OF THE MAGAZINE. HOWEVER, THE REAR AREA MAY BE USED TO STORE MORE THAN ONE LOT BY ERECTING ROWS SIMILAR TO THOSE SHOWN IN THE FRONTAL AREA OR AS SHOWN BY DOTTED LINES.
4. EACH LOT WITHIN THE MAGAZINE MUST BE ACCESSIBLE FOR MOVEMENT BY MHE. A SINGLE-LOT OF PALLET UNITS IS CONSIDERED "ACCESSIBLE" IF NO MORE THAN TWELVE (12) "LIFTS" \* OF ANOTHER LOT OR LOTS HAVE TO BE MADE TO GAIN ACCESS TO THAT LOT.
5. FOR STORAGE OF MULTIPLE LOTS, THE DISTANCE FROM THE SIDEWALL WILL BE BASED ON THE OVERHEAD CLEARANCE REQUIRED FOR MHE.
6. WHEN TWO LOTS ARE STORED ADJACENT TO EACH OTHER, THEY SHOULD BE SEPARATED BY AT LEAST 1" TO PROVIDE CLEARANCE FOR REMOVAL OF EITHER LOT.
7. ALTHOUGH STORAGE AS SHOWN DEPICTS THE USE OF PALLET RACKS, THE PRINCIPLES CAN BE APPLIED FOR OTHER PALLET CONFIGURATIONS.

\*A "LIFT" MAY CONSIST OF ONE (1) OR MORE PALLET UNITS, PROVIDING THE CAPACITY OF MHE PERMITS, AND SAFE HANDLING IS NOT JEOPARDIZED.



**PLAN VIEW**  
80'-0" MAGAZINE  
(58 STACKS)

**STORAGE IN 80'-0" MAGAZINE**

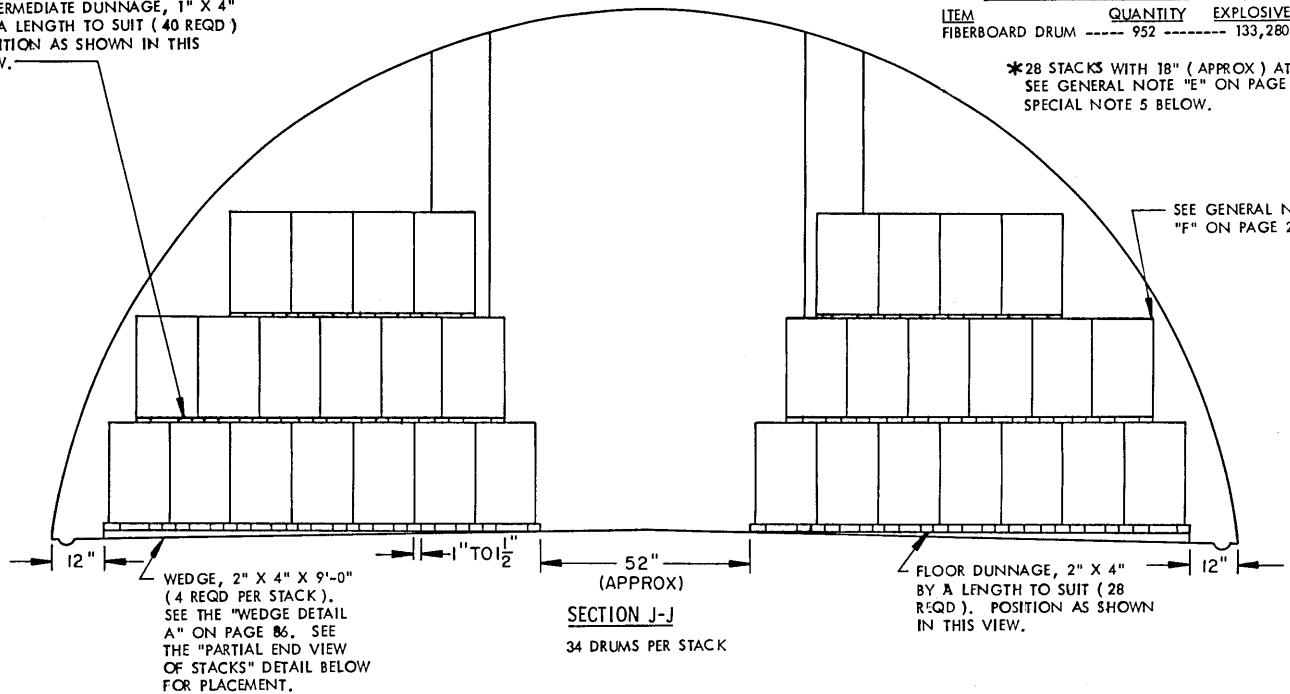
ITEM	QUANTITY	EXPLOSIVE WEIGHT
FIBERBOARD DRUM	1,972	276,080 LBS

**\* STORAGE IN 40'-0" MAGAZINE**

ITEM	QUANTITY	EXPLOSIVE WEIGHT
FIBERBOARD DRUM	952	133,280 LBS

\*28 STACKS WITH 18" (APPROX) AT FRONT.  
SEE GENERAL NOTE "E" ON PAGE 2 AND  
SPECIAL NOTE 5 BELOW.

INTERMEDIATE DUNNAGE, 1" X 4"  
BY A LENGTH TO SUIT (40 REQD)  
POSITION AS SHOWN IN THIS  
VIEW.



**SECTION J-J**  
34 DRUMS PER STACK

WEDGE, 2" X 4" X 9'-0"  
(4 REQD PER STACK).  
SEE THE "WEDGE DETAIL  
A" ON PAGE 86. SEE  
THE "PARTIAL END VIEW  
OF STACKS" DETAIL BELOW  
FOR PLACEMENT.

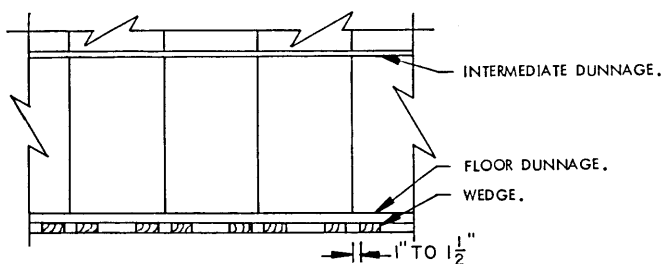
FLOOR DUNNAGE, 2" X 4"  
BY A LENGTH TO SUIT (28  
REQD). POSITION AS SHOWN  
IN THIS VIEW.

**BILL OF MATERIAL ( PER STACK )**

LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	54	18
2" X 4"	38	26
WEDGES PER STACK		
LUMBER	LENGTH	NO. REQD
2" X 4"	9'-0"	4

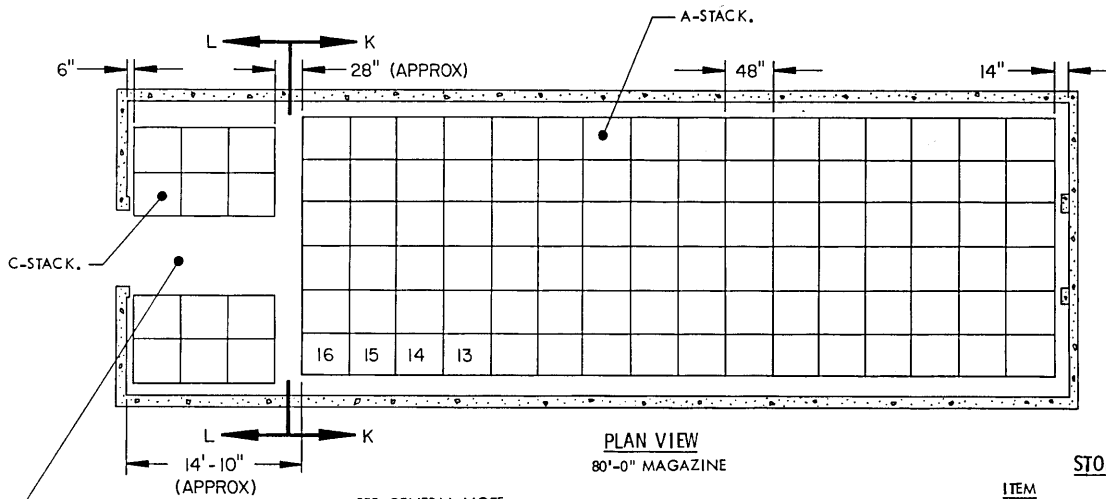
**SPECIAL NOTES:**

- STORAGE AS SHOWN IS FOR A FIBERBOARD DRUM.  
DRUM DIMENSIONS -----27" HIGH BY 16" DIAMETER.  
EXPLOSIVE WEIGHT -----140 POUNDS.
- RANDOM LENGTH OF LUMBER MAY BE USED FOR THE INTERMEDIATE AND FLOOR DUNNAGE.
- FIBERBOARD DRUMS, EXCEPT FOR NITROGUANIDINE AS SHOWN ON PAGE 67, WILL NOT BE STACKED MORE THAN THREE LAYERS HIGH.
- THE DRUMS IN EACH LAYER WILL BE STAGGERED ABOVE THE DRUMS IN THE LAYER UNDERNEATH, AS SHOWN.
- THESE STORAGE PROCEDURES SHOULD ONLY BE USED IN GEOGRAPHICAL AREAS WHICH HAVE LOW HUMIDITY LEVELS. FOR PROCEDURES APPLICABLE TO THE STORAGE OF FIBERBOARD DRUMS IN GEOGRAPHICAL AREAS HAVING HIGH HUMIDITY, REFER TO THE PROCEDURES ON PAGE 84



**PARTIAL END VIEW OF STACKS**

**STORAGE METHOD A**  
**FIBERBOARD DRUM STORAGE, UNPALLETIZED**



STORAGE IN 80'-0' MAGAZINE

ITEM	QUANTITY	EXPLOSIVE WEIGHT
PALLET UNIT A	245	274,400 LBS

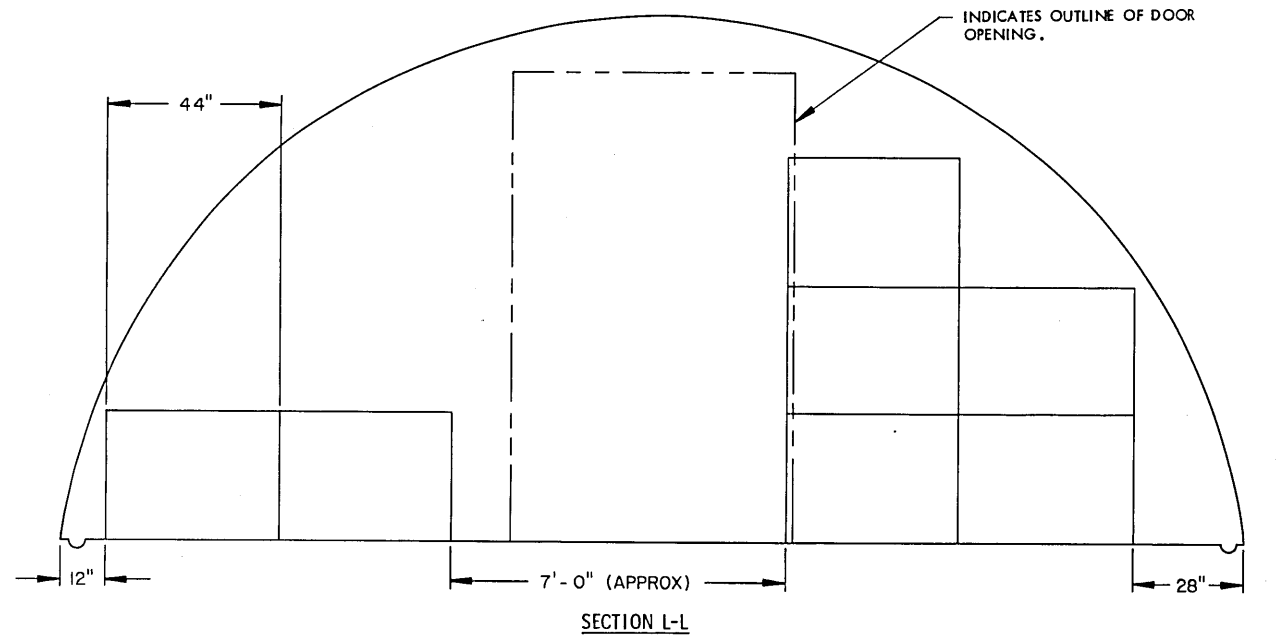
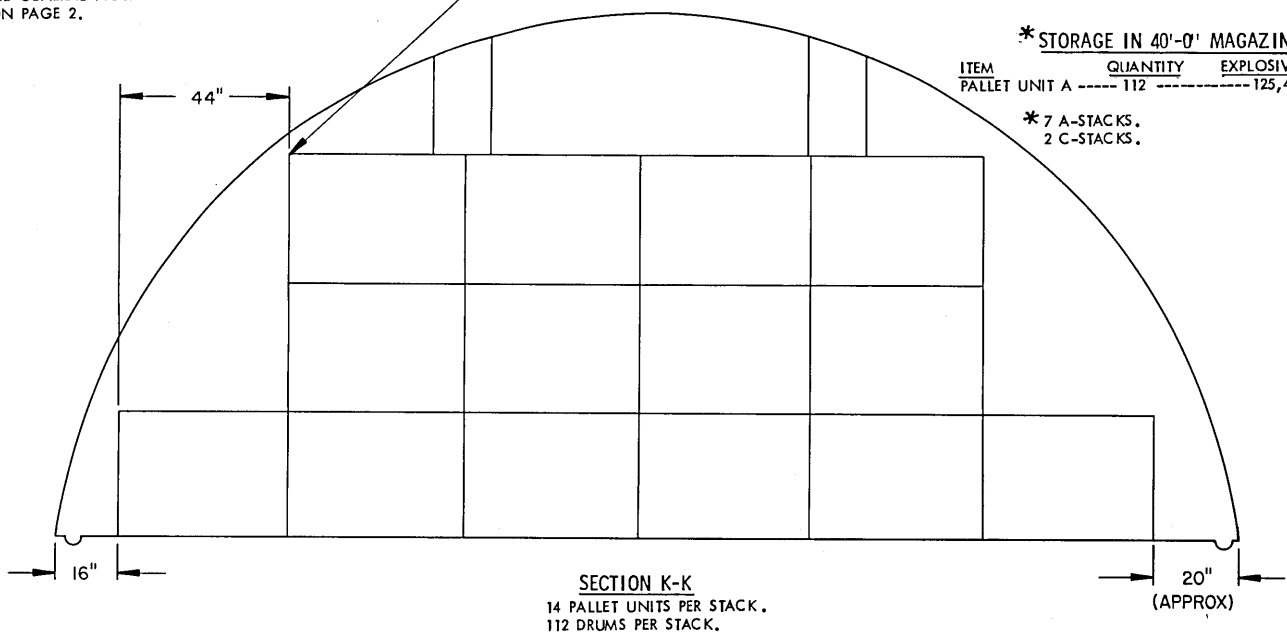
\* STORAGE IN 40'-0' MAGAZINE

ITEM	QUANTITY	EXPLOSIVE WEIGHT
PALLET UNIT A	112	125,440 LBS

\* 7 A-STACKS.  
2 C-STACKS.

SEE GENERAL NOTE "P" ON PAGE 2.

SEE GENERAL NOTE "F" ON PAGE 2.



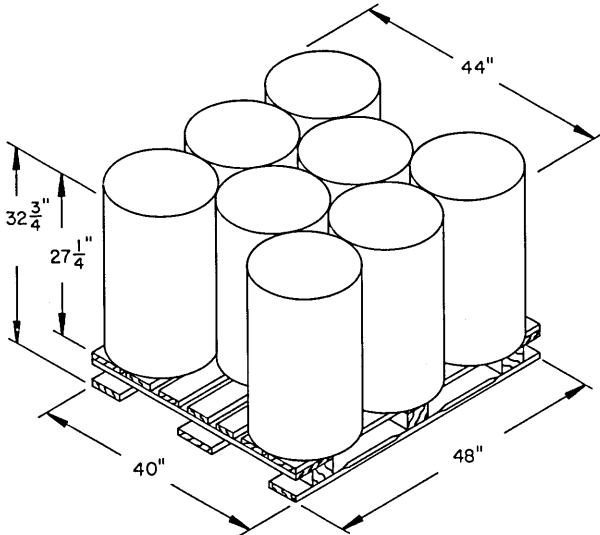
**SPECIAL NOTES:**

1. STORAGE AS SHOWN IS FOR FIBERBOARD DRUMS OF VARIOUS SIZES PLACED ON 40" X 48" PALLETS AND CONTAINING VARIOUS EXPLOSIVES.

**TYPICAL PALLET UNIT DIMENSIONS:**

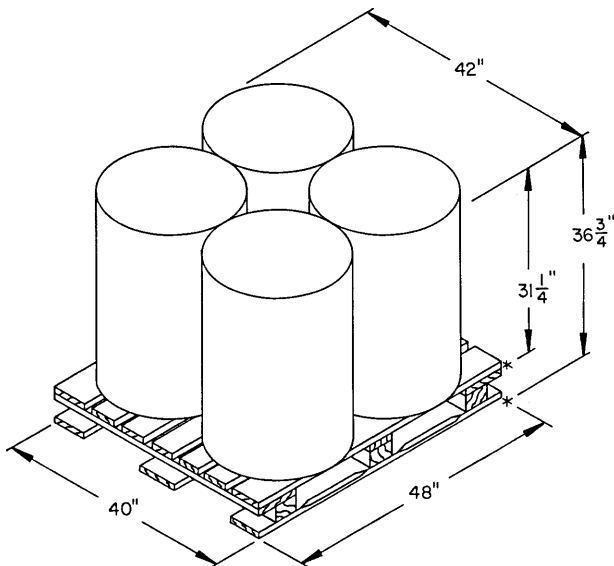
- UNIT A---44" L X 48" W X 32-3/4" H
- UNIT B---42" L X 48" W X 36-3/4" H
- UNIT C---40" L X 51" W X 33" H

- 2. THE DRUM SIZES SHOWN ARE TYPICAL; ANY SIZE DRUM MAY BE PLACED ON A PALLET FOR STORAGE PURPOSES. ANY SIZE PALLET MAY BE USED, HOWEVER A SIZE SHOULD BE SELECTED WHICH WILL BE NEARLY FILLED WITH DRUMS IN ORDER TO PROVIDE GOOD STACKABILITY. ALSO, A PALLET SIZE SHOULD BE SELECTED THAT WILL PROVIDE FOR FULL OR ALMOST FULL BEARING OF THE DRUMS ON A PALLET. OVERHANG OF DRUMS ON A PALLET IS LIMITED TO NOT MORE THAN TWO INCHES (2").
- 3. PALLETIZED DRUMS WILL NOT BE STACKED MORE THAN THREE LAYERS HIGH.
- 4. PALLETIZATION OF DRUMS IS SOLELY FOR THE CONVENIENCE OF STORAGE AND WILL NOT BE USED FOR SHIPPING OF DRUMS.



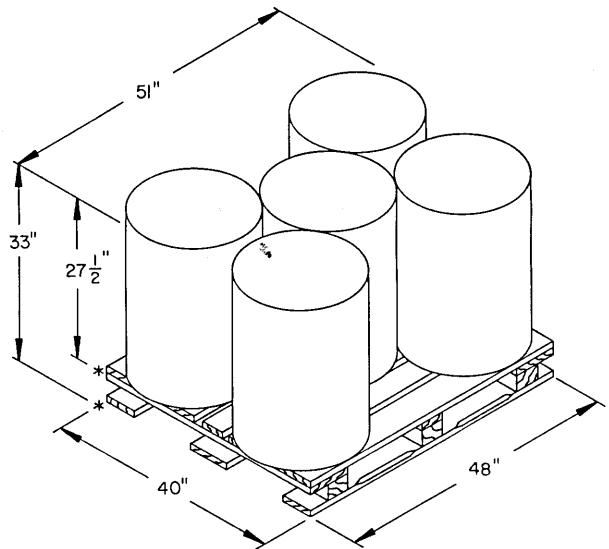
**TYPICAL PALLET UNIT A**

DRUM SIZE ----- 16" DIA X 27-1/4" HIGH.  
 DRUM EXPLOSIVE WEIGHT --- 140 POUNDS (TYPICAL).



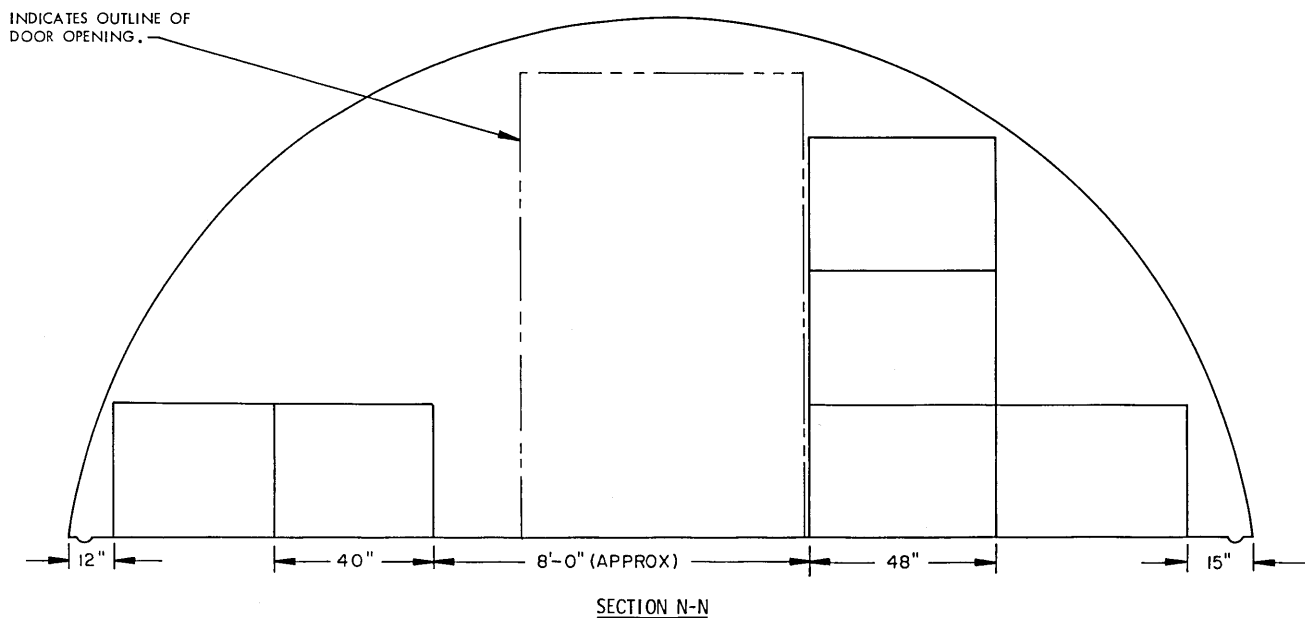
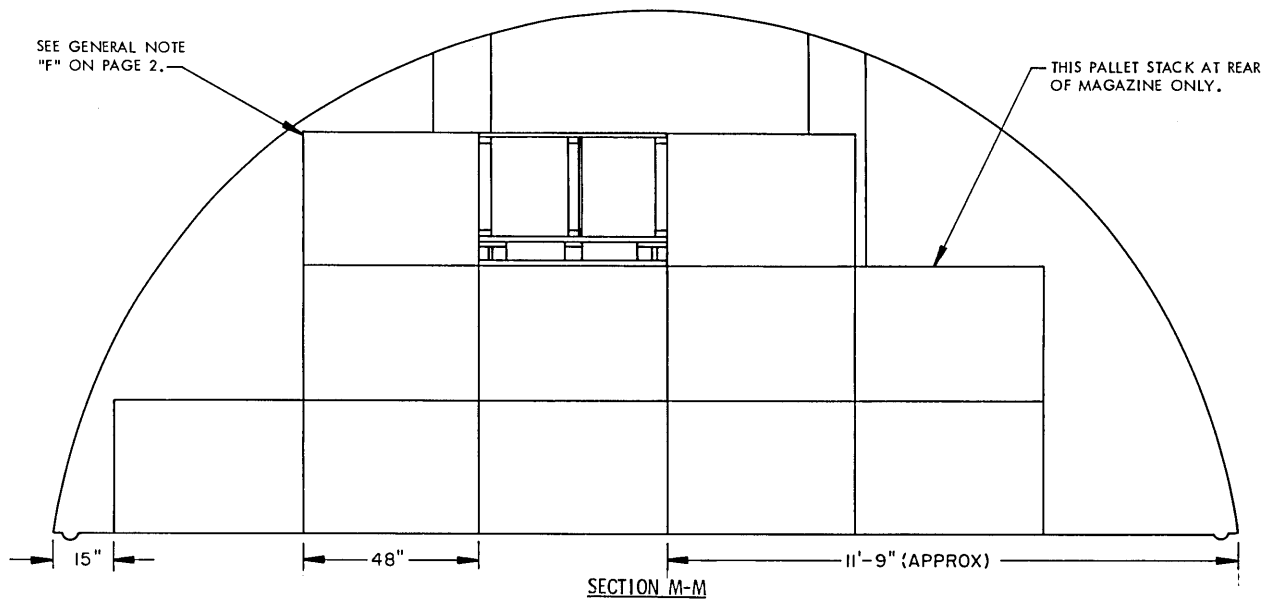
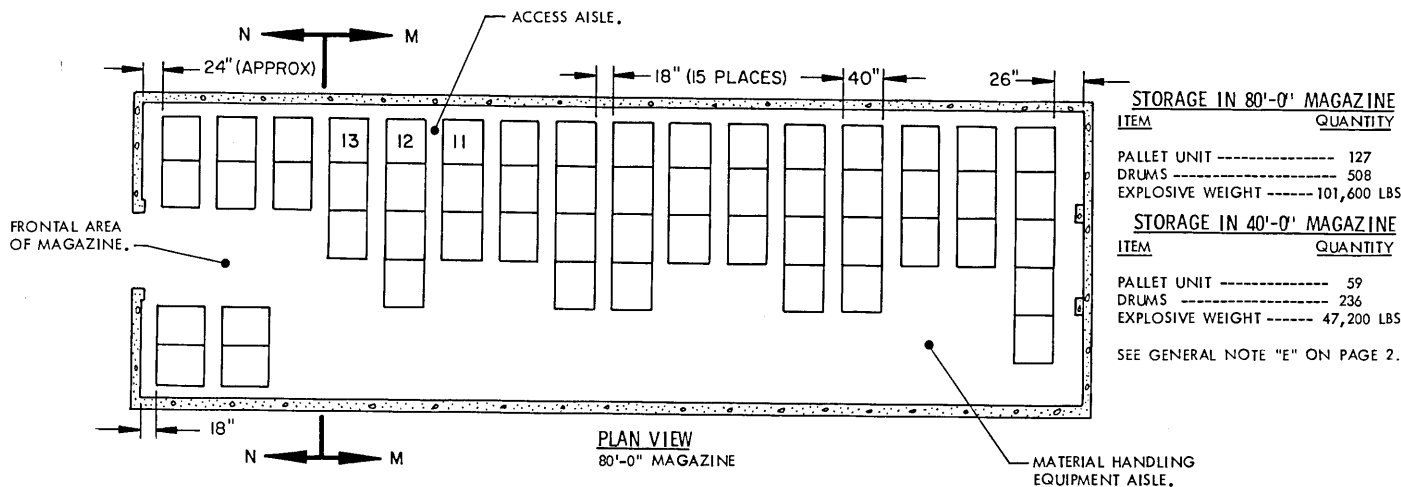
**TYPICAL PALLET UNIT B**

DRUM SIZE ----- 20-1/2" DIA X 31-1/4" HIGH.  
 DRUM EXPLOSIVE WEIGHT --- 300 POUNDS (TYPICAL).



**TYPICAL PALLET UNIT C**

DRUM SIZE ----- 19" DIA X 27-1/2" HIGH.  
 DRUM EXPLOSIVE WEIGHT --- 200 POUNDS (TYPICAL).

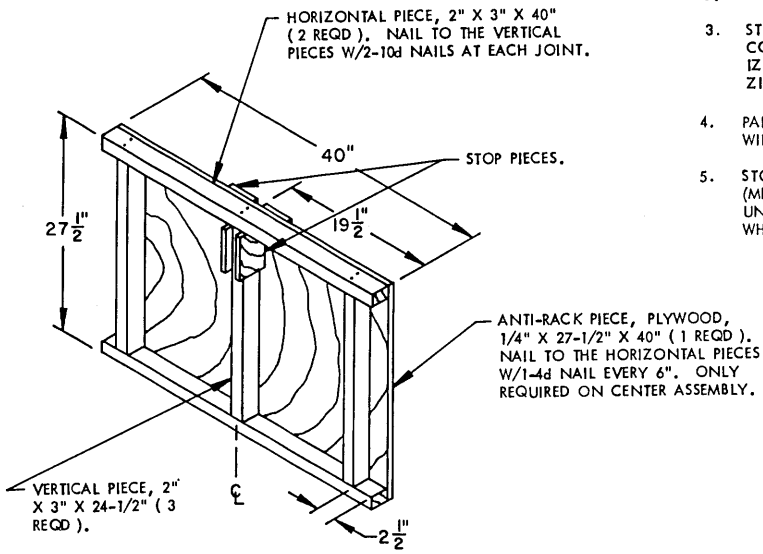


RDX WET, IN FIBERBOARD DRUMS, PALLETIZED



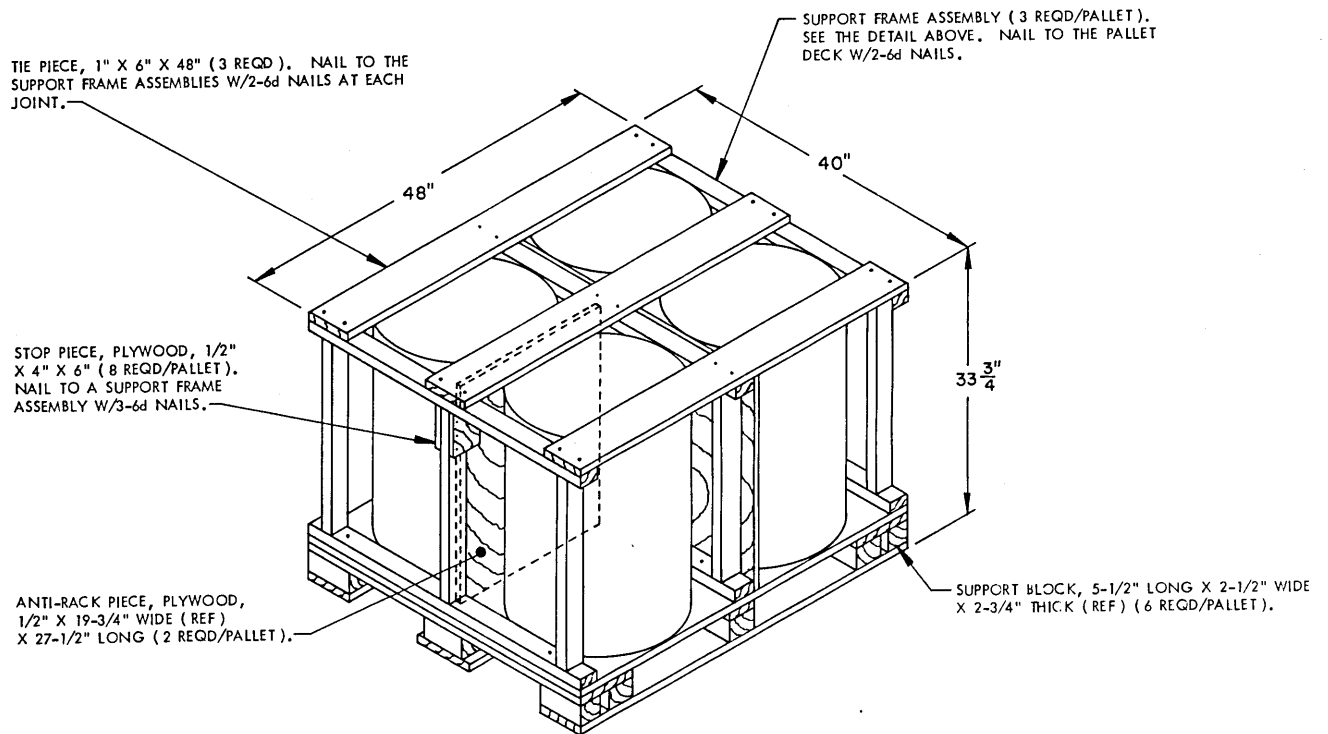
**SPECIAL NOTES:**

1. STORAGE AS SHOWN IS FOR THE RDX, WET, IN FIBERBOARD DRUMS ( PALLETIZED ).  
 DRUM DIMENSIONS ----- 27-1/2" HIGH BY 19-1/2" DIAMETER.  
 PALLET UNIT DIMENSIONS----- 40" LONG BY 48" WIDE BY 33-3/4" HIGH.  
 EXPLOSIVE WEIGHT PER PALLET UNIT-- 800 LBS.
2. THE METHOD OF STORAGE SHOWN PERMITS INSPECTION OF INDIVIDUAL DRUMS.
3. STORAGE INSTALLATIONS HAVING FRONT/SIDE LOADING FORKLIFTS MAY STORE CONTAINERS OPPOSITE HAND FROM THAT SHOWN IN THESE VIEWS, I.E. PALLETIZED DRUMS MAY BE STACKED PERPENDICULAR TO THE RIGHT SIDE OF THE MAGAZINE IN LIEU OF PERPENDICULAR TO THE LEFT SIDE.
4. PALLETIZATION OF DRUMS IS SOLELY FOR THE CONVENIENCE OF STORAGE AND WILL NOT BE USED FOR SHIPPING DRUMS.
5. STORAGE AS SHOWN IS BASED ON THE USE OF FRONT LOADING FORKLIFT TRUCKS (MHE). IF A FORKLIFT TRUCK WITH FRONT/SIDE LOADER IS AVAILABLE, ADDITIONAL UNITS MAY BE STORED, PROVIDING THE STORAGE PATTERN IS REVERSED FROM WHAT IS SHOWN.

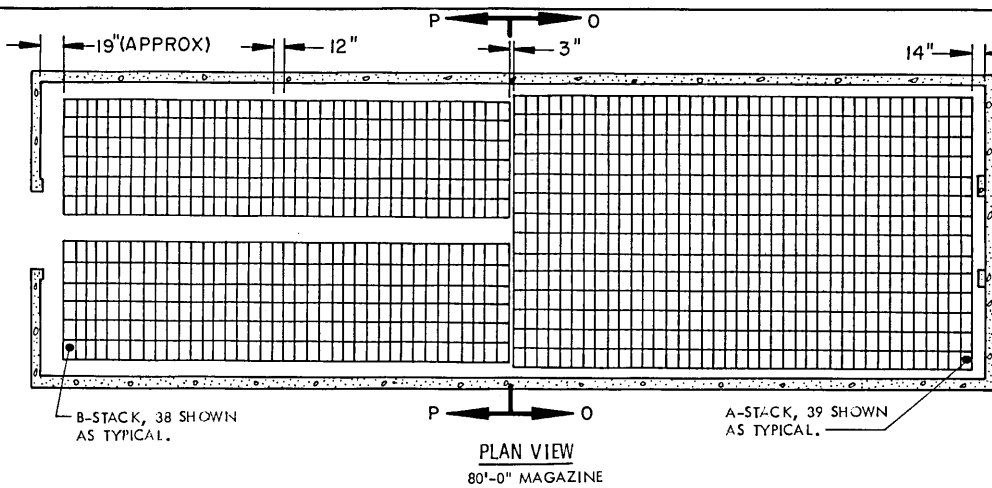


**SUPPORT FRAME ASSEMBLY**

THE DETAIL ABOVE DEPICTS THE CENTER SUPPORT FRAME ASSEMBLY.  
 OMIT THE 1/4" PLYWOOD ANTI-RACK PIECE AND THE TWO STOP  
 PIECES WHICH ARE NAILED THRU IT, FOR THE TWO OUTER ASSEMBLIES.



**PALLET UNIT**



**SPECIAL NOTES:**

1. STORAGE AS SHOWN IS FOR A WOODEN BOX.  
BOX DIMENSIONS -- 19-7/8" LONG BY 12" WIDE BY 12" HIGH.  
EXPLOSIVE WEIGHT --- 50 POUNDS.
2. WHENEVER PRACTICABLE THE LARGEST LOT SHOULD BE STORED IN THE REAR OF A MAGAZINE BY USING TYPE "A" STACKS. LOTS WILL NOT BE MIXED WITHIN STACKS. A THREE INCH (3") SEPARATION WILL BE ALLOWED BETWEEN ADJACENT LOTS. SMALL LOTS AND/OR PARTIAL STACKS MAY BE STORED IN THE FRONT OF THE MAGAZINE.

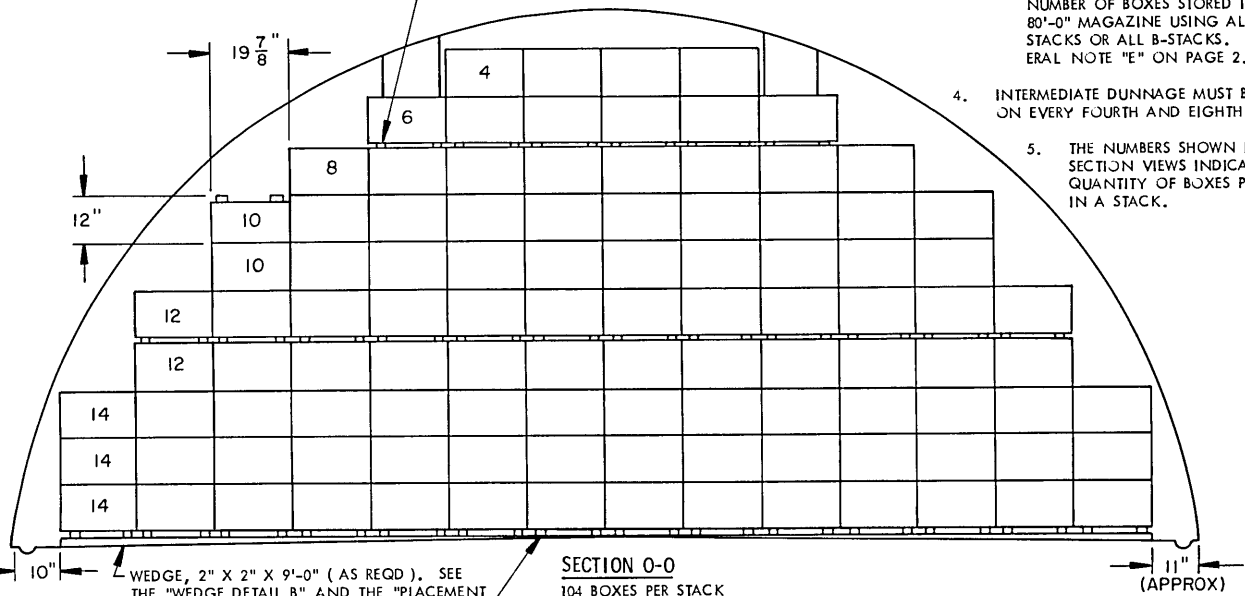
**3. MAXIMUM STORAGE IN AN 80'-0" MAGAZINE**

STACK TYPE	MAXIMUM* QUANTITY	EXPLOSIVE WEIGHT
A	8,008	400,400 LBS
B	6,930	346,500 LBS

\* QUANTITY INDICATES THE MAXIMUM NUMBER OF BOXES STORED IN AN 80'-0" MAGAZINE USING ALL A-STACKS OR ALL B-STACKS. SEE GENERAL NOTE "E" ON PAGE 2.

4. INTERMEDIATE DUNNAGE MUST BE USED ON EVERY FOURTH AND EIGHTH LAYER.
5. THE NUMBERS SHOWN IN THE SECTION VIEWS INDICATE THE QUANTITY OF BOXES PER LAYER IN A STACK.

INTERMEDIATE DUNNAGE, 1" X 2" BY RANDOM LENGTHS. POSITION ON BOX CLEATS AS SHOWN. SEE SPECIAL NOTE 4.



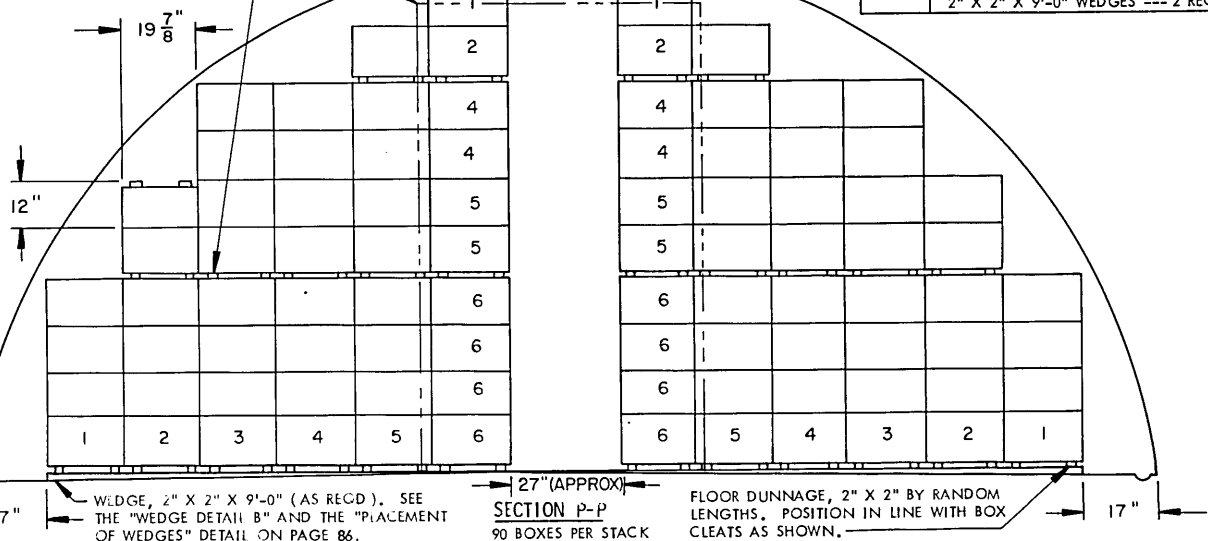
WEDGE, 2" X 2" X 9'-0" (AS REQD). SEE THE "WEDGE DETAIL B" AND THE "PLACEMENT OF WEDGES" DETAIL ON PAGE 86.

**SECTION O-O**  
104 BOXES PER STACK

FLOOR DUNNAGE, 2" X 2" BY RANDOM LENGTHS. POSITION IN LINE WITH BOX CLEATS AS SHOWN.

INDICATES OUTLINE OF DOOR OPENING.

INTERMEDIATE DUNNAGE, 1" X 2" BY RANDOM LENGTHS. POSITION ON CLEATS AS SHOWN. SEE SPECIAL NOTE 4.

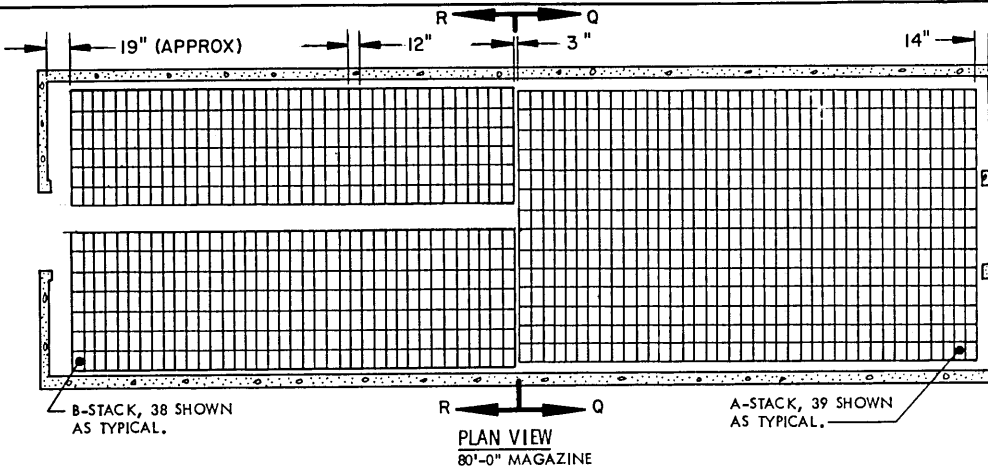


WEDGE, 2" X 2" X 9'-0" (AS REQD). SEE THE "WEDGE DETAIL B" AND THE "PLACEMENT OF WEDGES" DETAIL ON PAGE 86.

**SECTION P-P**  
90 BOXES PER STACK

FLOOR DUNNAGE, 2" X 2" BY RANDOM LENGTHS. POSITION IN LINE WITH BOX CLEATS AS SHOWN.

BILL OF MATERIAL ( PER STACK )			
STACK	LUMBER	LINEAR FEET	BOARD FEET
A	1" X 2"	36	6
	2" X 2"	28	10
	2" X 2" X 9'-0" WEDGES --- 2 REQD		
B	1" X 2"	28	5
	2" X 2"	24	8
	2" X 2" X 9'-0" WEDGES --- 2 REQD		



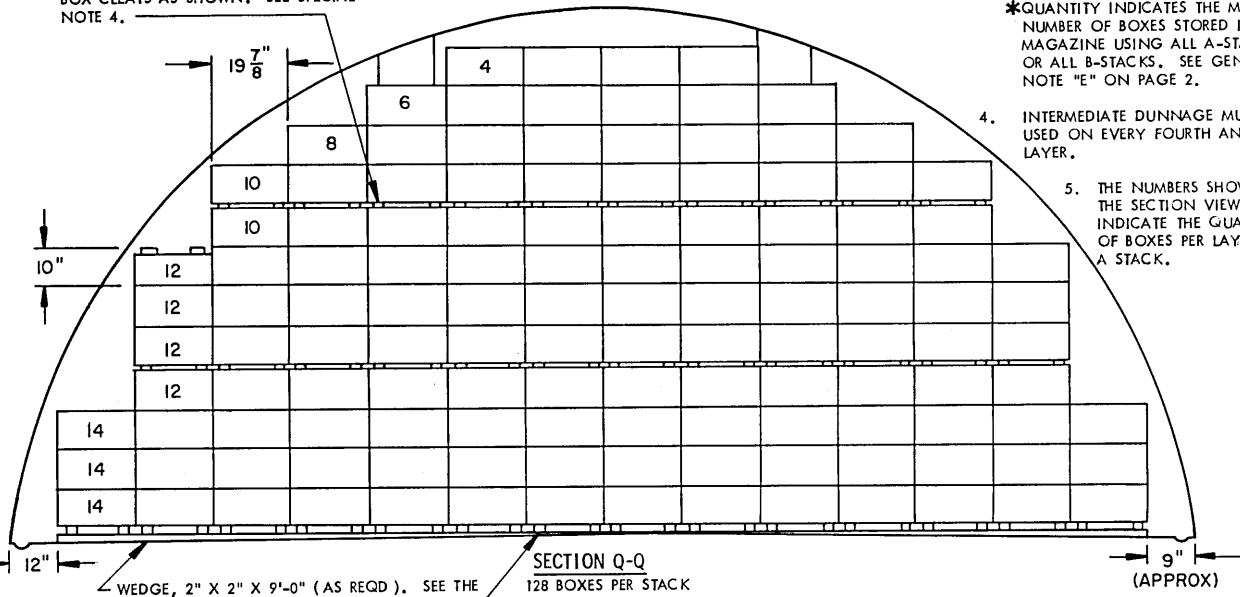
**SPECIAL NOTES:**

1. STORAGE AS SHOWN IS FOR A WOODEN BOX.  
BOX DIMENSIONS --- 19-7/8" LONG BY 12" WIDE BY 10" HIGH.  
EXPLOSIVE WEIGHT -- 50 POUNDS.
2. WHENEVER PRACTICABLE THE LARGEST LOT SHOULD BE STORED IN THE REAR OF A MAGAZINE BY USING TYPE "A" STACKS. LOTS WILL NOT BE MIXED WITHIN STACKS. A THREE INCH ( 3" ) SEPARATION WILL BE ALLOWED BETWEEN ADJACENT LOTS. SMALL LOTS AND/OR PARTIAL STACKS MAY BE STORED IN THE FRONT OF THE MAGAZINE.
3. MAXIMUM STORAGE IN AN 80'-0" MAGAZINE

STACK TYPE	MAXIMUM* QUANTITY	EXPLOSIVE WEIGHT
A -----	9,856	492,800 LBS
B -----	8,393	419,650 LBS

\*QUANTITY INDICATES THE MAXIMUM NUMBER OF BOXES STORED IN A MAGAZINE USING ALL A-STACKS OR ALL B-STACKS. SEE GENERAL NOTE "E" ON PAGE 2.

INTERMEDIATE DUNNAGE, 1" X 2" BY RANDOM LENGTHS. POSITION ON BOX CLEATS AS SHOWN. SEE SPECIAL NOTE 4.



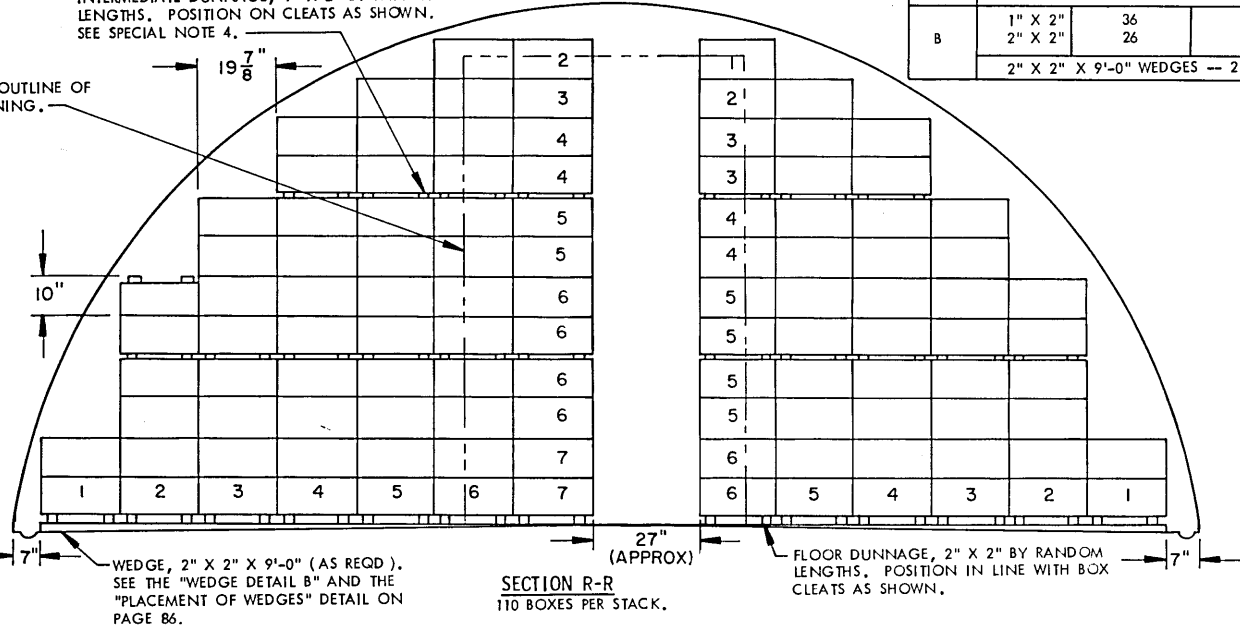
4. INTERMEDIATE DUNNAGE MUST BE USED ON EVERY FOURTH AND EIGHTH LAYER.

5. THE NUMBERS SHOWN IN THE SECTION VIEWS INDICATE THE QUANTITY OF BOXES PER LAYER IN A STACK.

FLOOR DUNNAGE, 2" X 2" BY RANDOM LENGTHS. POSITION IN LINE WITH BOX CLEATS AS SHOWN.

INTERMEDIATE DUNNAGE, 1" X 2" BY RANDOM LENGTHS. POSITION ON CLEATS AS SHOWN. SEE SPECIAL NOTE 4.

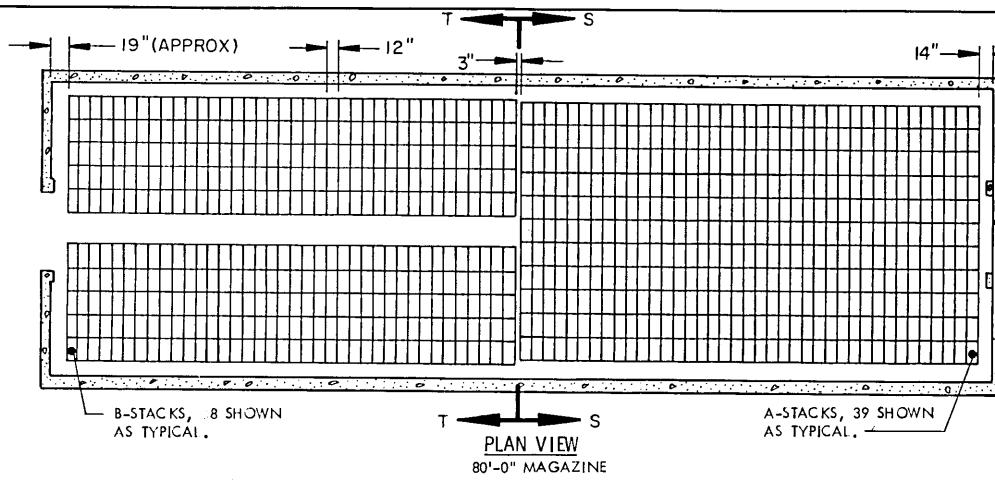
INDICATES OUTLINE OF DOOR OPENING.



BILL OF MATERIAL ( PER STACK )			
STACK	LUMBER	LINEAR FEET	BOARD FEET
A	1" X 2"	44	8
	2" X 2"	28	10
	2" X 2" X 9'-0" WEDGES -- 2 REQD		
B	1" X 2"	36	6
	2" X 2"	26	9
	2" X 2" X 9'-0" WEDGES -- 2 REQD		

WEDGE, 2" X 2" X 9'-0" (AS REQD). SEE THE "WEDGE DETAIL B" AND THE "PLACEMENT OF WEDGES" DETAIL ON PAGE B6.

FLOOR DUNNAGE, 2" X 2" BY RANDOM LENGTHS. POSITION IN LINE WITH BOX CLEATS AS SHOWN.



**SPECIAL NOTES:**

1. STORAGE AS SHOWN IS FOR A WOODEN BOX.  
  
BOX DIMENSIONS --- 24-1/8" LONG BY 12" WIDE BY 12" HIGH.  
  
EXPLOSIVE WEIGHT -- 50 POUNDS.
2. WHENEVER PRACTICABLE THE LARGEST LOT SHOULD BE STORED IN THE REAR OF A MAGAZINE BY USING TYPE "A" STACKS. LOTS WILL NOT BE MIXED WITHIN STACKS. A THREE INCH (3") SEPARATION WILL BE ALLOWED BETWEEN ADJACENT LOTS. SMALL LOTS AND/OR PARTIAL STACKS MAY BE STORED IN THE FRONT OF THE MAGAZINE.

**3. MAXIMUM STORAGE IN AN 80'-0" MAGAZINE**

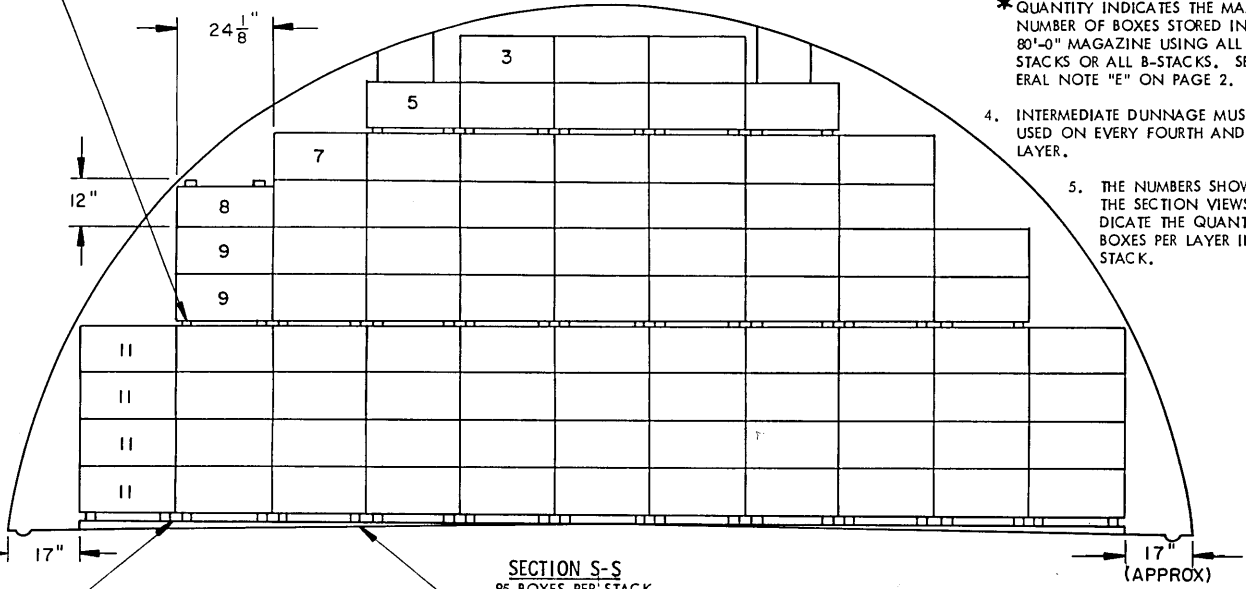
STACK TYPE	MAXIMUM* QUANTITY	EXPLOSIVE WEIGHT
A-----	6,545	327,250 LBS
B-----	5,544	277,200 LBS

\* QUANTITY INDICATES THE MAXIMUM NUMBER OF BOXES STORED IN AN 80'-0" MAGAZINE USING ALL A-STACKS OR ALL B-STACKS. SEE GENERAL NOTE "E" ON PAGE 2.

4. INTERMEDIATE DUNNAGE MUST BE USED ON EVERY FOURTH AND EIGHTH LAYER.

5. THE NUMBERS SHOWN IN THE SECTION VIEWS INDICATE THE QUANTITY OF BOXES PER LAYER IN A STACK.

INTERMEDIATE DUNNAGE, 1" X 2" BY RANDOM LENGTHS. POSITION ON BOX CLEATS AS SHOWN. SEE SPECIAL NOTE 4.



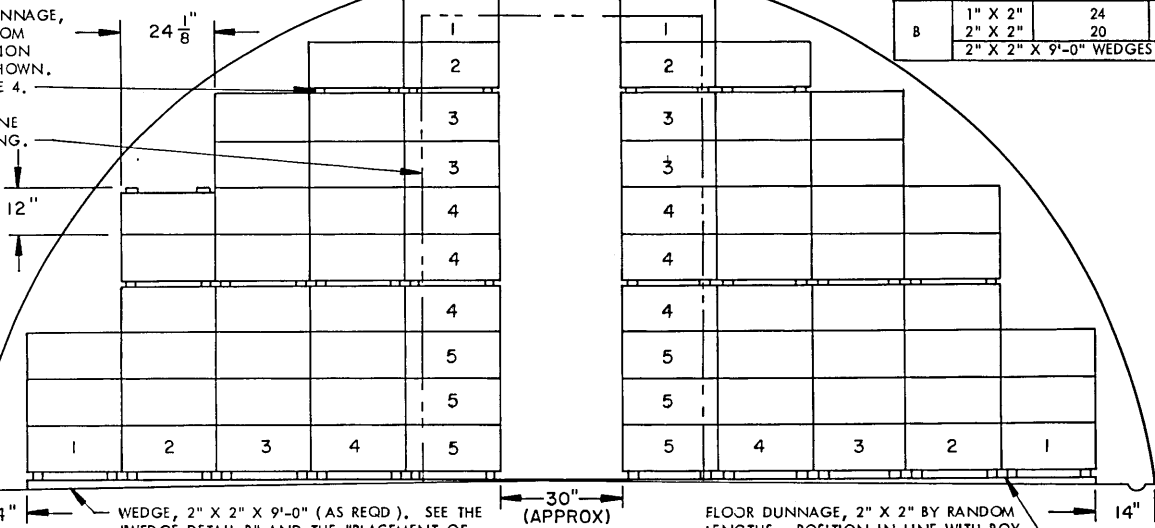
**SECTION S-S**  
85 BOXES PER STACK.

WEDGE, 2" X 2" X 9'-0" (AS REQD). SEE THE "WEDGE DETAIL B" AND THE "PLACEMENT OF WEDGES" DETAIL ON PAGE 86.

FLOOR DUNNAGE, 2" X 2" BY RANDOM LENGTHS. POSITION IN LINE WITH BOX CLEATS AS SHOWN.

INTERMEDIATE DUNNAGE, 1" X 2" BY RANDOM LENGTHS. POSITION ON CLEATS AS SHOWN. SEE SPECIAL NOTE 4.

INDICATES OUTLINE OF DOOR OPENING.

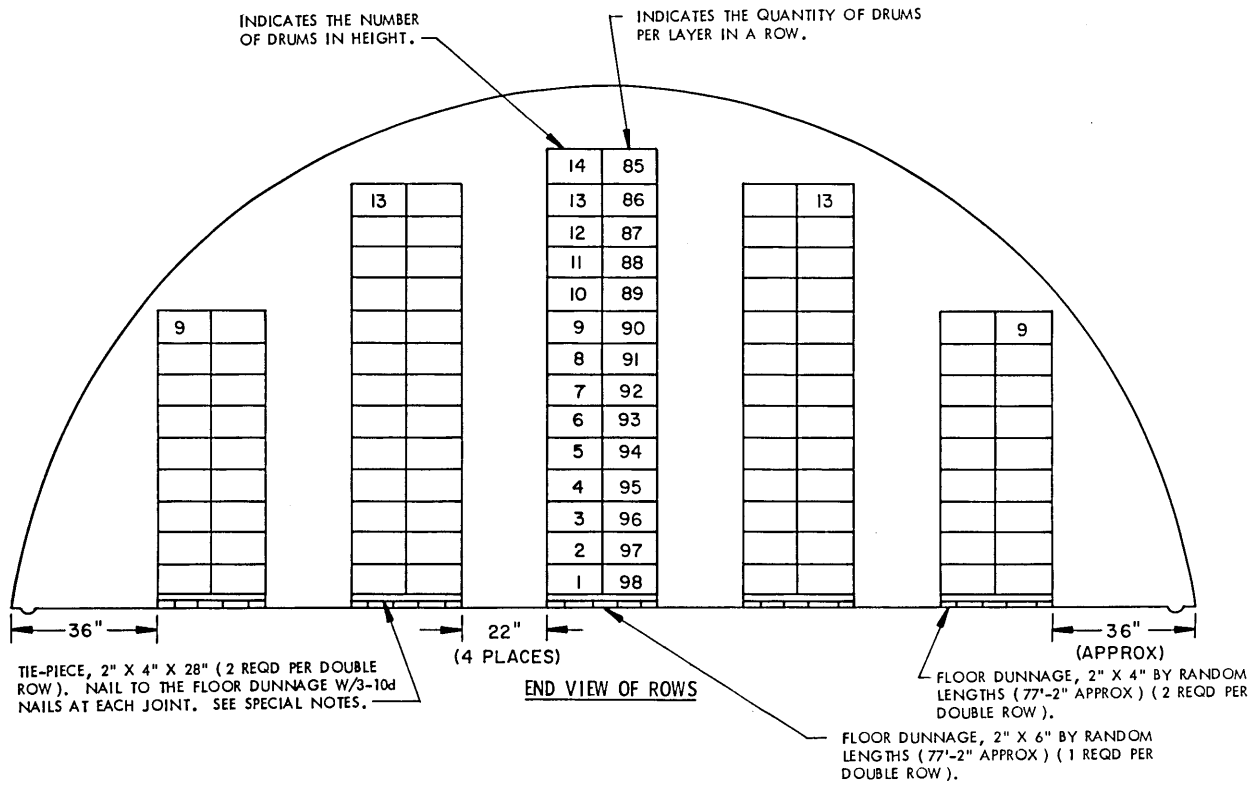


**SECTION T-T**  
72 BOXES PER STACK.

WEDGE, 2" X 2" X 9'-0" (AS REQD). SEE THE "WEDGE DETAIL B" AND THE "PLACEMENT OF WEDGES" DETAIL ON PAGE 86.

FLOOR DUNNAGE, 2" X 2" BY RANDOM LENGTHS. POSITION IN LINE WITH BOX CLEATS AS SHOWN.

BILL OF MATERIAL ( PER STACK )			
STACK	LUMBER	LINEAR FEET	BOARD FEET
A	1" X 2"	28	5
	2" X 2"	22	8
	2" X 2" X 9'-0" WEDGES --- 2 REQD		
B	1" X 2"	24	4
	2" X 2"	20	7
	2" X 2" X 9'-0" WEDGES --- 2 REQD		



BILL OF MATERIAL ( PER DOUBLE ROW )		
LUMBER	LINEAR FEET	BOARD FEET
2" X 4"	159	106
2" X 6"	78	78
NAILS	NO. REQD	POUNDS
10d	18	1/2

**SPECIAL NOTES:**

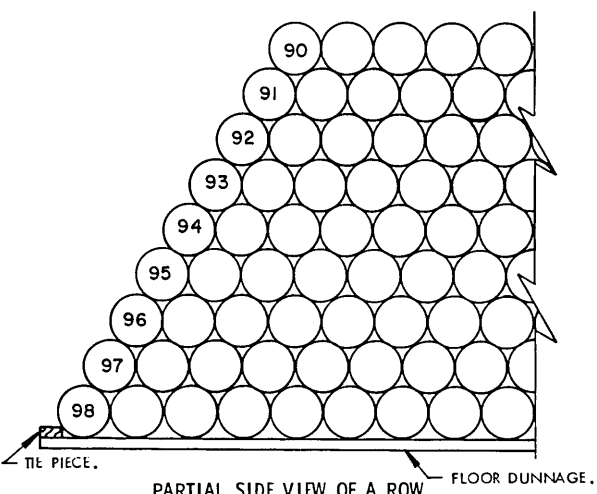
- STORAGE AS SHOWN IS FOR A METAL DRUM.  
DRUM DIMENSIONS ----- 14" HIGH BY 9-3/8" DIAMETER.
- SEE THE "TYPICAL PLAN VIEW C" ON PAGE 4.
- STAGGER ALL JOINTS IN FLOOR DUNNAGE.
- THE OPENING END OF ALL DRUMS MUST BE FACING THE AISLE.
- CAUTION:** ALL NAILING MUST BE DONE OUTSIDE OF THE MAGAZINE.
- WHEN IT IS NECESSARY FOR STABILITY OF ROWS, LEVEL BY WEDGING AND/OR USING SHIMS UNDER THE FLOOR DUNNAGE.
- THE WATER SHED SEAM ON THE DRUM MUST BE TURNED DOWN TO AVOID GATHERING OF MOISTURE.
- THE METHOD OF STORAGE SHOWN PERMITS INSPECTION OF INDIVIDUAL DRUMS.
- IN A 40'-0" ARCH TYPE MAGAZINE THERE WILL BE 47 DRUMS IN THE BOTTOM LAYER. THERE WILL BE FOUR (4) ROWS OF 387 DRUMS, FOUR (4) ROWS OF 533 DRUMS AND TWO (2) ROWS OF 567 DRUMS.
- THE EXPLOSIVE WEIGHT FOR A DRUM IS 25 POUNDS. THE EXPLOSIVE WEIGHT FOR AN 80'-0" MAGAZINE WILL BE 268,250 POUNDS AND FOR A 40'-0" MAGAZINE THE EXPLOSIVE WEIGHT WILL BE 120,350 POUNDS. SEE GENERAL NOTE "E" ON PAGE 2.

**STORAGE IN 80'-0" MAGAZINE**

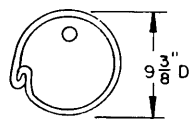
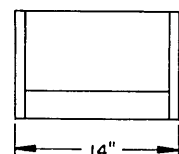
ITEM	QUANTITY	EXPLOSIVE WEIGHT
DRUM	10,730	268,250 LBS

**STORAGE IN 40'-0" MAGAZINE**

ITEM	QUANTITY	EXPLOSIVE WEIGHT
DRUM	4,814	120,350 LBS



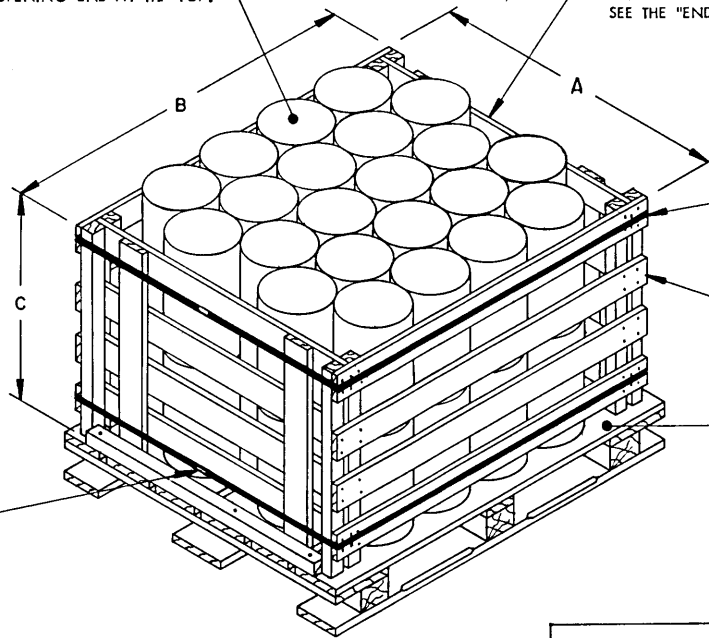
THE ABOVE VIEW DEPICTS THE NESTING OF DRUMS. THE NUMBERS INDICATE THE QUANTITY OF DRUMS PER LAYER IN A ROW.



**DRUM DETAIL**  
SEE SPECIAL NOTE 7.

INDICATES BLACK POWDER  
PACKED IN METAL DRUM.  
POSITION EACH DRUM WITH  
THE OPENING END AT THE TOP.

END PANEL (2 REQD). INSERT EACH END  
BETWEEN CLEATS OF SIDE PANELS AS SHOWN,  
SEE THE "END PANEL A" DETAIL ON PAGE 63.



STRAP, STEEL, 3/4" X .031" BY  
LENGTH TO ENCIRCLE THE BOX  
(2 REQD). WIDER STRAPPING  
MAY BE USED.

SIDE PANEL (2 REQD). SEE THE  
DETAIL ON PAGE 63.

PALLET, 40" X 48" (1 REQD).

SEAL FOR 3/4" STRAP  
(2 REQD, 1 PER STRAP).  
SEE GENERAL NOTE "V"  
ON PAGE 2.

**BOX PALLET UNIT**

44 DRUMS 8-1/4" D X 13-3/4" H (2 LAYERS)

**BOX PALLET UNIT OF METAL DRUMS DIMENSIONAL CHART**

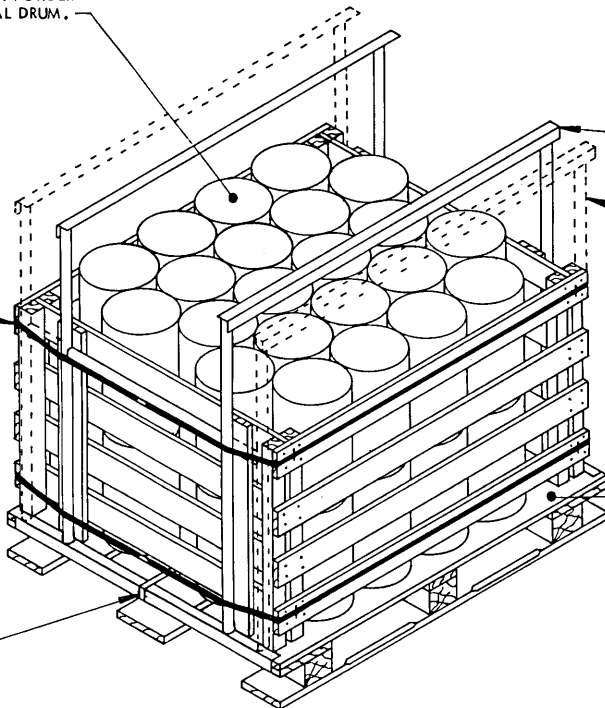
DRUM SIZE	DIMENSION		
	A	B	C
8-1/4" D X 13-3/4" H	39"	46-1/2"	26"
8" D X 16" H	38"	45-1/4"	30-1/2"
6" D X 14" H	39-1/2"	45-3/4"	27"
6" D X 7-1/2" H	39-1/2"	45-3/4"	28"

INDICATES BLACK POWDER  
PACKED IN METAL DRUM.

STRAP, STEEL, 3/4" X .031"  
BY LENGTH TO ENCIRCLE  
THE BOX PALLET UNIT AND  
PALLET RACK (2 REQD).

INDICATES NARROW PALLET RACK.

INDICATES WIDE PALLET RACK.  
SEE SPECIAL NOTE 4 ON PAGE 49.

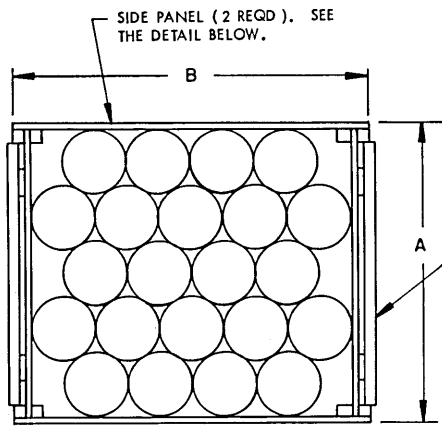


PALLET, 40" X 48" (1 REQD).

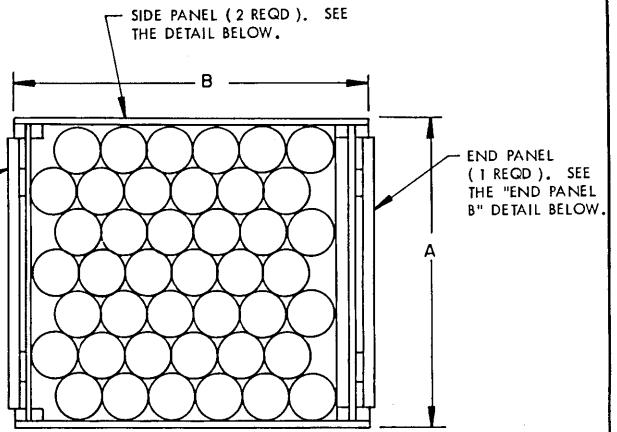
A TIE ROD MUST BE  
INSTALLED TO TIE THE  
BASES OF THE TWO VERTICAL  
FRAME MEMBERS TOGETHER.

**APPLICATION OF PALLET RACK**

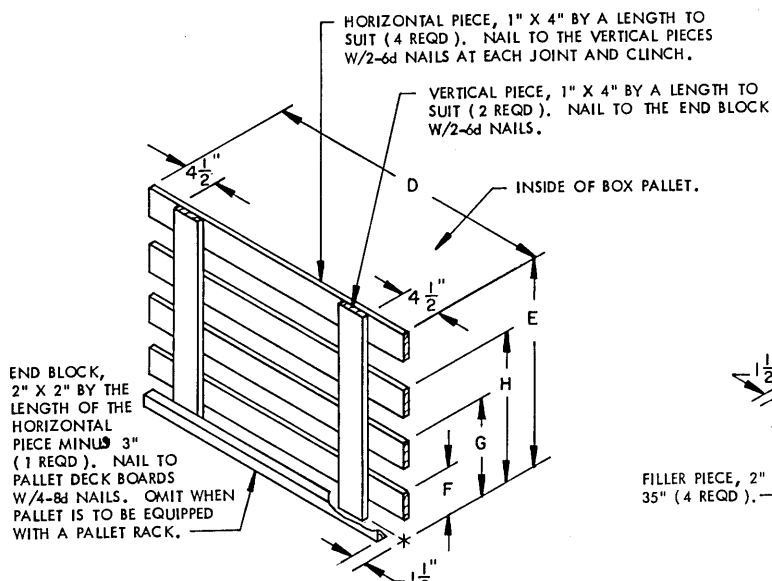
A NARROW PALLET RACK IS SHOWN. THE DOTTED  
LINES INDICATE A WIDE PALLET RACK. SEE THE  
SPECIAL NOTES ON PAGE 49 FOR GUIDANCE IN  
THE USE OF PALLET RACKS.



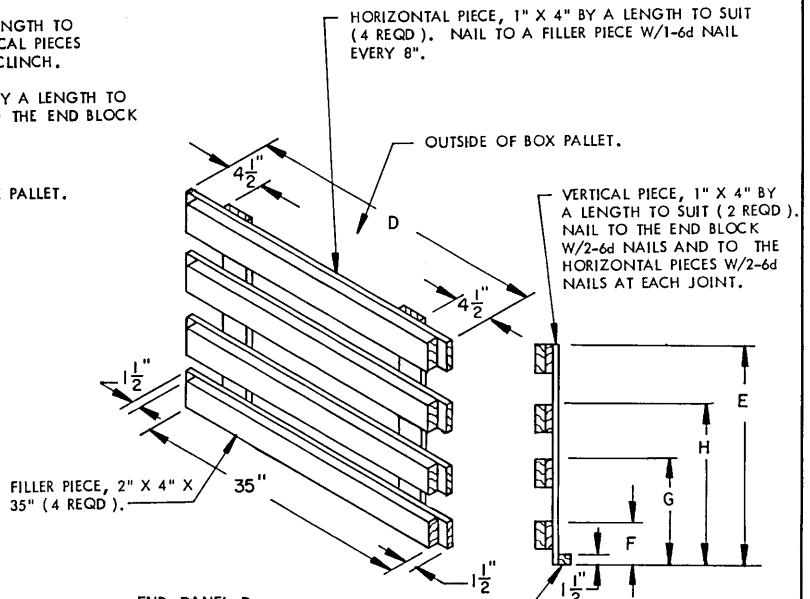
**PLAN VIEW A**  
44 DRUMS 8" D X 16" H (2 LAYERS)



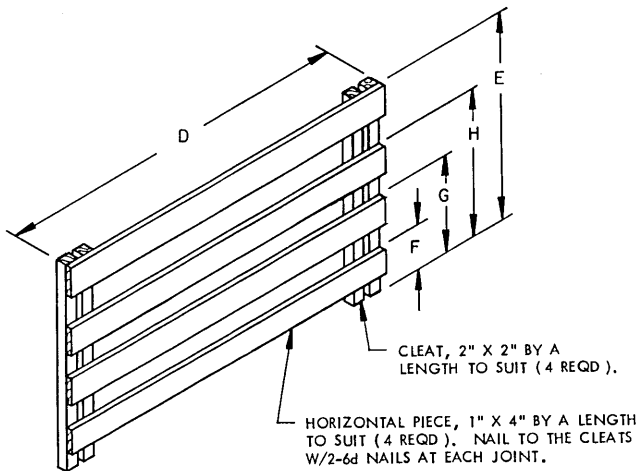
**PLAN VIEW B**  
168 DRUMS 6" D X 7-1/2" H (4 LAYERS)  
OR  
84 DRUMS 6" D X 14" H (2 LAYERS)



**END PANEL A**  
REFER TO THE "PANEL DIMENSION CHART" AT RIGHT FOR THE DIMENSIONS REPRESENTED BY LETTERS.

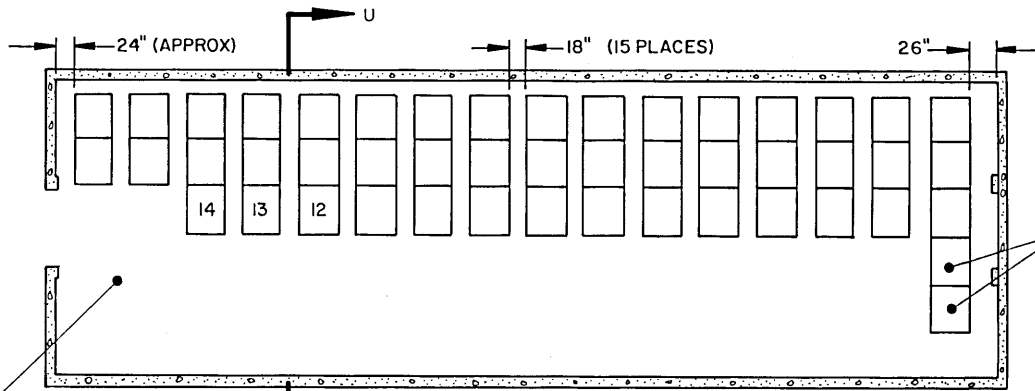


**END PANEL B**  
ONLY ONE REQUIRED FOR THE BOX PALLET UNIT IN PLAN VIEW B.



**SIDE PANEL**  
REFER TO THE "PANEL DIMENSION CHART" AT RIGHT FOR THE DIMENSIONS REPRESENTED BY LETTERS.

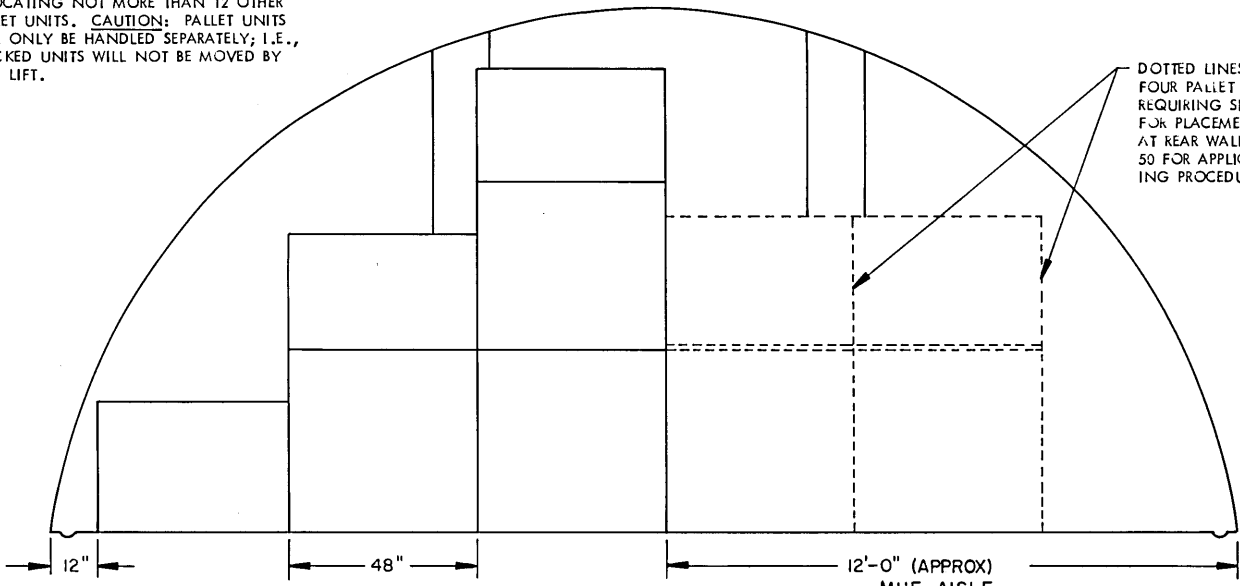
PANEL DIMENSION CHART					
DRUM SIZE	END PANEL DIMENSION				
	D	E	F	G	H
8-1/4" D X 13-3/4" H	37-1/2"	26"	5-3/4"	12-1/4"	18-3/4"
8" D X 16" H	36-1/2"	30-1/2"	5-3/4"	14-1/2"	21"
6" D X 14" H	38"	26-1/2"	5-1/2"	12-1/2"	20-1/2"
6" D X 7-1/2" H	38"	28"	5-1/2"	13"	20-1/2"
DRUM SIZE	SIDE PANEL DIMENSION				
	D	E	F	G	H
8-1/4" D X 13-3/4" H	46-1/2"	26"	5-3/4"	12-1/4"	18-3/4"
8" D X 16" H	45-1/4"	30-1/2"	5-3/4"	14-1/2"	21"
6" D X 14" H	45-3/4"	26-1/2"	5-1/2"	12-1/2"	20-1/2"
6" D X 7-1/2" H	45-3/4"	28"	5-1/2"	13"	20-1/2"



THESE FOUR PALLET UNITS MUST BE SIDE-HANDLED FOR PLACEMENT IN THE STACK. SEE THE STACKING DETAIL ON PAGE 50 FOR APPLICABLE PROCEDURES.

IF DESIRED, AND MHE PERMITS, ADDITIONAL PALLET UNITS MAY BE STORED IN THE MHE AISLE, PROVIDING THAT ANY UNIT WITHIN ANY STACK IS ACCESSIBLE FOR REMOVAL BY TEMPORARILY RELOCATING NOT MORE THAN 12 OTHER PALLET UNITS. CAUTION: PALLET UNITS WILL ONLY BE HANDLED SEPARATELY; I.E., STACKED UNITS WILL NOT BE MOVED BY ONE LIFT.

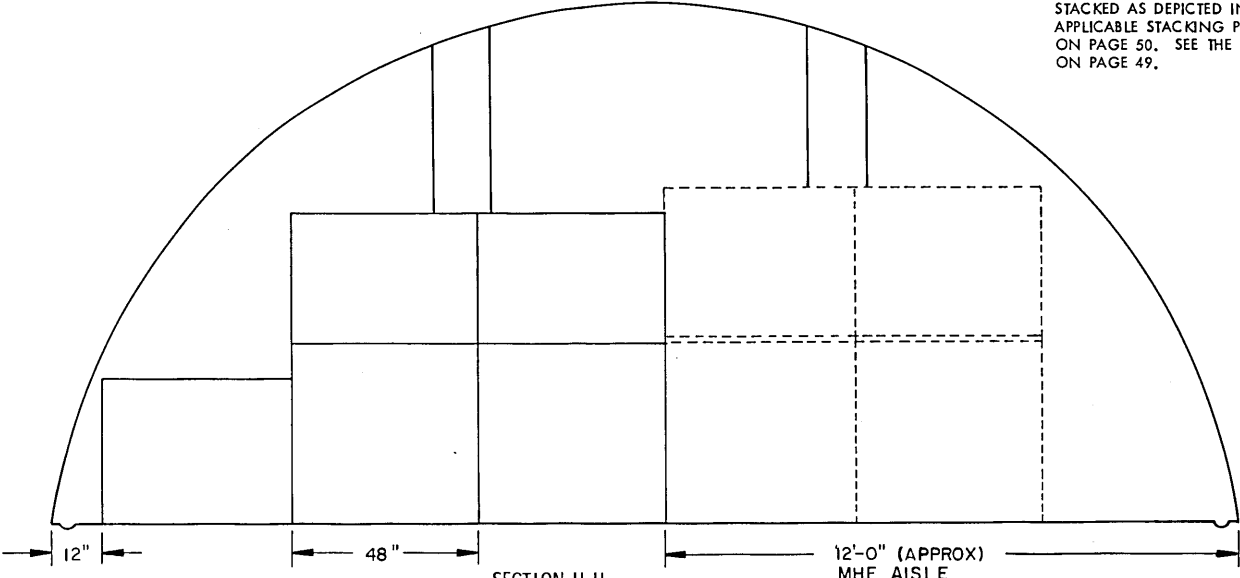
**PLAN VIEW**  
80'-0" MAGAZINE



DOTTED LINES INDICATE FOUR PALLET UNITS REQUIRING SIDE-HANDLING FOR PLACEMENT IN STACK AT REAR WALL. SEE PAGE 50 FOR APPLICABLE STACKING PROCEDURES.

**SECTION U-U**  
BOX PALLET UNIT CONTAINS 8-1/4" D X 13-3/4" H DRUMS

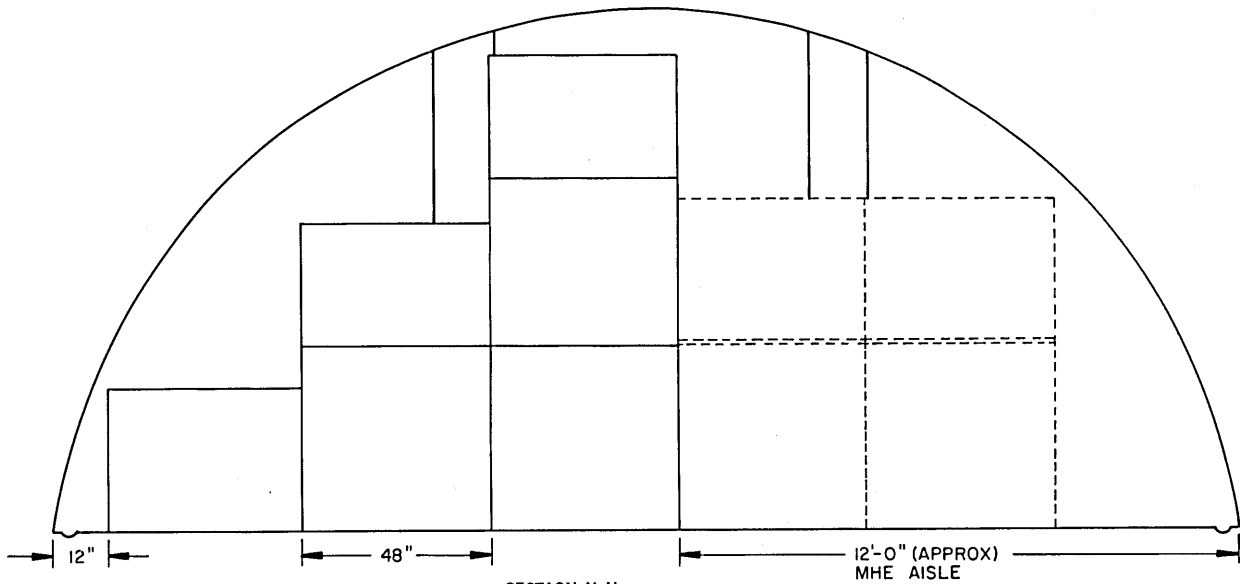
**NOTE:** EXCEPT AS INDICATED, ALL PALLET UNITS WILL BE END-HANDLED AND STACKED AS DEPICTED IN THE APPLICABLE STACKING PROCEDURES ON PAGE 50. SEE THE SPECIAL NOTES ON PAGE 49.



**SECTION U-U**  
BOX PALLET UNIT CONTAINS 8" D X 16" H DRUMS

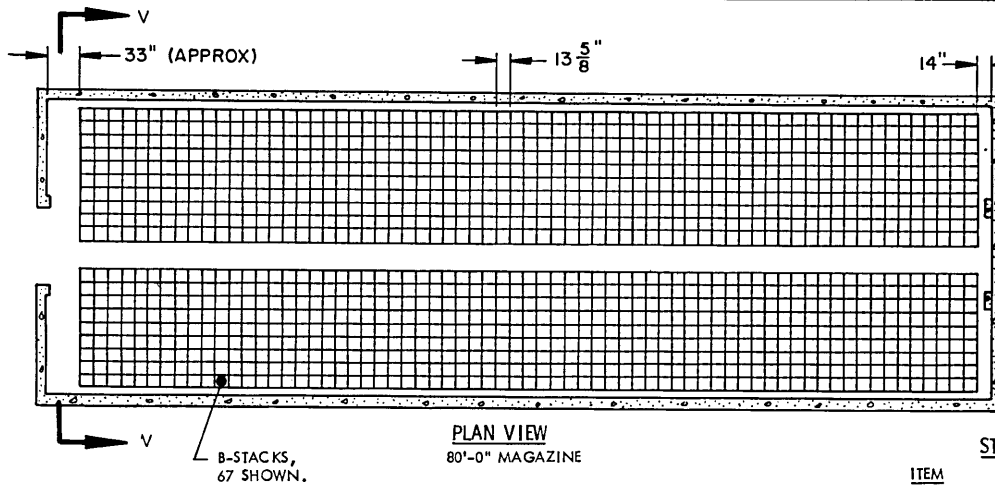
**BLACK POWDER (PACKED IN METAL DRUM) (PALLETIZED)**





**SPECIAL NOTES:**

1. THE PROCEDURES DEPICTED ON PAGES 62 THROUGH 65 SPECIFICALLY APPLY TO STORAGE OF BLACK POWDER (PACKED IN METAL DRUM) (PALLETIZED) USING NARROW-TYPE PALLET RACKS FOR STACKING PALLET UNITS. SEE GENERAL NOTE "R" ON PAGE 2.
2. REFER TO THE SPECIAL NOTES ON PAGE 49 FOR GUIDANCE IN THE USE OF PALLET RACKS.
3. STORAGE INSTALLATIONS HAVING FRONT/SIDE LOADING FORKLIFTS MAY STORE CONTAINERS OPPOSITE HAND FROM THAT SHOWN IN THESE VIEWS, I.E. PALLETIZED DRUMS MAY BE STACKED PERPENDICULAR TO THE RIGHT SIDE OF THE MAGAZINE IN LIEU OF PERPENDICULAR TO THE LEFT SIDE.
4. PALLETIZATION OF DRUMS IS SOLELY FOR THE CONVENIENCE OF STORAGE AND WILL NOT BE USED FOR SHIPPING DRUMS.
5. STORAGE AS SHOWN IS BASED ON THE USE OF FRONT LOADING FORKLIFT TRUCK (MHE). IF A FORKLIFT TRUCK WITH FRONT/SIDE LOADER IS AVAILABLE, ADDITIONAL UNITS MAY BE STORED, PROVIDING THE STORAGE PATTERN IS REVERSED FROM WHAT IS SHOWN.



**SPECIAL NOTES:**

1. STORAGE AS SHOWN IS FOR A WOODEN BOX.  
BOX DIMENSIONS --- 13-5/8" LONG BY 13-5/8" WIDE BY 13-5/8" HIGH.  
EXPLOSIVE WEIGHT --- 50 POUNDS.
2. THE NUMBERS SHOWN IN SECTION V-V INDICATE THE QUANTITY OF BOXES PER LAYER IN A STACK.
3. INTERMEDIATE DUNNAGE MUST BE USED ON EVERY SECOND, FOURTH, AND SIXTH LAYER.
4. BLACK POWDER PACKED IN OTHER SIZE WOODEN BOXES OR IN METAL BOXES MAY BE STORED IN A MANNER SIMILAR TO THAT SHOWN.

**STORAGE IN 80'-0" MAGAZINE**

ITEM	QUANTITY	EXPLOSIVE WEIGHT
WOODEN BOXES	7,638	381,900 LBS

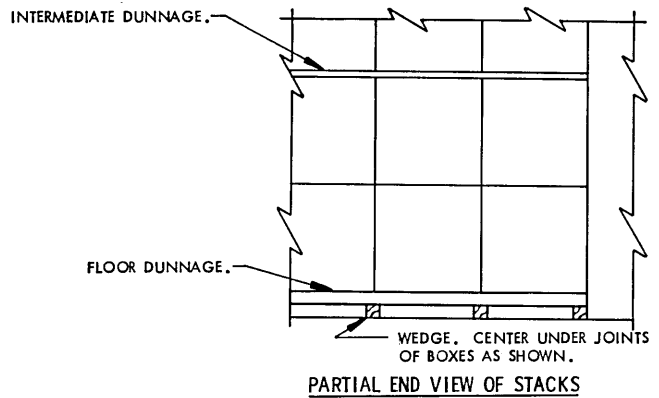
**\* STORAGE IN 40'-0" MAGAZINE**

ITEM	QUANTITY	EXPLOSIVE WEIGHT
WOODEN BOXES	3,762	188,100 LBS

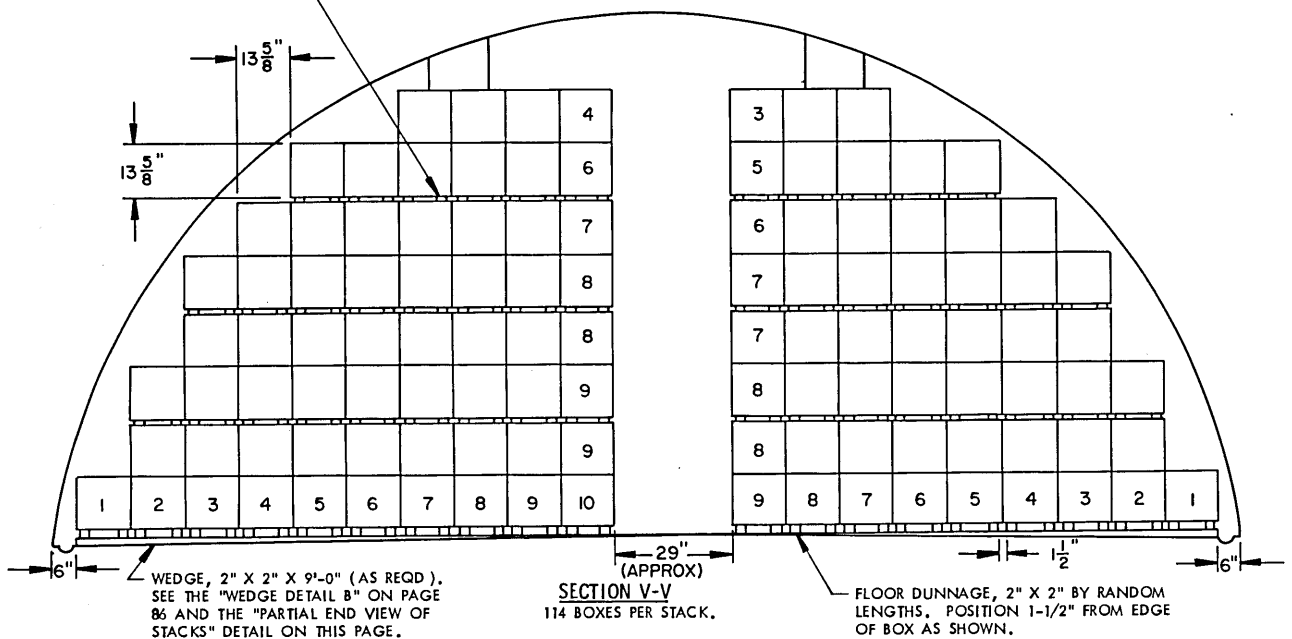
\*33 B-STACKS WITH 30" (APPROX) SPACE AT FRONT.

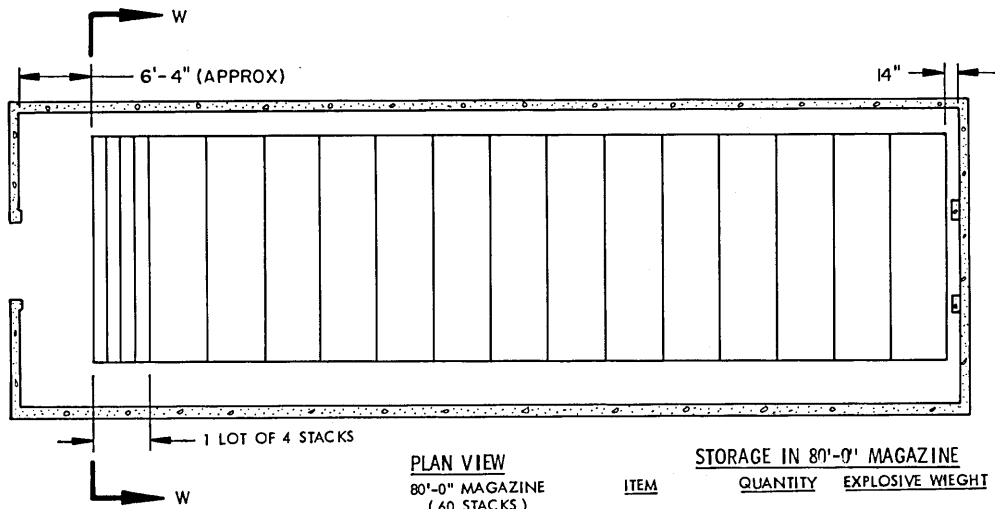
SEE GENERAL NOTE "E" ON PAGE 2.

BILL OF MATERIAL ( PER STACK )		
LUMBER	LINEAR FEET	BOARD FEET
1" X 2"	98	17
2" X 2"	44	15
WEDGES PER STACK		
LUMBER	LENGTH	NO. REQD
2" X 2"	9'-0"	2



INTERMEDIATE DUNNAGE, 1" X 2" BY RANDOM LENGTHS. POSITION 1-1/2" FROM EDGE OF BOX AS SHOWN. SEE SPECIAL NOTE 3.





- SPECIAL NOTES:**
1. STORAGE AS SHOWN IS FOR A FIBERBOARD DRUM.  
DRUM DIMENSIONS --- 27-1/2" HIGH BY 14-1/2" DIAMETER.  
EXPLOSIVE WEIGHT --- 50 POUNDS.
  2. THE NUMBERS SHOWN IN "SECTION W-W" INDICATE THE QUANTITY OF DRUMS PER LAYER IN A STACK.
  3. THESE STORAGE PROCEDURES SHOULD ONLY BE USED IN GEOGRAPHICAL AREAS WHICH HAVE LOW HUMIDITY LEVELS. FOR STORAGE IN HIGH HUMIDITY AREAS, REFER TO THE PROCEDURES ON PAGE 85.

**STORAGE IN 80'-0" MAGAZINE**

ITEM	QUANTITY	EXPLOSIVE WEIGHT
DRUM	3,000	150,000 LBS

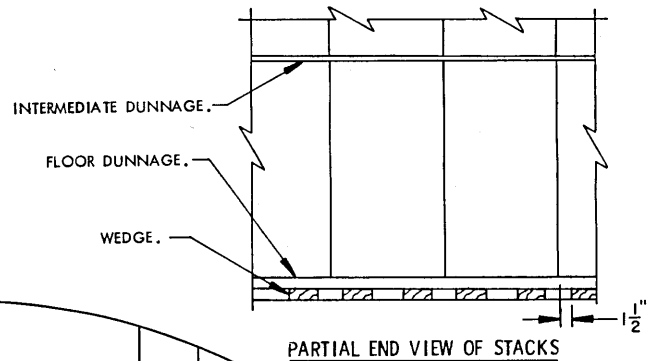
**\*STORAGE IN 40'-0" MAGAZINE**

ITEM	QUANTITY	EXPLOSIVE WEIGHT
DRUM	1,400	70,000 LBS

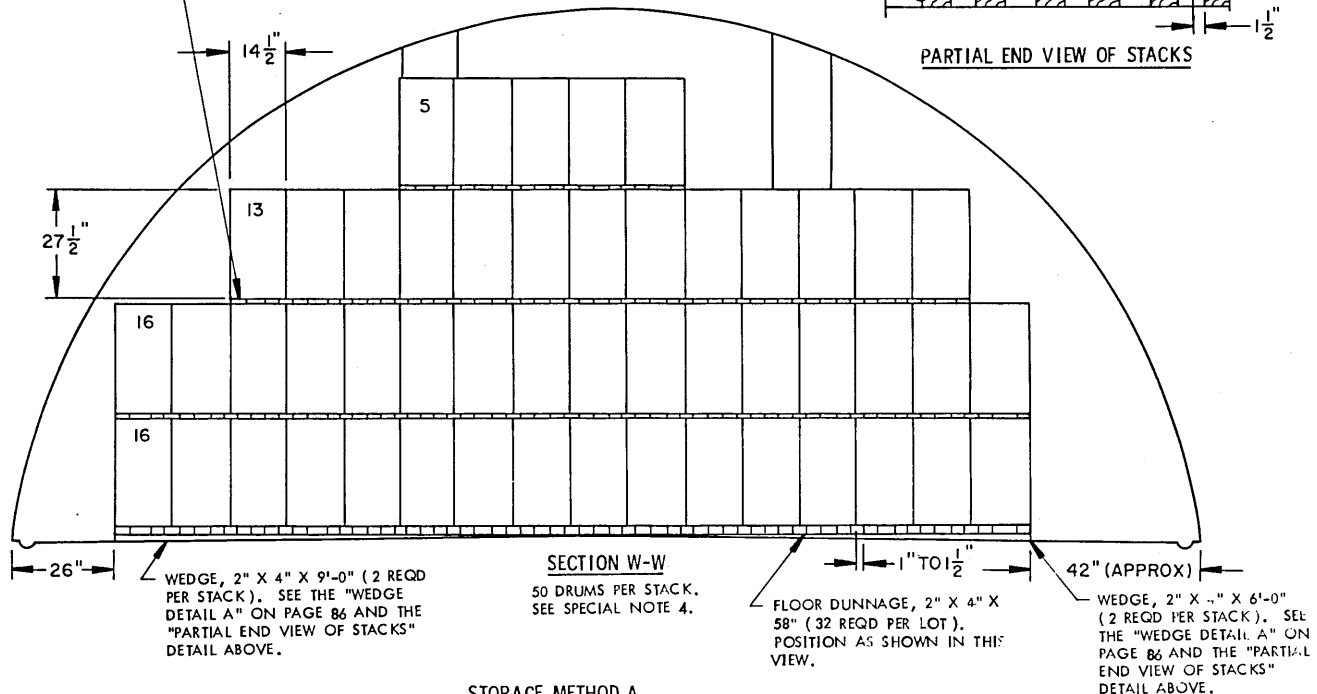
\*28 STACKS WITH 60" (APPROX) SPACE AT FRONT. SEE GENERAL NOTE "E" ON PAGE 2 AND SPECIAL NOTE 3 AT RIGHT.

4. EACH LOT CONSISTS OF 10,000 LBS (200 DRUMS), FOUR (4) STACKS OF 50 DRUMS.
5. NITROGUANIDINE PACKED IN A 14.5" DIAMETER BY 17.04" HIGH DRUM AND PALLETIZED IN ACCORDANCE WITH NAVAL SEA SYSTEMS COMMAND DRAWING WR-53/827 WILL BE STORED BY USING THE PROCEDURES SHOWN IN US ARMY DARCUM DRAWING 19-48-4118-1-2-3-4-14-22PA1002.

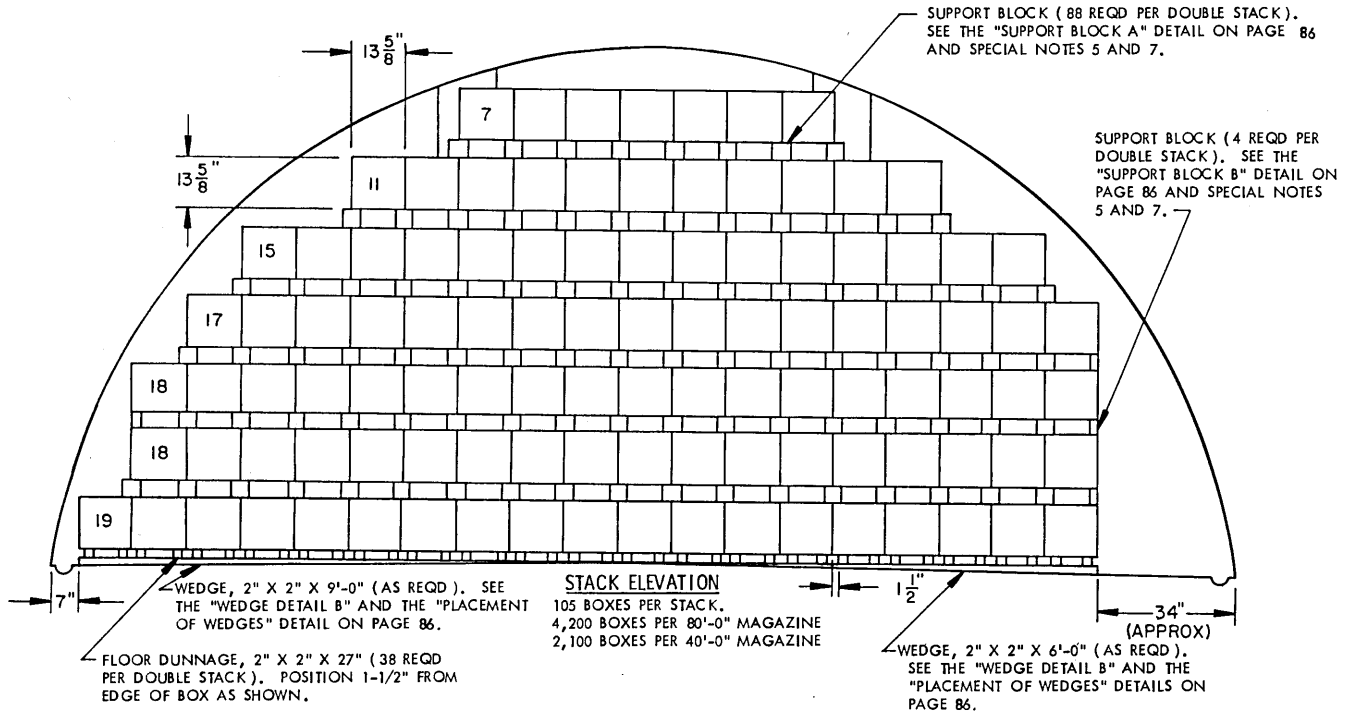
BILL OF MATERIAL ( PER LOT )		
LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	83	28
2" X 4"	39	26
WEDGES PER STACK		
LUMBER	LENGTH	NO. REQD
2" X 4"	6'-0"	2
2" X 4"	9'-0"	2



INTERMEDIATE DUNNAGE, 1" X 4" X 58" (68 REQD PER LOT). POSITION AS SHOWN IN THIS VIEW.



**STORAGE METHOD A**  
**NITROGUANIDINE (PACKED IN FIBERBOARD DRUMS)**



**STACK ELEVATION**  
 105 BOXES PER STACK.  
 4,200 BOXES PER 80'-0" MAGAZINE  
 2,100 BOXES PER 40'-0" MAGAZINE

FLOOR DUNNAGE, 2" X 2" X 27" (38 REQD PER DOUBLE STACK). POSITION 1-1/2" FROM EDGE OF BOX AS SHOWN.

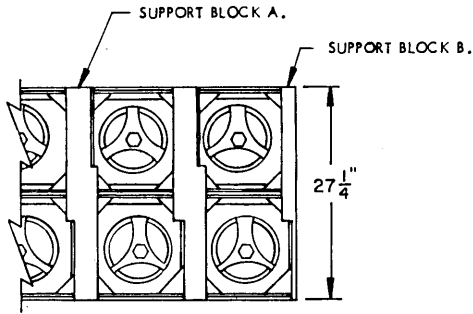
WEDGE, 2" X 2" X 6'-0" (AS REQD). SEE THE "WEDGE DETAIL B" AND THE "PLACEMENT OF WEDGES" DETAILS ON PAGE 86.

**BILL OF MATERIAL ( PER DOUBLE STACK )**

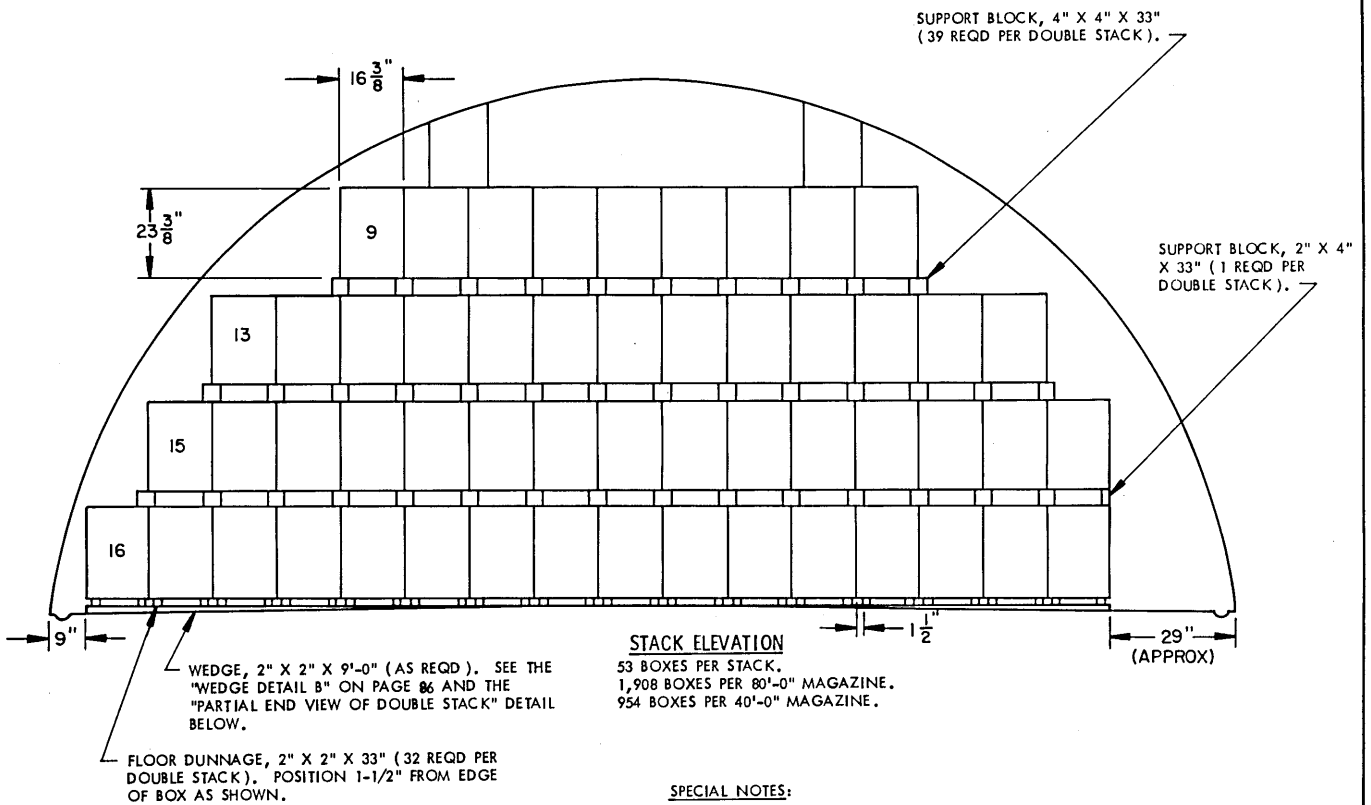
LUMBER	LINEAR FEET	BOARD FEET
2" X 2"	86	29
2" X 4"	9	6
4" X 4"	198	264
WEDGES PER DOUBLE STACK		
LUMBER	LENGTH	NO. REQD
2" X 2"	6'-0"	3
2" X 2"	9'-0"	3

**SPECIAL NOTES:**

1. STORAGE AS SHOWN IS FOR THE M18 WOODEN BOX.  
 BOX DIMENSIONS --- 13-5/8" LONG BY 13-5/8" WIDE BY 13-5/8" HIGH.
2. SEE THE "TYPICAL PLAN VIEW B" ON PAGE 4.
3. THE NUMBERS SHOWN IN THE STACK ELEVATION INDICATE THE QUANTITY OF BOXES PER LAYER IN A STACK.
4. STORE IN DOUBLE STACKS FOR BETTER STABILITY. SEE THE "PARTIAL PLAN VIEW OF DOUBLE STACK" ON THIS PAGE.
5. SUPPORT BLOCK A AND SUPPORT BLOCK B MAY BE FABRICATED FROM 1" X 4" AND 2" X 4" MATERIAL.
6. THE BOXES MUST BE POSITIONED WITH THE LIDS NEAREST TO THE LATERAL AISLES.
7. SUPPORT BLOCK A AND SUPPORT BLOCK B MUST BE POSITIONED AS SHOWN IN "PLAN VIEW OF PARTIAL STACK" TO PERMIT REMOVAL OF LID.
8. THE METHOD OF STORAGE SHOWN PERMITS INSPECTION OF INDIVIDUAL BOXES.
9. THE EXPLOSIVE WEIGHT FOR THE M18 WOODEN BOX IS 50 POUNDS. THE EXPLOSIVE WEIGHT FOR THE STACK ELEVATION SHOWN ABOVE WILL BE 5,250 POUNDS. THE EXPLOSIVE WEIGHT FOR AN 80'-0" MAGAZINE WILL BE 210,000 POUNDS. THERE WILL BE APPROXIMATELY 57" OF SPACE AT THE FRONT OF THIS MAGAZINE. THE EXPLOSIVE WEIGHT FOR A 40'-0" MAGAZINE WILL BE 105,000 POUNDS. THERE WILL BE APPROXIMATELY 28" OF SPACE AT THE FRONT OF THIS MAGAZINE. SEE GENERAL NOTE "E" ON PAGE 2.



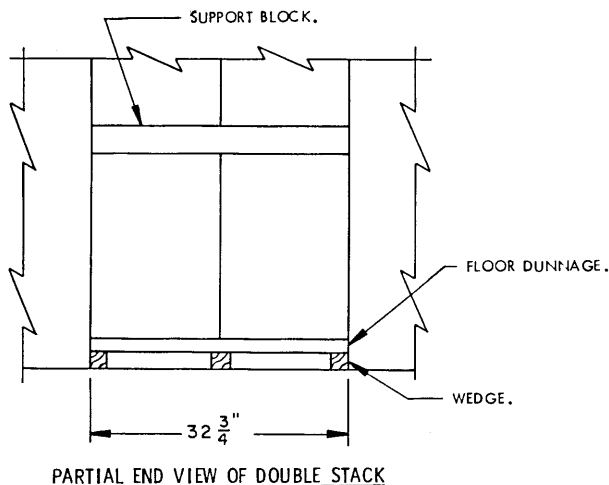
**PARTIAL PLAN VIEW OF DOUBLE STACK**

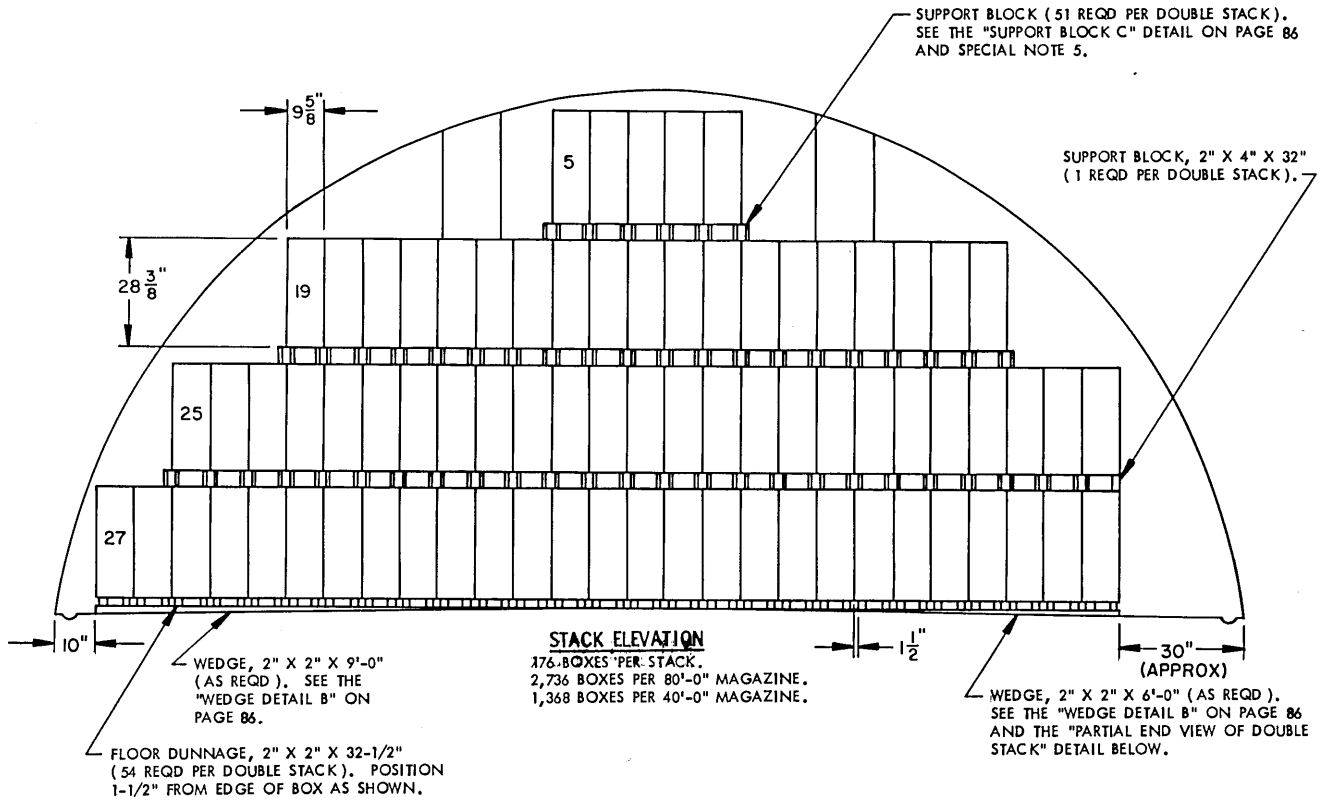


**SPECIAL NOTES:**

1. STORAGE AS SHOWN IS FOR THE M17 WOODEN BOX.  
BOX DIMENSIONS ---- 16-3/8" LONG BY 16-3/8" WIDE BY 23-3/8" HIGH.
2. SEE THE "TYPICAL PLAN VIEW B" ON PAGE 4.
3. THE NUMBERS SHOWN IN THE STACK ELEVATION INDICATE THE QUANTITY OF BOXES PER LAYER IN A STACK.
4. STORE IN DOUBLE STACKS FOR BETTER STABILITY. SEE THE "PARTIAL END VIEW OF DOUBLE STACK" ON THIS PAGE.
5. THE METHOD OF STORAGE SHOWN PERMITS INSPECTION OF INDIVIDUAL BOXES.
6. THE EXPLOSIVE WEIGHT FOR THE M17 WOODEN BOX IS 100 POUNDS. THE EXPLOSIVE WEIGHT FOR THE STACK ELEVATION SHOWN ABOVE WILL BE 5,300 POUNDS. THE EXPLOSIVE WEIGHT FOR AN 80'-0" MAGAZINE WILL BE 190,800 POUNDS. THERE WILL BE APPROXIMATELY 47" OF SPACE AT THE FRONT OF THIS MAGAZINE. THE EXPLOSIVE WEIGHT FOR A 40'-0" MAGAZINE WILL BE 95,400 POUNDS. THERE WILL BE APPROXIMATELY 24" OF SPACE AT THE FRONT IN THIS MAGAZINE.

BILL OF MATERIAL ( PER DOUBLE STACK )		
LUMBER	LINEAR FEET	BOARD FEET
2" X 2"	88	30
2" X 4"	3	2
4" X 4"	108	144
WEDGES PER DOUBLE STACK		
LUMBER	LENGTH	NO. REQD
2" X 2"	9'-0"	6

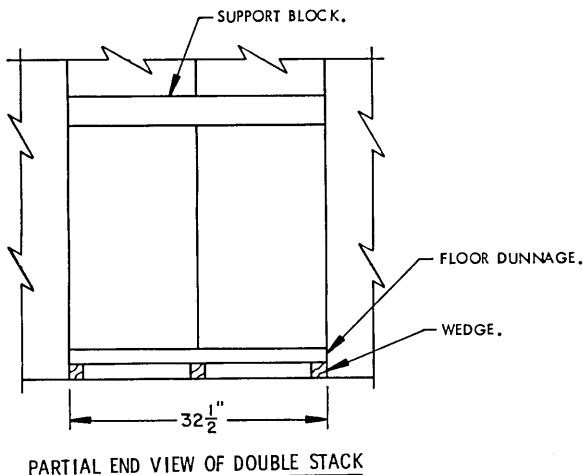




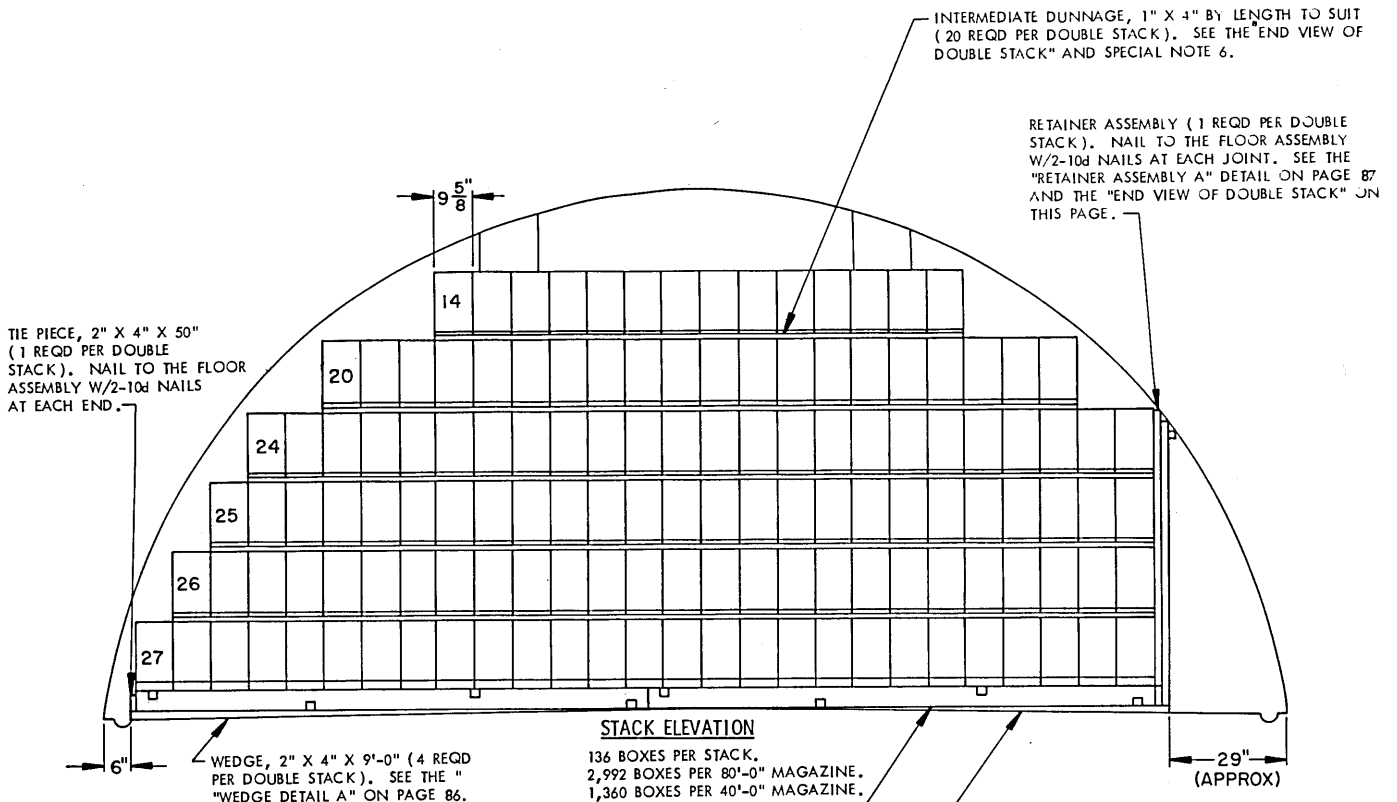
**SPECIAL NOTES:**

1. STORAGE AS SHOWN IS FOR THE M2 AND MK VII STEEL BOX.  
BOX DIMENSIONS --- 16-1/4" LONG BY 9-5/8" WIDE BY 28-3/8" HIGH.
2. SEE THE "TYPICAL PLAN VIEW B" ON PAGE 4.
3. THE NUMBERS SHOWN IN THE STACK ELEVATION INDICATE THE QUANTITY OF BOXES PER LAYER IN A STACK.
4. STORE IN DOUBLE STACKS FOR BETTER STABILITY. SEE THE "PARTIAL END VIEW OF DOUBLE STACK" ON THIS PAGE.
5. SUPPORT BLOCK C MAY BE FABRICATED FROM 1" X 4" AND 2" X 4" MATERIAL.
6. THE METHOD OF STORAGE SHOWN PERMITS INSPECTION OF INDIVIDUAL BOXES.
7. THE EXPLOSIVE WEIGHT FOR THE M2 AND MK VII STEEL BOX IS 110 POUNDS. THE EXPLOSIVE WEIGHT FOR THE STACK ELEVATION SHOWN ABOVE WILL BE 8,360 POUNDS. THE EXPLOSIVE WEIGHT FOR AN 80'-0" MAGAZINE WILL BE 300,960 POUNDS. THERE WILL BE APPROXIMATELY 51" OF SPACE AT THE FRONT OF THIS MAGAZINE. THE EXPLOSIVE WEIGHT FOR A 40'-0" MAGAZINE WILL BE 150,480 POUNDS. THERE WILL BE APPROXIMATELY 26" OF SPACE AT THE FRONT OF THIS MAGAZINE. SEE GENERAL NOTE "E" ON PAGE 2.
8. BOXES MAY BE STACKED TO ALLOW EASE OF ACCESS FOR INSPECTION BASED ON OPERATIONAL AND STORAGE CONDITIONS. THE SELECTION OF A STORAGE PROCEDURE FROM THAT DEPICTED ON THIS PAGE, ON PAGE 71, OR ON PAGE 89 IS THE OPTION OF THE STORING ACTIVITY.

BILL OF MATERIAL ( PER DOUBLE STACK )		
LUMBER	LINEAR FEET	BOARD FEET
2" X 2"	147	49
2" X 4"	3	2
4" X 4"	136	182
WEDGES PER DOUBLE STACK		
LUMBER	LENGTH	NO. REQD
2" X 2"	6'-0"	3
2" X 2"	9'-0"	3



STORAGE METHOD A  
POWDER, PROPELLANT ( PACKED IN STEEL BOX, M2 AND MK VII )



**STACK ELEVATION**

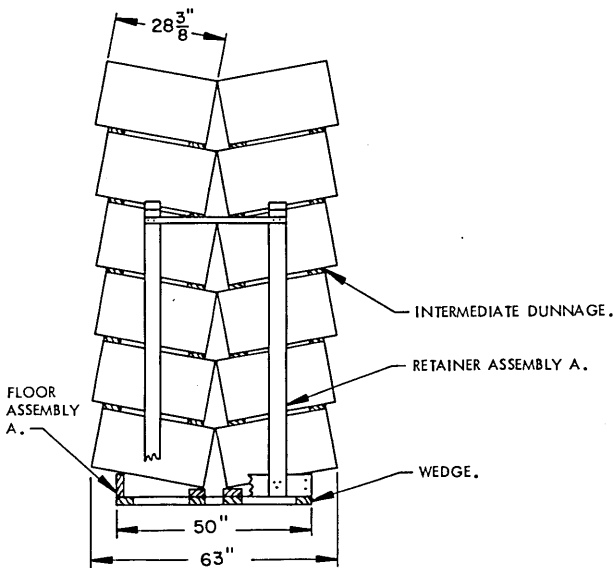
136 BOXES PER STACK.  
2,992 BOXES PER 80'-0" MAGAZINE.  
1,360 BOXES PER 40'-0" MAGAZINE.

**BILL OF MATERIAL ( PER DOUBLE STACK )**

LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	351	117
2" X 2"	3	1
2" X 4"	72	48
2" X 6"	72	72
NAILS	NO. REQD	POUNDS
10d (3")	66	1-1/4
"WEDGES PER DOUBLE STACK		
LUMBER	LENGTH	NO. REQD
2" X 4"	6'-0"	4
2" X 4"	9'-0"	4

**SPECIAL NOTES:**

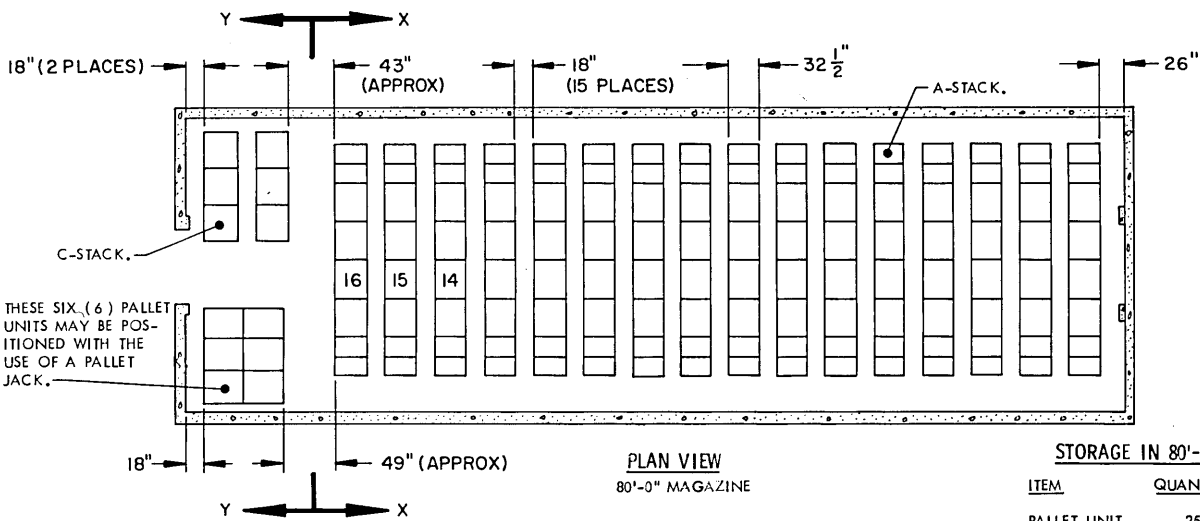
- STORAGE AS SHOWN IS FOR THE M2 AND MK VII STEEL BOX.  
BOX DIMENSIONS --- 16-1/4" LONG BY 9-5/8" WIDE BY 28-3/8" HIGH.
- SEE THE "TYPICAL PLAN VIEW B" ON PAGE 4.
- THE NUMBERS SHOWN IN THE STACK ELEVATION INDICATE THE QUANTITY OF BOXES PER LAYER IN A STACK.
- BOXES MUST BE STORED IN DOUBLE STACKS AS SHOWN.
- PRIOR TO PLACING BULK PROPELLANT IN ANGULAR STORAGE AS SHOWN, TRIAL BOXES SHOULD BE PLACED IN TYPICAL ANGLE STORAGE AND THE COVER REMOVED TO ACTUALLY DETERMINE THAT THE ANGLE OF FLOW OF THE CONTAINED PROPELLANT IS ENOUGH TO PREVENT LEAKAGE WHEN FUTURE TEST PAPERS ARE INSERTED.
- NOTE: JOINTS IN THE INTERMEDIATE DUNNAGE MUST BE STAGGERED BOTH HORIZONTALLY AND VERTICALLY.
- NOTE: THE RETAINER ASSEMBLY MUST CONTACT THE MAGAZINE WALL FOR SUPPORT.
- THE METHOD OF STORAGE SHOWN PERMITS INSPECTION OF INDIVIDUAL BOXES.
- THE EXPLOSIVE WEIGHT FOR THE M2 AND MK VII STEEL BOX IS 110 POUNDS. THE EXPLOSIVE WEIGHT FOR THE STACK ELEVATION SHOWN ABOVE WILL BE 14,960 POUNDS. THE EXPLOSIVE WEIGHT FOR AN 80'-0" MAGAZINE WILL BE 329,120 POUNDS. THERE WILL BE APPROXIMATELY 69" OF SPACE AT THE FRONT OF THIS MAGAZINE. THE EXPLOSIVE WEIGHT FOR A 40'-0" MAGAZINE WILL BE 149,600 POUNDS. THERE WILL BE APPROXIMATELY 6'-3" OF SPACE AT THE FRONT OF THIS MAGAZINE. SEE GENERAL NOTE "E" ON PAGE 2.
- BOXES MAY BE STACKED TO ALLOW EASE OF ACCESS FOR INSPECTION BASED ON OPERATIONAL AND STORAGE CONDITIONS. THE SELECTION OF A STORAGE PROCEDURE FROM THAT DEPICTED ON THIS PAGE, ON PAGE 70, OR ON PAGE 89 IS THE OPTION OF THE STORING ACTIVITY.



**END VIEW OF DOUBLE STACK**

**STORAGE METHOD B**

**POWDER, PROPELLANT ( PACKED IN STEEL BOX, M2 AND MK VII )**



**STORAGE IN 80'-0" MAGAZINE**

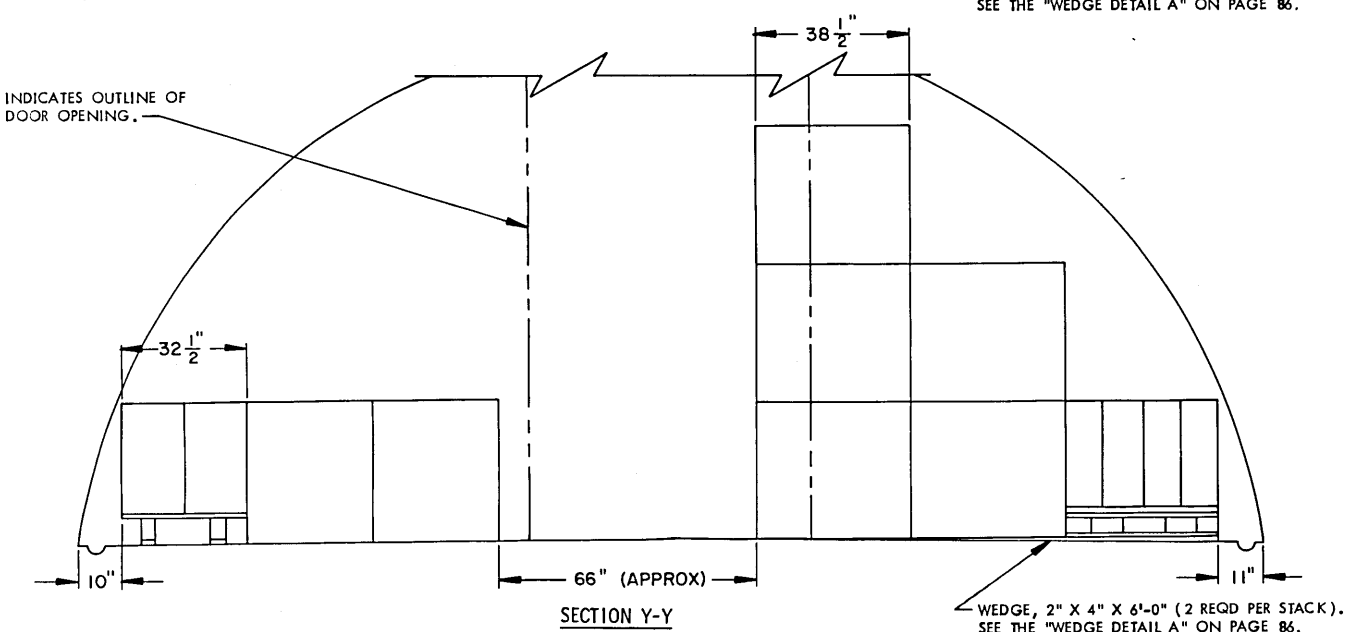
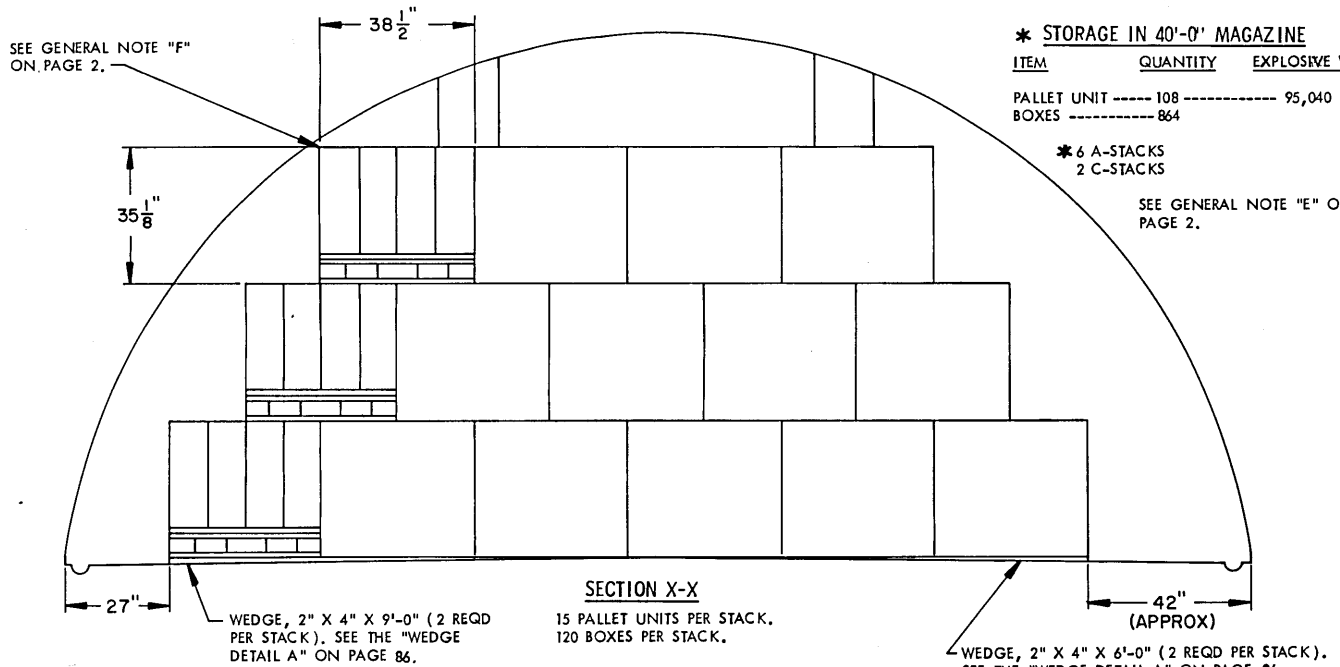
ITEM	QUANTITY	EXPLOSIVE WEIGHT
PALLET UNIT	258	227,040 LBS
BOXES	2,064	

**\* STORAGE IN 40'-0" MAGAZINE**

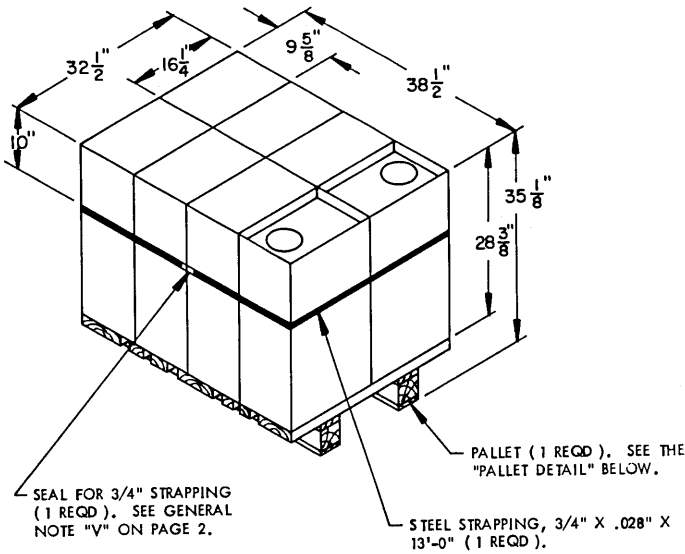
ITEM	QUANTITY	EXPLOSIVE WEIGHT
PALLET UNIT	108	95,040 LBS
BOXES	864	

\* 6 A-STACKS  
2 C-STACKS

SEE GENERAL NOTE "E" ON PAGE 2.





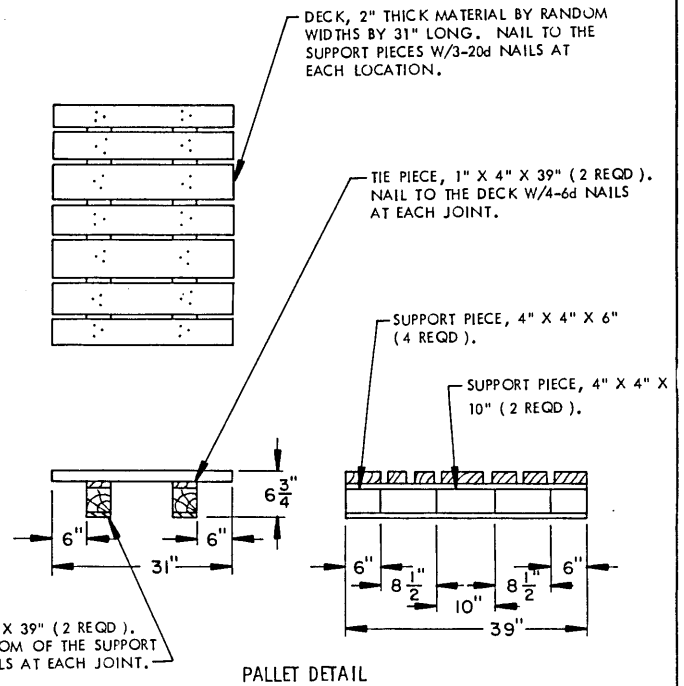


**PALLETIZED BOXES**  
EIGHT (8) BOXES PER PALLET.

**SPECIAL NOTES:**

1. STORAGE AS SHOWN IS FOR THE M2 AND MK VII STEEL BOX (PALLETIZED).  
PALLET UNIT DIMENSIONS ---- 38-1/2" LONG BY 32-1/2" WIDE BY 35-1/8" HIGH.  
EXPLOSIVE WEIGHT ----- 110 POUNDS PER BOX.
2. THE METHOD OF STORAGE SHOWN PERMITS INSPECTION OF INDIVIDUAL BOXES.
3. SMOKELESS POWDER IN PACKING BOX MK 7 AND MODS, PALLETIZED IN ACCORDANCE WITH NAVAL SEA SYSTEMS COMMAND DRAWING WR-53/724 WILL BE STORED BY USING THE PROCEDURES SHOWN IN US ARMY DARCOM DRAWING 19-48-4118-1-2-3-4-14-22PA1002.
4. PROPELLANT GRAIN MK 43 MOD O IN PALLET CRATE MK 2 MOD O UNITIZED IN ACCORDANCE WITH WR-53/709, PROPELLANT GRAIN MK 49 AND MODS IN PALLET CRATE MK 4 MOD O (WR-53/505) AND PROPELLANT GRAIN MK 88 MOD O (WR-53/845) WILL BE STORED BY USING THE PROCEDURES SHOWN IN US ARMY DARCOM DRAWING 19-48-4125-1-2-3-4-14-22PA1003.
5. PALLETIZATION OF BOXES IS SOLELY FOR THE CONVENIENCE OF STORAGE AND WILL NOT BE USED FOR SHIPPING BOXES.

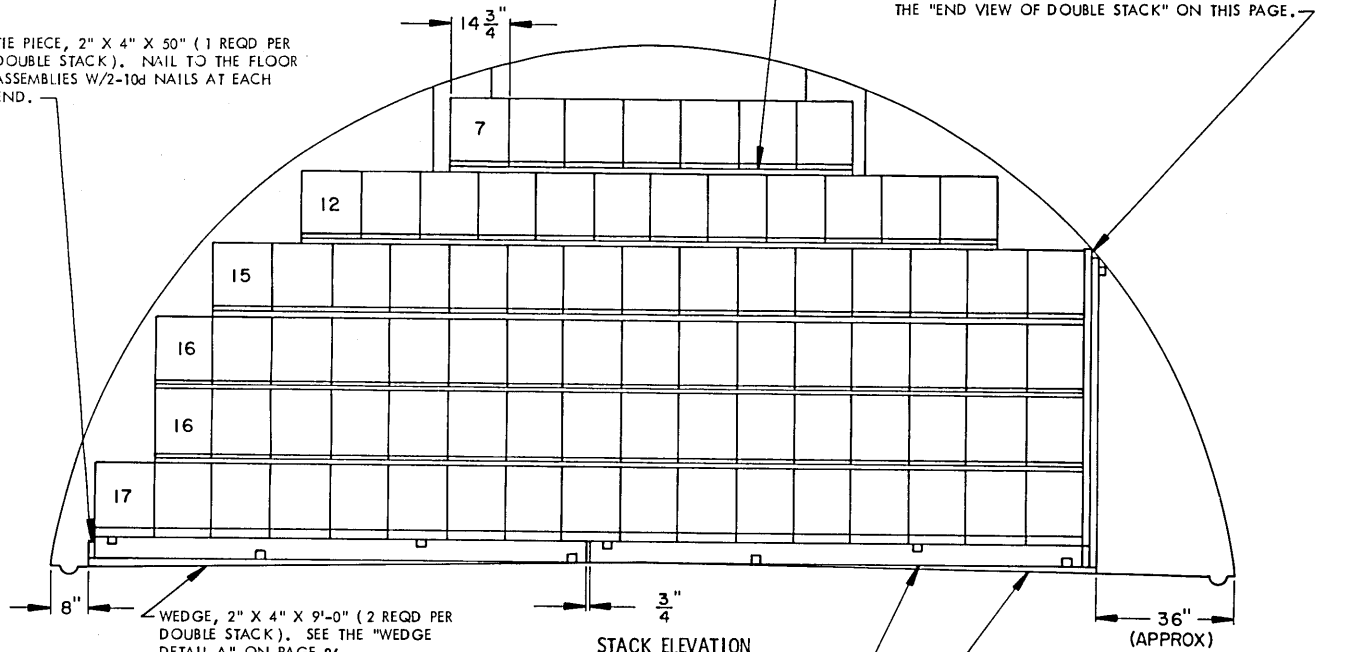
BILL OF MATERIAL ( PER PALLET )		
LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	13	5
2" X 4"	13	9
2" X 6"	6	6
4" X 4"	4	6
NAILS	NO. REQD	POUNDS
6d (2")	48	1/2
20d (4")	18	3/4
STEEL STRAPPING, 3/4" X .028"	13 <sup>1</sup> REQD	1 LB
SEAL FOR 3/4" STRAPPING	1 REQD	NIL



TIE PIECE, 2" X 4" X 50" (1 REQD PER DOUBLE STACK). NAIL TO THE FLOOR ASSEMBLIES W/2-10d NAILS AT EACH END.

INTERMEDIATE DUNNAGE, 1" X 4" BY LENGTH TO SUIT (20 REQD PER DOUBLE STACK). SEE "END VIEW OF DOUBLE STACK" AND SPECIAL NOTE 6.

RETAINER ASSEMBLY (1 REQD PER DOUBLE STACK). NAIL TO THE FLOOR ASSEMBLIES W/2-10d NAILS AT EACH JOINT. SEE THE "RETAINER ASSEMBLY B" DETAIL ON PAGE 87 AND THE "END VIEW OF DOUBLE STACK" ON THIS PAGE.



**STACK ELEVATION**

83 BOXES PER STACK  
 1,826 BOXES PER 80"-0" MAGAZINE  
 830 BOXES PER 40"-0" MAGAZINE

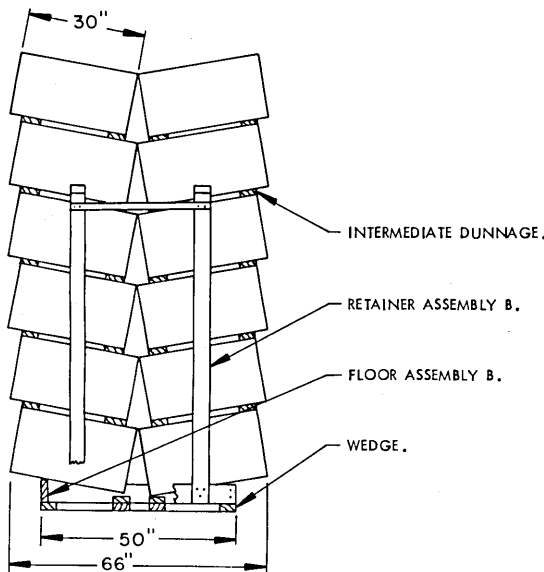
WEDGE, 2" X 4" X 6'-0" (2 REQD PER DOUBLE STACK). SEE THE "WEDGE DETAIL A" ON PAGE 86 AND THE "END VIEW OF DOUBLE STACK" DETAIL BELOW.

FLOOR ASSEMBLY (4 REQD PER DOUBLE STACK). SEE THE "FLOOR ASSEMBLY B" DETAIL ON PAGE 88.

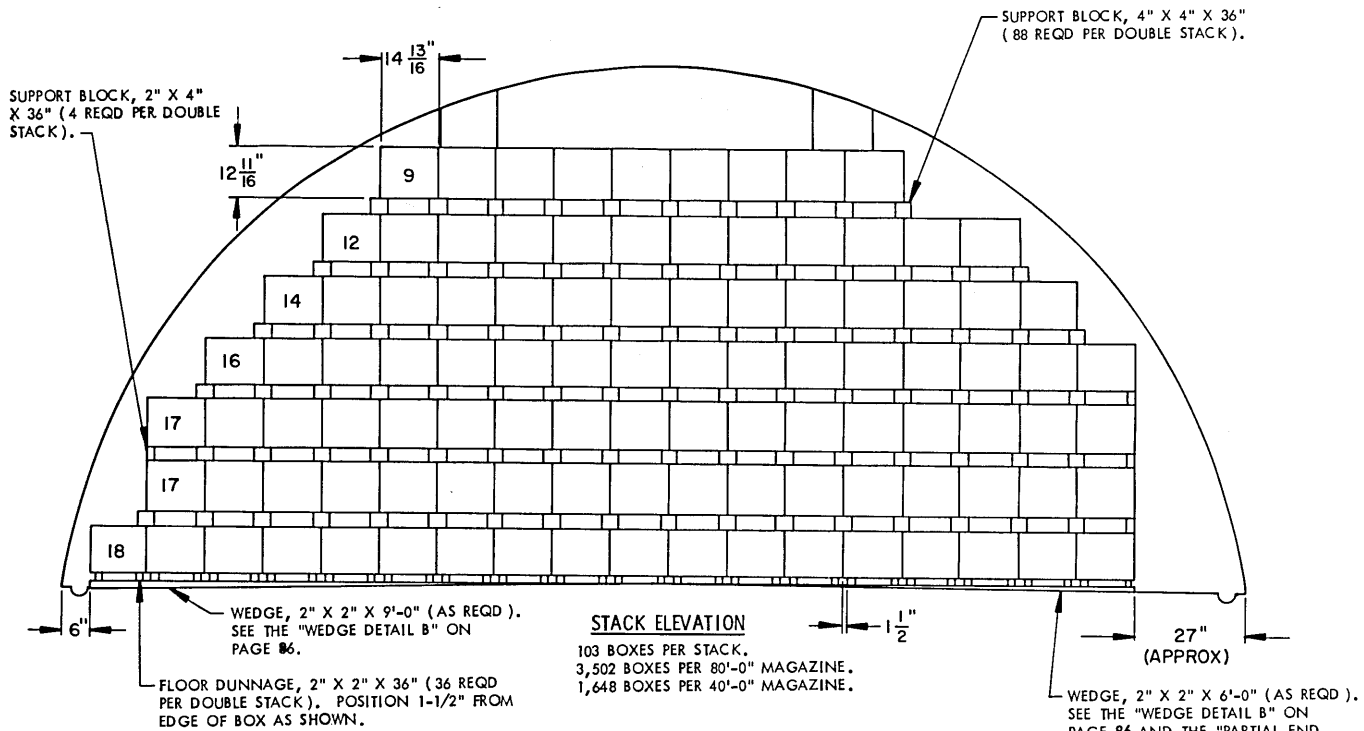
BILL OF MATERIAL ( PER DOUBLE STACK )		
LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	326	109
2" X 2"	3	1
2" X 4"	72	48
2" X 6"	76	76
NAILS	NO. REQD	POUNDS
10d (3")	66	1-1/4
WEDGES PER DOUBLE STACK		
LUMBER	LENGTH	NO. REQD
2" X 4"	6'-0"	4
2" X 4"	9'-0"	4

**SPECIAL NOTES:**

- STORAGE AS SHOWN IS FOR THE METAL-LINED WOODEN BOX.  
BOX DIMENSIONS--- 17-3/4" LONG BY 14-3/4" WIDE BY 30" HIGH.
- SEE THE "TYPICAL PLAN VIEW B" ON PAGE 4.
- THE NUMBERS SHOWN IN THE STACK ELEVATION INDICATE THE QUANTITY OF BOXES PER LAYER IN A STACK.
- BOXES MUST BE STORED IN DOUBLE STACKS AS SHOWN.
- PRIOR TO PLACING BULK PROPELLANT IN ANGULAR STORAGE AS SHOWN, TRIAL BOXES SHOULD BE PLACED IN TYPICAL ANGLE STORAGE AND THE COVER REMOVED TO ACTUALLY DETERMINE THAT THE ANGLE OF FLOW OF THE CONTAINED PROPELLANT IS ENOUGH TO PREVENT LEAKAGE WHEN FUTURE TEST PAPERS ARE INSERTED.
- NOTE:** JOINTS IN THE INTERMEDIATE DUNNAGE MUST BE STAGGERED BOTH HORIZONTALLY AND VERTICALLY.
- NOTE:** THE RETAINER ASSEMBLY MUST CONTACT THE MAGAZINE WALL FOR SUPPORT.
- THE METHOD OF STORAGE SHOWN PERMITS INSPECTION OF INDIVIDUAL BOXES.
- THE EXPLOSIVE WEIGHT FOR THE METAL-LINED WOODEN BOX IS 150 POUNDS. THE EXPLOSIVE WEIGHT FOR THE STACK ELEVATION SHOWN ABOVE WILL BE 12,450 POUNDS. THE EXPLOSIVE WEIGHT FOR AN 80"-0" MAGAZINE WILL BE 273,900 POUNDS. THERE WILL BE APPROXIMATELY 36" OF SPACE AT THE FRONT OF THIS MAGAZINE. THE EXPLOSIVE WIEGHT FOR A 40"-0" MAGAZINE WILL BE 124,500 POUNDS. THERE WILL BE APPROXIMATELY 60" OF SPACE AT THE FRONT OF THIS MAGAZINE. SEE GENERAL NOTE "E" ON PAGE 2.



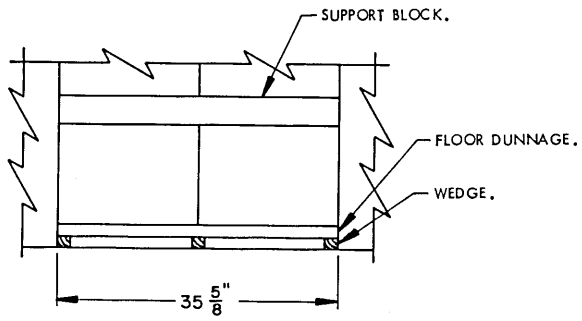
END VIEW OF DOUBLE STACK



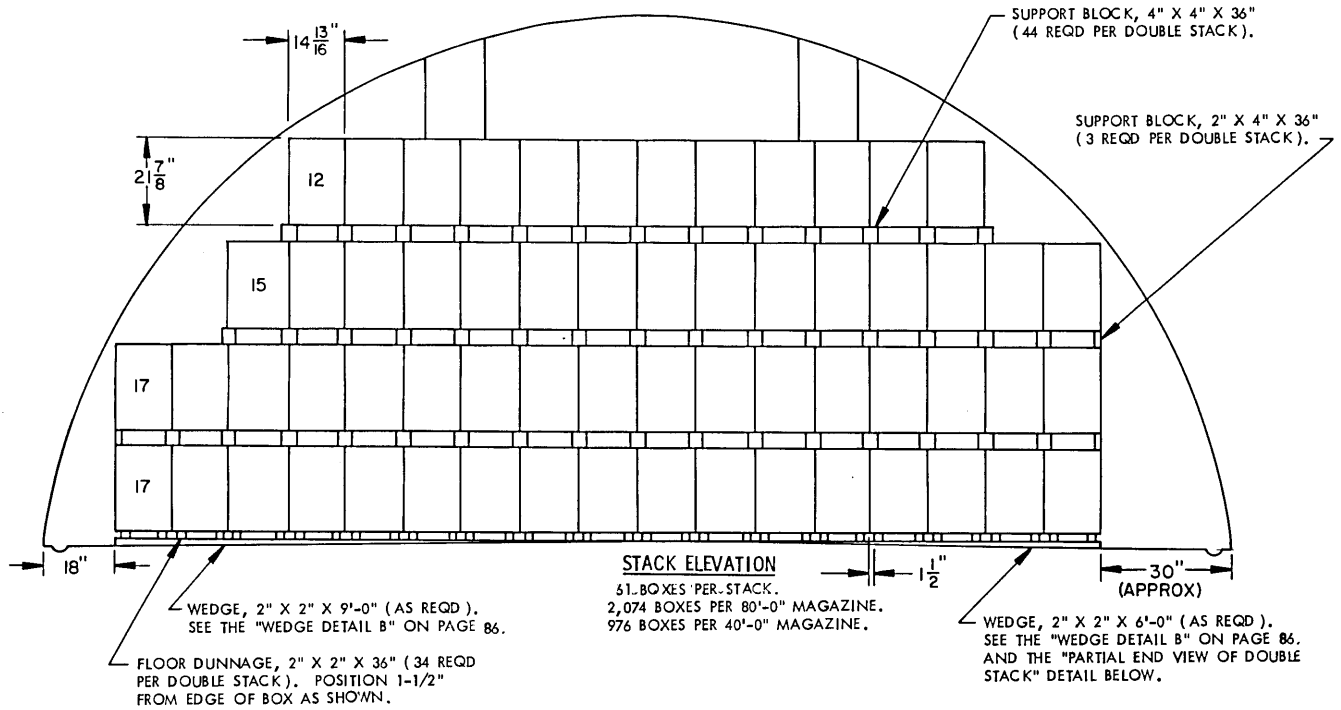
BILL OF MATERIAL ( PER DOUBLE STACK )		
LUMBER	LINEAR FEET	BOARD FEET
2" X 2"	108	36
2" X 4"	12	8
4" X 4"	264	352
WEDGES PER DOUBLE STACK		
LUMBER	LENGTH	NO. REQD
2" X 2"	6'-0"	3
2" X 2"	9'-0"	3

**SPECIAL NOTES:**

- STORAGE AS SHOWN IS FOR A WOODEN BOX.  
BOX DIMENSIONS --- 17-13/16" LONG BY 14-13/16" WIDE BY 12-11/16" HIGH.
- SEE THE "TYPICAL PLAN VIEW B" ON PAGE 4.
- THE NUMBERS SHOWN IN THE STACK ELEVATION INDICATE THE QUANTITY OF BOXES PER LAYER IN A STACK.
- STORE IN DOUBLE STACKS FOR BETTER STABILITY. SEE THE "PARTIAL END VIEW OF DOUBLE STACK" ON THIS PAGE.
- THE METHOD OF STORAGE SHOWN PERMITS INSPECTION OF INDIVIDUAL BOXES.
- THE EXPLOSIVE WEIGHT FOR A WOODEN BOX IS 50 POUNDS. THE EXPLOSIVE WEIGHT FOR THE STACK ELEVATION SHOWN ABOVE WILL BE 5,150 POUNDS. THE EXPLOSIVE WEIGHT FOR AN 80'-0" MAGAZINE WILL BE 175,100 POUNDS. THERE WILL BE APPROXIMATELY 49" OF SPACE AT THE FRONT OF THIS MAGAZINE. THE EXPLOSIVE WEIGHT FOR A 40'-0" MAGAZINE WILL BE 82,400 POUNDS. THERE WILL BE APPROXIMATELY 51" OF SPACE AT THE FRONT OF THIS MAGAZINE. SEE GENERAL NOTE "E" ON PAGE 2.



PARTIAL END VIEW OF DOUBLE STACK

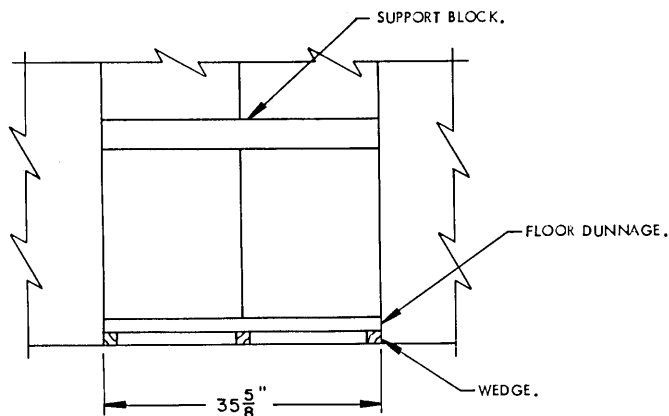


**STACK ELEVATION**  
 61 BOXES PER STACK.  
 2,074 BOXES PER 80'-0" MAGAZINE.  
 976 BOXES PER 40'-0" MAGAZINE.

BILL OF MATERIAL ( PER DOUBLE STACK )		
LUMBER	LINEAR FEET	BOARD FEET
2" X 2"	102	34
2" X 4"	9	6
4" X 4"	132	176
WEDGES PER DOUBLE STACK		
LUMBER	LENGTH	NO. REQD
2" X 2"	6'-0"	3
2" X 2"	9'-0"	3

**SPECIAL NOTES:**

- STORAGE AS SHOWN IS FOR A WOODEN BOX.  
 BOX DIMENSIONS --- 17-13/16" LONG BY 14-13/16" WIDE BY 21-7/8" HIGH.
- SEE THE "TYPICAL PLAN VIEW B" ON PAGE 4.
- THE NUMBERS SHOWN IN THE STACK ELEVATION INDICATE THE QUANTITY OF BOXES PER LAYER IN A STACK.
- STORE IN DOUBLE STACKS FOR BETTER STABILITY. SEE THE "PARTIAL END VIEW OF DOUBLE STACK" ON THIS PAGE.
- THE METHOD OF STORAGE SHOWN PERMITS INSPECTION OF INDIVIDUAL BOXES.
- THE EXPLOSIVE WEIGHT FOR A WOODEN BOX IS 100 POUNDS. THE EXPLOSIVE WEIGHT FOR THE STACK ELEVATION SHOWN ABOVE WILL BE 6,100 POUNDS. THE EXPLOSIVE WEIGHT FOR AN 80'-0" MAGAZINE WILL BE 207,400 POUNDS. THERE WILL BE APPROXIMATELY 49" OF SPACE AT THE FRONT OF THIS MAGAZINE. THE EXPLOSIVE WEIGHT FOR A 40'-0" MAGAZINE WILL BE 97,600 POUNDS. THERE WILL BE APPROXIMATELY 51" OF SPACE AT THE FRONT OF THIS MAGAZINE. SEE GENERAL NOTE "E" ON PAGE 2.



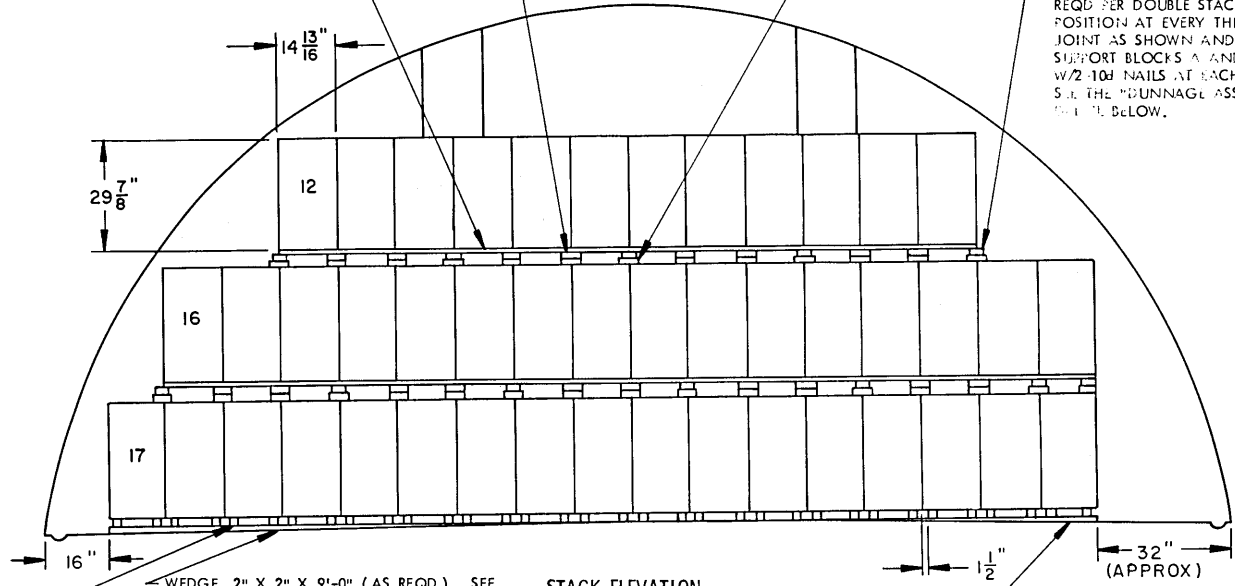
**PARTIAL END VIEW OF DOUBLE STACK**

INTERMEDIATE DUNNAGE, 1" X 4" BY LENGTH TO SUIT (8 REQD PER DOUBLE STACK). NAIL TO SUPPORT BLOCKS B AND C AND THE TIE PIECES W/2-6d NAILS AT EACH JOINT. SEE THE "DUNNAGE ASSEMBLY" DETAIL BELOW.

SUPPORT BLOCK B, 2" X 4" X 4" (DOUBLET) (36 REQD PER DOUBLE STACK). LAMINATE W/2-10d NAILS. SEE THE "DUNNAGE ASSEMBLY" DETAIL BELOW.

SUPPORT BLOCK A, 2" X 4" X 4" (24 REQD PER DOUBLE STACK). POSITION AT EVERY THIRD BOX JOINT AS SHOWN. SEE THE "DUNNAGE ASSEMBLY" DETAIL BELOW.

TIE PIECE, 2" X 4" X 36" (12 REQD PER DOUBLE STACK). POSITION AT EVERY THIRD BOX JOINT AS SHOWN AND NAIL TO SUPPORT BLOCKS A AND C W/2-10d NAILS AT EACH JOINT. SEE THE "DUNNAGE ASSEMBLY" DETAIL BELOW.



WEDGE, 2" X 2" X 9'-0" (AS REQD). SEE THE "WEDGE DETAIL B" ON PAGE 86.

**STACK ELEVATION**

45 BOXES PER STACK  
1,530 BOXES PER 80'-0" MAG.  
720 BOXES PER 40'-0" MAG.

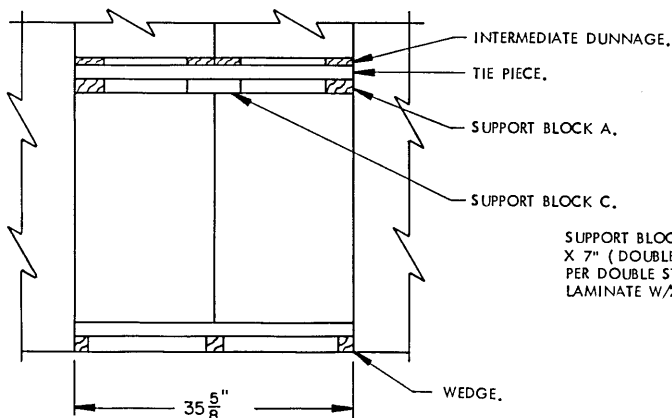
WEDGE, 2" X 2" X 6'-0" (AS REQD). SEE THE "WEDGE DETAIL B" ON PAGE 86 AND THE "PARTIAL END VIEW OF DOUBLE STACK" DETAIL BELOW.

FLOOR DUNNAGE, 2" X 2" X 36" (34 REQD PER DOUBLE STACK). POSITION 1-1/2" FROM EDGE OF BOX AS SHOWN.

BILL OF MATERIAL		
LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	139	47
2" X 2"	102	34
2" X 4"	68	46
NAILS	NO. REQD	POUNDS
6d (2")	240	1-1/2
10d (3")	144	2-1/4
WEDGES PER DOUBLE STACK		
LUMBER	LENGTH	NO. STACK
2" X 2"	6'-0"	3
2" X 2"	9'-0"	3

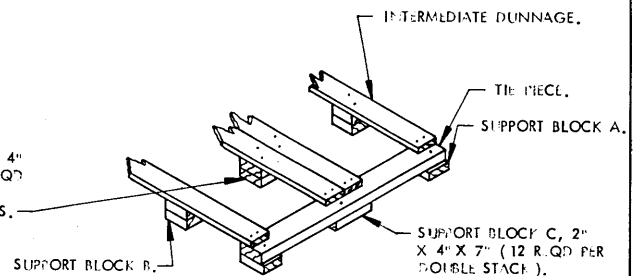
**SPECIAL NOTES:**

- STORAGE AS SHOWN IS FOR A WOODEN BOX.  
BOX DIMENSIONS --- 17-13/16" LONG BY 14-13/16" WIDE BY 29-7/8" HIGH.
- SEE THE "TYPICAL PLAN VIEW B" ON PAGE 4.
- THE NUMBERS SHOWN IN THE STACK ELEVATION INDICATE THE QUANTITY OF BOXES PER LAYER IN A STACK.
- STORE IN DOUBLE STACKS FOR BETTER STABILITY. SEE THE "PARTIAL END VIEW OF DOUBLE STACK" ON THIS PAGE.
- THE METHOD OF STORAGE SHOWN PERMITS INSPECTION OF INDIVIDUAL BOXES.
- THE EXPLOSIVE WEIGHT FOR A WOODEN BOX IS 150 POUNDS. THE EXPLOSIVE WEIGHT FOR THE STACK ELEVATION SHOWN ABOVE WILL BE 6,750 POUNDS. THE EXPLOSIVE WEIGHT FOR AN 80'-0" MAGAZINE WILL BE 229,500 POUNDS. THERE WILL BE APPROXIMATELY 49" OF SPACE AT THE FRONT OF THIS MAGAZINE. THE EXPLOSIVE WEIGHT FOR A 40'-0" MAGAZINE WILL BE 108,000 POUNDS. THERE WILL BE APPROXIMATELY 51" OF SPACE AT THE FRONT OF THIS MAGAZINE. SEE GENERAL NOTE "E" ON PAGE 2.

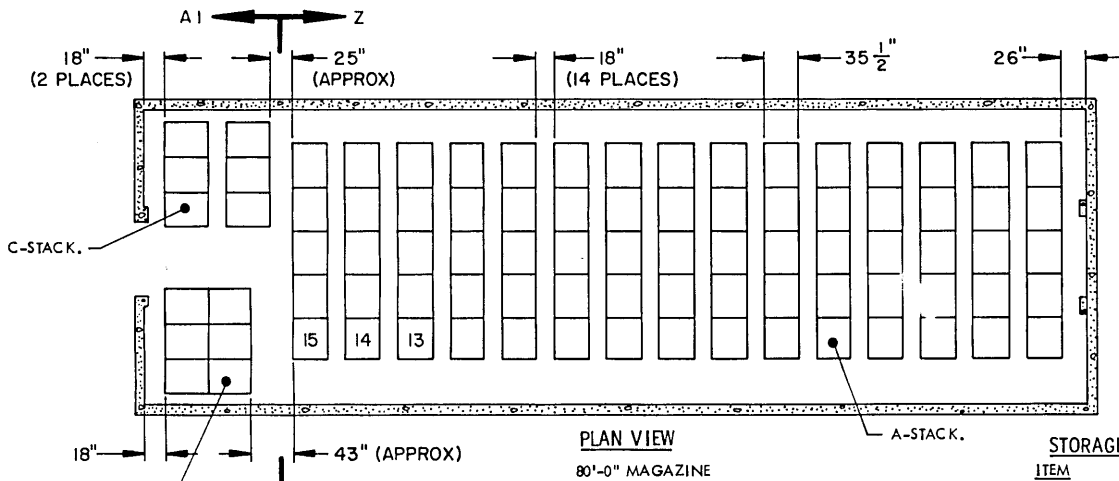


**PARTIAL END VIEW OF DOUBLE STACK**

SUPPORT BLOCK D, 2" X 4" X 7" (DOUBLED) (18 REQD PER DOUBLE STACK). LAMINATE W/2-10d NAILS.



**DUNNAGE ASSEMBLY**



PLAN VIEW  
80'-0" MAGAZINE

STORAGE IN 80'-0" MAGAZINE

ITEM	QUANTITY	EXPLOSIVE WEIGHT
PALLET UNIT	213	191,700 LBS
BOXES	1,278	

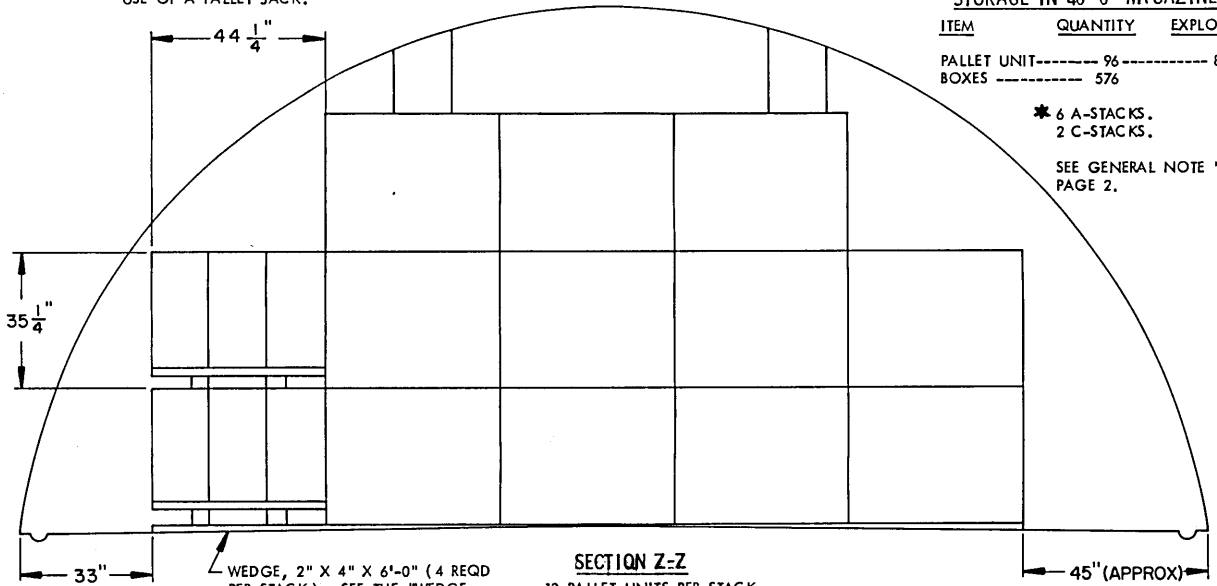
\*STORAGE IN 40'-0" MAGAZINE

ITEM	QUANTITY	EXPLOSIVE WEIGHT
PALLET UNIT	96	86,400 LBS
BOXES	576	

\* 6 A-STACKS.  
2 C-STACKS.

SEE GENERAL NOTE "E" ON PAGE 2.

THESE SIX (6) PALLET UNITS  
MAY BE POSITIONED WITH  
USE OF A PALLET JACK.

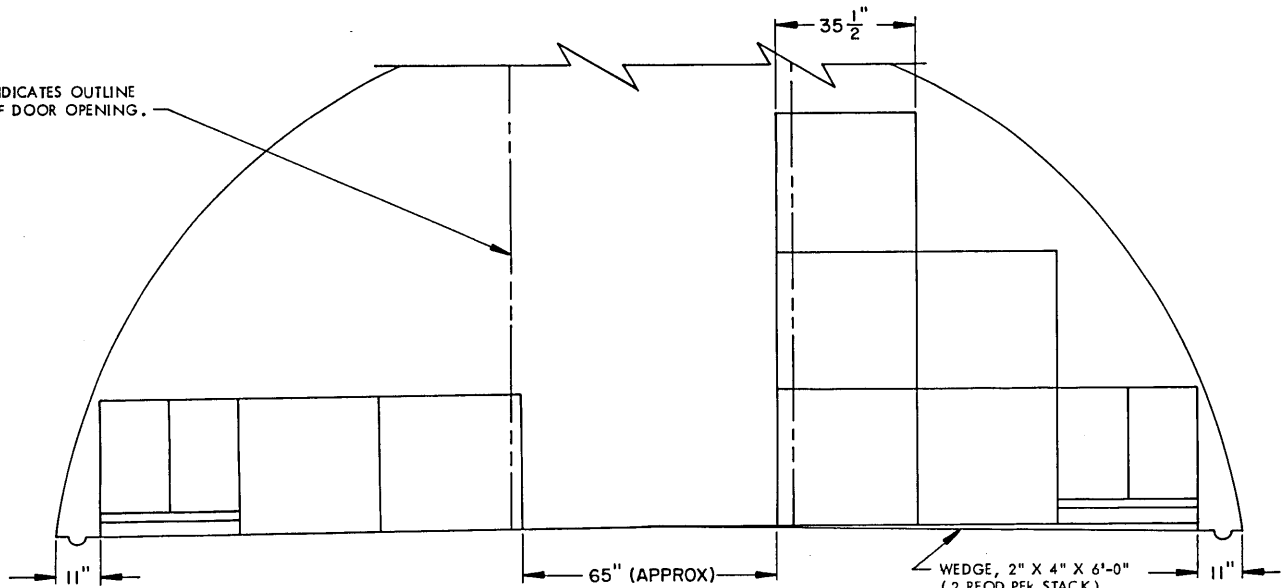


SECTION Z-Z

13 PALLET UNITS PER STACK.  
78 BOXES PER STACK.

WEDGE, 2" X 4" X 6'-0" (4 REQD  
PER STACK). SEE THE "WEDGE  
DETAIL A" ON PAGE 86.

INDICATES OUTLINE  
OF DOOR OPENING.

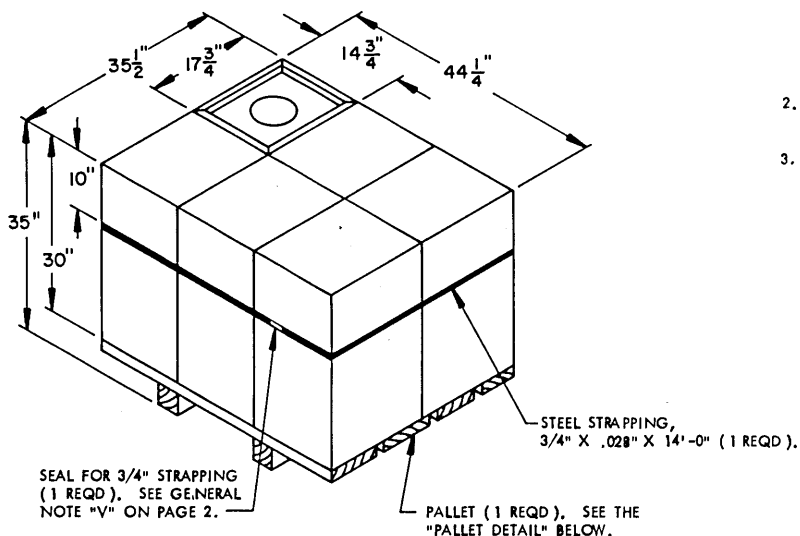


SECTION A1-A1

WEDGE, 2" X 4" X 6'-0"  
(2 REQD PER STACK).  
SEE THE "WEDGE DETAIL A"  
ON PAGE 86.

**SPECIAL NOTES:**

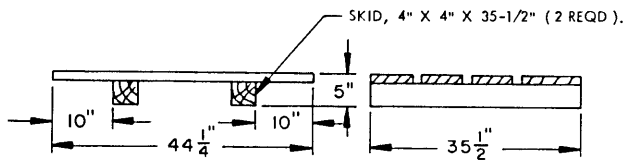
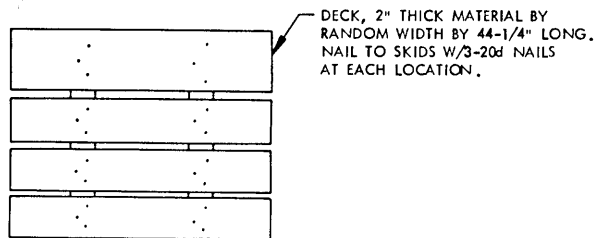
1. STORAGE AS SHOWN IS FOR THE METAL-LINED WOODEN BOX (PALLETIZED).  
PALLET UNIT DIMENSIONS --- 35-1/2" LONG BY 44-1/4" WIDE BY 35" HIGH.  
EXPLOSIVE WEIGHT ----- 150 POUNDS PER BOX.
2. THE METHOD OF STORAGE SHOWN PERMITS INSPECTION OF INDIVIDUAL BOXES.
3. PALLETIZATION OF BOXES IS SOLELY FOR THE CONVENIENCE OF STORAGE AND WILL NOT BE USED FOR SHIPPING BOXES.



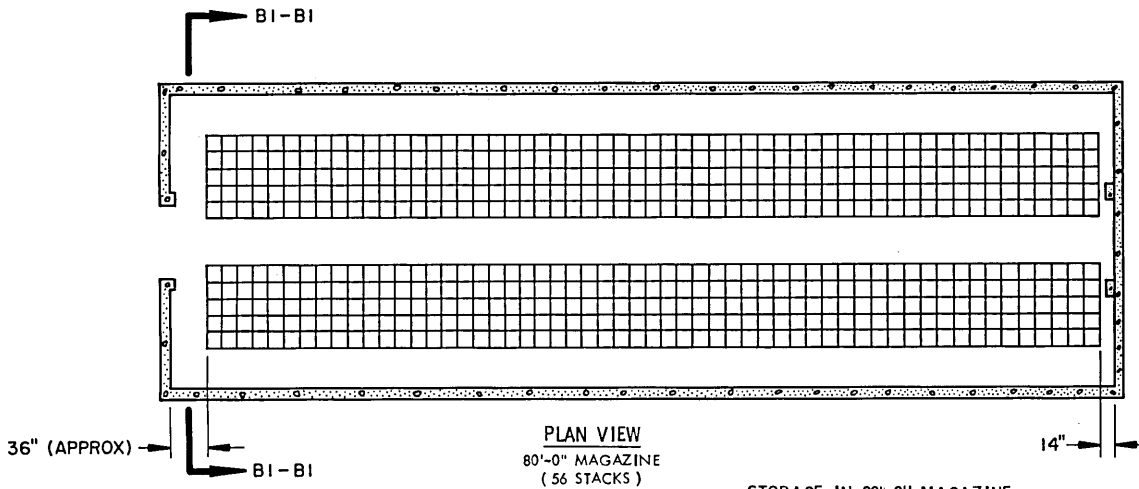
**PALLETIZED BOXES**

SIX (6) BOXES PER PALLET.

BILL OF MATERIAL		
LUMBER	LINEAR FEET	BOARD FEET
2" X 8"	12	16
2" X 12"	4	8
4" X 4"	6	8
NAILS	NO. REQD	POUNDS
20d (4")	24	1
STEEL STRAPPING, 3/4" X' .028" ----- 14' REQD ----- 1 LB		
SEAL FOR 3/4" STRAPPING ----- 1 REQD ----- NIL		



**PALLET DETAIL**



**PLAN VIEW**  
80'-0" MAGAZINE  
(56 STACKS)

**STORAGE IN 80'-0" MAGAZINE**

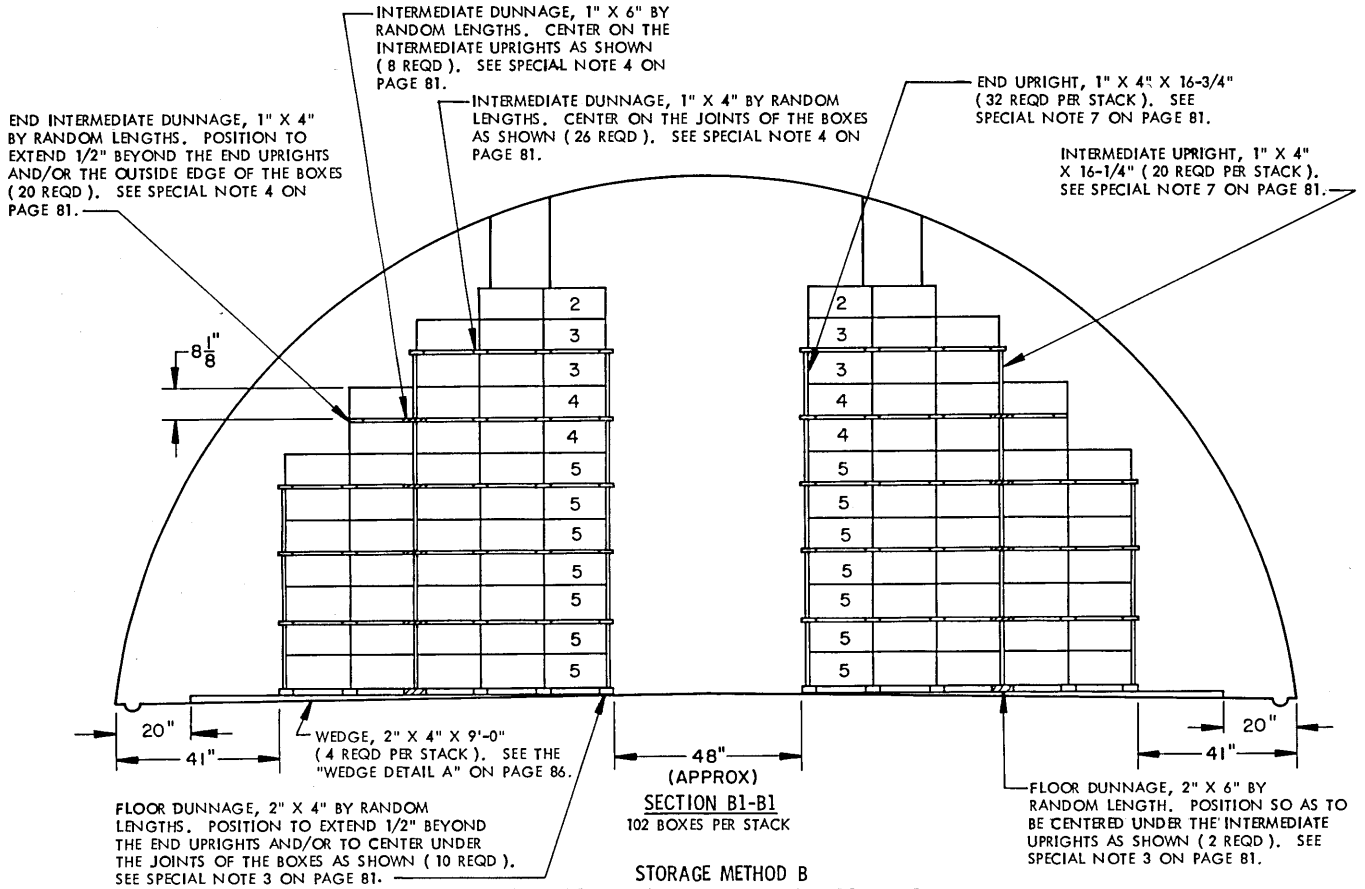
ITEM	QUANTITY	EXPLOSIVE WEIGHT
FIBERBOARD BOX	5,712	228,480 LBS

**\* STORAGE IN 40'-0" MAGAZINE**

ITEM	QUANTITY	EXPLOSIVE WEIGHT
FIBERBOARD BOX	2,652	106,080 LBS

SEE GENERAL NOTE "E" ON PAGE 2, AND SPECIAL NOTE 8 AND "TABLE 4" ON PAGE 81.

\* 26 STACKS WITH A 43" (APPROX) SPACE AT FRONT.



**STORAGE METHOD B**

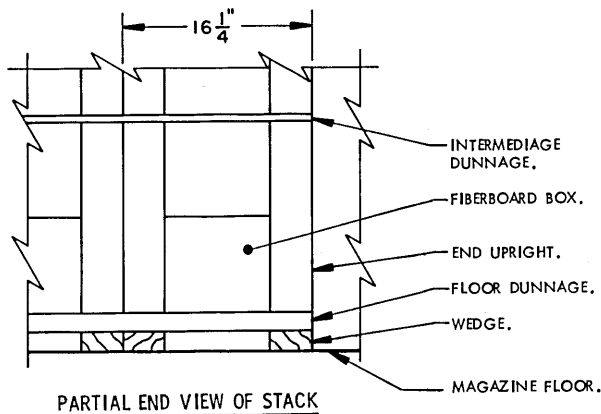
TNC, PENTOLITE, POTASSIUM PICRATE, COMP D-2,  
MAX 2 AND MOX 2B (PACKED IN FIBERBOARD BOX)



**SPECIAL NOTES:**

1. STORAGE AS SHOWN IS FOR TNC AND SIMILAR BULK EXPLOSIVES PACKED IN FIBERBOARD BOX NO. 2. FOR DETAILS OF BOX SEE DRAWING NO. 7548645. SEE SPECIAL NOTE 8.

DIMENSIONS----- 16-1/4" LONG BY 16-1/4" WIDE BY 8-1/8" HIGH.  
EXPLOSIVE WEIGHT --- 40 POUNDS.



2. STORAGE AS SHOWN IS FOR FIBERBOARD BOXES CONTAINING TNC. THE PROCEDURES ARE APPLICABLE FOR ALL THE ITEMS LISTED IN TABLE 4. THE EXPLOSIVE WEIGHT PER BOX AND PER 80'-0" AND 40'-0" ARCH TYPE MAGAZINES ARE GIVEN. **CAUTION:** THE EXPLOSIVE LIMIT FOR A MAGAZINE IS NOT BE EXCEEDED.
3. RANDOM LENGTH MATERIAL MAY BE USED FOR THE 2" X 4" AND 2" X 6" FLOOR DUNNAGE PIECES. JOINTS IN THE RANDOM LENGTH MATERIAL MUST BE CENTERED ON THE WEDGES AS NEAR AS POSSIBLE. JOINTS IN LATERALLY ADJACENT FLOOR DUNNAGE PIECES NEED NOT BE STAGGERED.
4. RANDOM LENGTH MATERIAL, OF NOT LESS THAN 48" LENGTHS, MAY BE USED FOR THE 1" X 4" END INTERMEDIATE DUNNAGE AND/OR THE 1" X 4" AND 1" X 6" INTERMEDIATE DUNNAGE PIECES. THE JOINTS IN THE INTERMEDIATE DUNNAGE PIECES MUST BE LOCATED APPROXIMATELY CENTERED BETWEEN THE INTERMEDIATE AND/OR END UPRIGHT PIECES. THE JOINTS OF ADJACENT INTERMEDIATE DUNNAGE PIECES IN A LAYER WILL BE STAGGERED AT LEAST 16" FROM EACH OTHER AND/OR FROM A JOINT IN AN END INTERMEDIATE DUNNAGE PIECE. ALSO, THE JOINTS OF END INTERMEDIATE AND/OR THE INTERMEDIATE DUNNAGE PIECES IN AN UPPER LAYER WILL BE STAGGERED AT LEAST 16" FROM THE JOINTS IN THE NEXT LOWER LAYER.
5. **CAUTION:** TNC PACKED IN FIBERBOARD BOXES OF THE SIZE SHOWN AND SIMILAR BULK EXPLOSIVES PACKED IN FIBERBOARD BOXES WHICH ARE APPROXIMATELY THE SAME HEIGHT MUST NOT BE STACKED MORE THAN TWELVE (12) BOXES HIGH.
6. THE NUMBERS SHOWN IN SECTION 81-B1 INDICATE THE QUANTITY OF BOXES PER LAYER IN A STACK.
7. WHEN STORING BOXES OF A HEIGHT OTHER THAN 8-1/8", THE LENGTH OF THE UPRIGHT PIECES MUST BE ADJUSTED TO COMPLY WITH THE FOLLOWING CRITERIA:
  - A. INTERMEDIATE UPRIGHT PIECES MUST BE OF A LENGTH EQUAL TO THE HEIGHT OF TWO BOXES.
  - B. END UPRIGHT PIECES MUST BE 1/2" LONGER THAN INTERMEDIATE UPRIGHT PIECES.
8. THE STORAGE PROCEDURES ON PAGES 80 AND 81 SHOULD ONLY BE USED WHEN STORING FIBERBOARD BOXES SUCH AS THESE IN GEOGRAPHICAL AREAS IN WHICH THERE IS A HIGH HUMIDITY LEVEL. FOR STORAGE PROCEDURES APPLICABLE TO THE STORAGE OF THESE ITEMS IN GEOGRAPHICAL AREAS HAVING LOW HUMIDITY, REFER TO THE STORAGE PROCEDURES ON PAGES 42 AND 43.

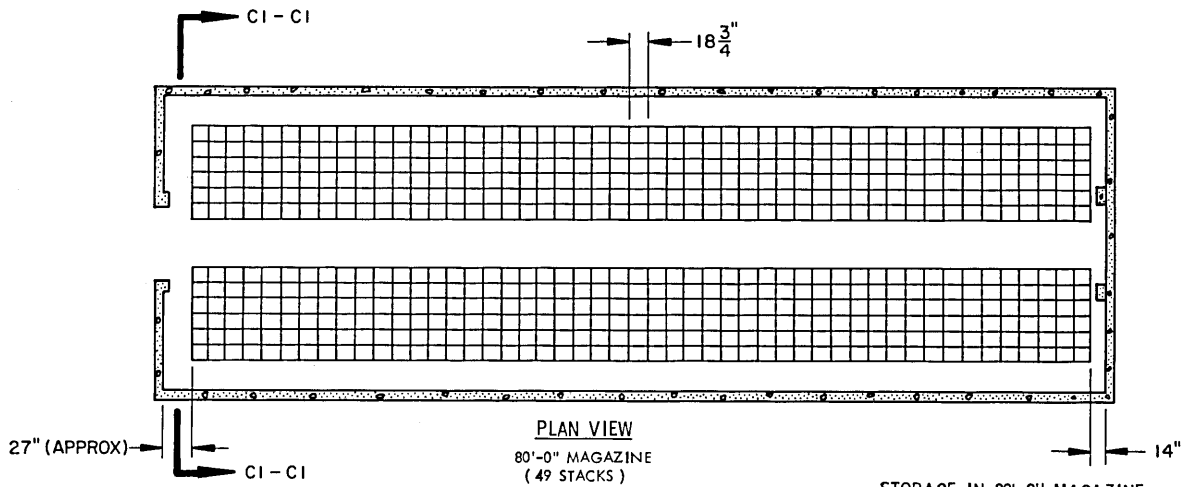
**TABLE 4**

ITEM	EXPL WT/BOX	80'-0" MAGAZINE		40'-0" MAGAZINE	
		MAX QUANTITY	MAX EXPLOSIVE	MAX QUANTITY	MAX EXPLOSIVE
		TNC	40 LBS	5,712	228,480
PENTOLITE	35 LBS	5,712	199,920	2,652	92,820
POTASSIUM PICRATE	35 LBS	5,712	199,920	2,652	92,820
COMPOSITION D-2	30 LBS	5,712	171,360	2,652	79,560
MAX 2	50 LBS	5,712	285,600	2,652	132,600
MOX 2B	50 LBS	5,712	285,600	2,652	132,600

**BILL OF MATERIAL ( PER STACK )**

LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	134.05	44.69
1" X 6"	10.84	5.42
2" X 4"	13.55	9.04
2" X 6"	2.71	2.71
WEDGES PER STACK		
2" X 4"	9'-0"	4

STORAGE METHOD B  
TNC, PENTOLITE, POTASSIUM PICRATE, COMP D-2,  
MAX 2, AND MOX 2B ( PACKED IN FIBERBOARD BOX )



STORAGE IN 80'-0" MAGAZINE

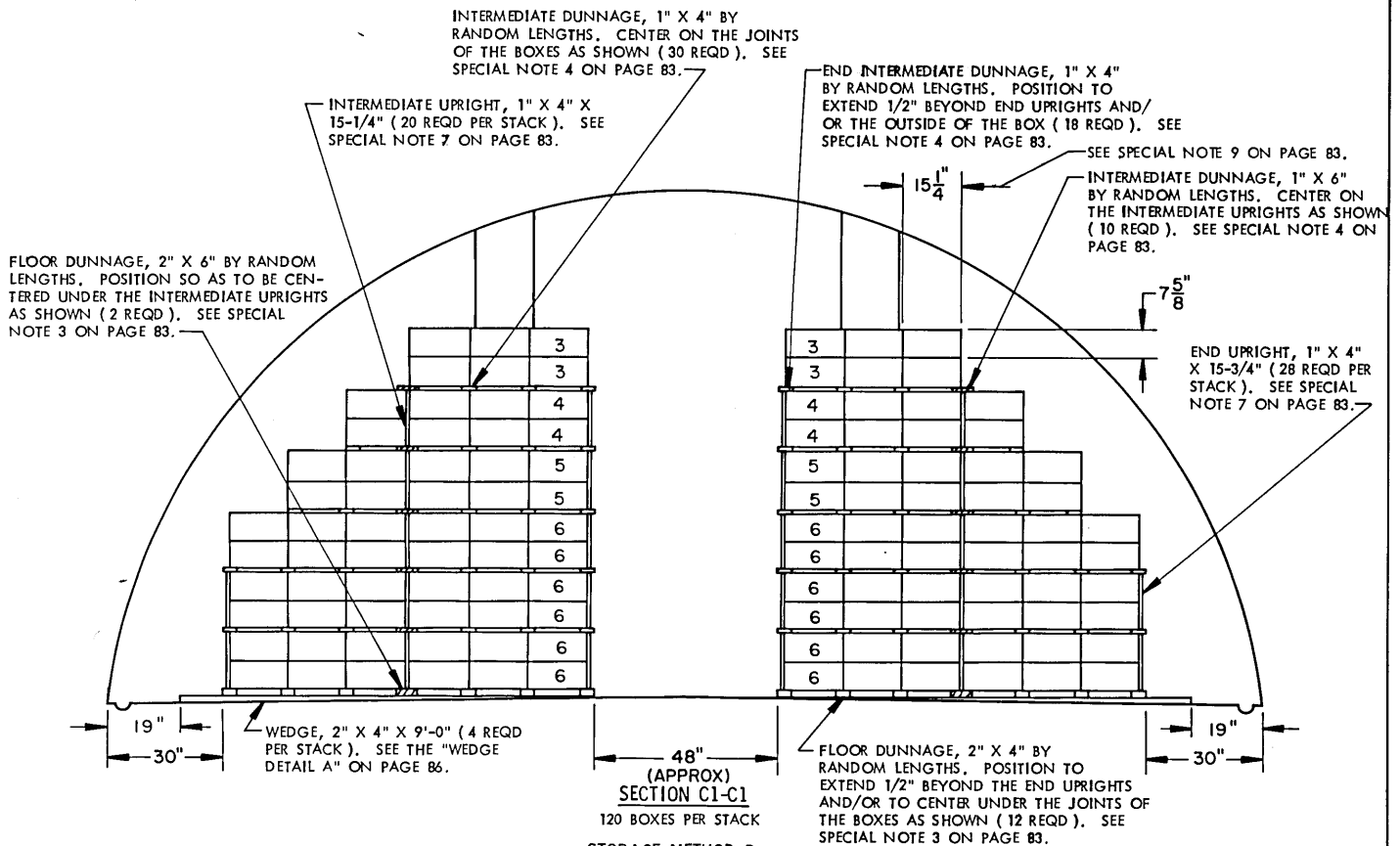
ITEM	QUANTITY	EXPLOSIVE WEIGHT
FIBERBOARD BOX	5,880	294,000 LBS

\* STORAGE IN 40'-0" MAGAZINE

ITEM	QUANTITY	EXPLOSIVE WEIGHT
FIBERBOARD BOX	2,760	138,000 LBS

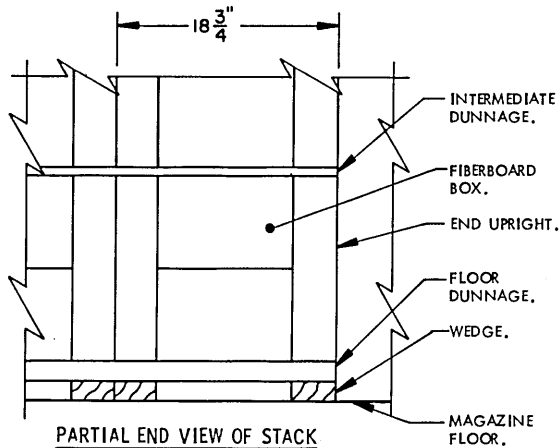
SEE GENERAL NOTE "E" ON PAGE 2, AND SPECIAL NOTE 8 AND "TABLE 5" ON PAGE 83.

\* 23 STACKS WITH 34" (APPROX) SPACE AT FRONT.



STORAGE METHOD B

PBXN6, TNT, ALL COMP A, ALL COMP B, COMP C-3 & C-4, EXPLOSIVE D, TOVEX, CYCLOTOL, OCTOL, PBX AND TETRYL (PACKED IN FIBERBOARD BOX)



**SPECIAL NOTES:**

1. STORAGE AS SHOWN IS FOR TNT AND SIMILAR BULK EXPLOSIVES PACKED IN FIBERBOARD BOX NO. 4. FOR DETAILS OF THE BOX SEE DRAWING NO. 7548645. SEE SPECIAL NOTE 8.  
  
DIMENSIONS ----- 18-3/4" LONG BY 15-1/4" WIDE BY 7-5/8" HIGH. EXPLOSIVE WEIGHT --- 50 OR 55 POUNDS.
2. STORAGE AS SHOWN IS FOR FIBERBOARD BOXES CONTAINING 50 POUNDS OF TNT. THE PROCEDURES ARE ALSO APPLICABLE FOR THE OTHER ITEMS LISTED IN TABLE 5.
3. RANDOM LENGTH MATERIAL MAY BE USED FOR THE 2" X 4" AND 2" X 6" FLOOR DUNNAGE PIECES. JOINTS IN THE RANDOM LENGTH MATERIAL MUST BE CENTERED ON THE WEDGES AS NEAR AS POSSIBLE. JOINTS IN LATERALLY ADJACENT FLOOR DUNNAGE PIECES NEED NOT BE STAGGERED.
4. RANDOM LENGTH MATERIAL, OF NOT LESS THAN 48" LENGTHS, MAY BE USED FOR THE 1" X 4" END INTERMEDIATE DUNNAGE AND/OR THE 1" X 4" AND 1" X 6" INTERMEDIATE DUNNAGE PIECES. THE JOINTS IN THE INTERMEDIATE DUNNAGE PIECES MUST BE LOCATED APPROXIMATELY CENTERED BETWEEN THE INTERMEDIATE AND/OR END UPRIGHT PIECES. THE JOINTS OF ADJACENT INTERMEDIATE DUNNAGE PIECES IN A LAYER WILL BE STAGGERED AT LEAST 18" FROM EACH OTHER AND/OR FROM A JOINT IN AN END INTERMEDIATE DUNNAGE PIECE. ALSO, THE JOINTS OF END INTERMEDIATE AND/OR THE INTERMEDIATE DUNNAGE PIECES IN AN UPPER LAYER WILL BE STAGGERED AT LEAST 18" FROM THE JOINTS IN THE NEXT LOWER LAYER.
5. **CAUTION:** TNT PACKED IN FIBERBOARD BOXES OF THE SIZE SHOWN AND SIMILAR BULK EXPLOSIVES PACKED IN FIBERBOARD BOXES WHICH ARE APPROXIMATELY THE SAME HEIGHT MUST NOT BE STACKED MORE THAT TWELVE ( 12 ) BOXES HIGH.
6. THE NUMBERS SHOWN IN SECTION C1-C1 INDICATE THE QUANTITY OF BOXES PER LAYER IN A STACK.
7. WHEN STORING BOXES OF A HEIGHT OTHER THAN 7-5/8", THE LENGTH OF THE UPRIGHT PIECES MUST BE ADJUSTED TO COMPLY WITH THE FOLLOWING CRITERIA:
  - A. INTERMEDIATE UPRIGHT PIECES MUST BE OF A LENGTH EQUAL TO THE HEIGHT OF TWO BOXES.
  - B. END UPRIGHT PIECES MUST BE 1/2" LONGER THAN INTERMEDIATE UPRIGHT PIECES.
8. THE STORAGE PROCEDURES ON PAGES 82 AND 83 SHOULD ONLY BE USED WHEN STORING FIBERBOARD BOXES SUCH AS THESE IN GEOGRAPHICAL AREAS IN WHICH THERE IS A HIGH HUMIDITY LEVEL. FOR PROCEDURES APPLICABLE TO THE STORAGE OF THESE ITEMS IN GEOGRAPHICAL AREAS HAVING LOW HUMIDITY LEVELS, REFER TO THE STORAGE PROCEDURES ON PAGES 44 AND 45.
9. IN LIEU OF STORING BOXES SO THE 15-1/4" DIMENSION IS ACROSS THE WIDTH OF THE MAGAZINE, AS SHOWN, BOXES MAY BE PLACED WITH THE 18-3/4" DIMENSION ACROSS THE MAGAZINE IF STACK STABILITY IS IMPROVED BY DOING SO. THE NUMBER OF BOXES ACROSS THE MAGAZINE MUST BE REDUCED ACCORDINGLY.

**TABLE 5**

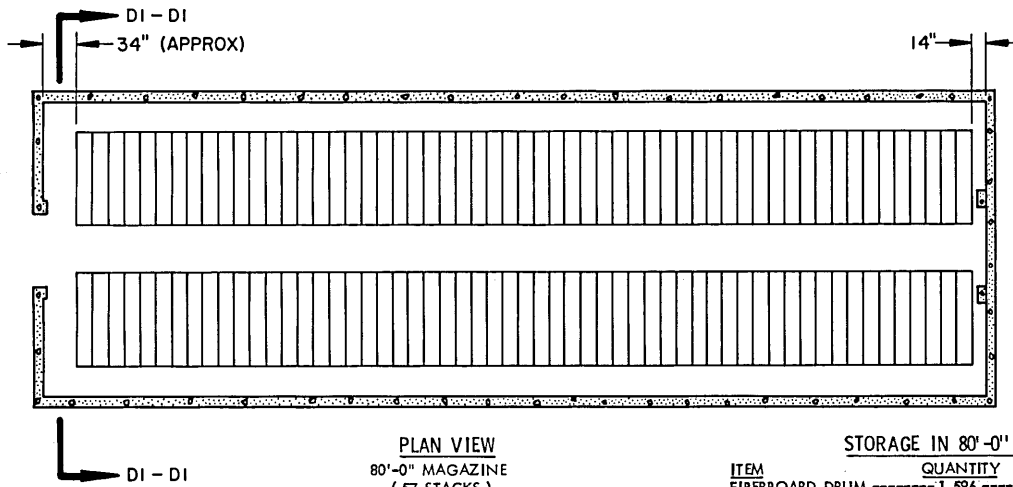
ITEM	EXPL WT/BX	80'-0" MAGAZINE ( 49 STACKS )		40'-0" MAGAZINE	
		MAX QUANTITY	MAX EXPLOSIVE	MAX QUANTITY	MAX EXPLOSIVE
TNT	50 LBS	5,880	294,000	2,760	138,000
TNT	55 LBS	5,880	323,400	2,760	151,800
ALL COMPOSITION A	60 LBS	5,880	352,800	2,760	165,600
ALL COMPOSITION B	60 LBS	5,880	352,800	2,760	165,600
COMPOSITION C-3 AND C-4	60 LBS	5,880	352,800	2,760	165,600
EXPLOSIVE D	50 LBS	5,880	294,000	2,760	138,000
CYCLOTOL	60 LBS	5,880	352,800	2,760	165,600
OCTOL	60 LBS	5,880	352,800	2,760	165,600
PBX	60 LBS ( MAX )	5,880	352,800	2,760	165,600
TETRYL	60 LBS	5,880	352,800	2,760	165,600
TOVEX	50 LBS	5,880	294,000	2,760	138,000
PBXN 6	50 LBS	5,880	294,000	2,760	138,000

**BILL OF MATERIAL ( PER STACK )**

LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	137.17	45.72
1" X 6"	15.63	7.82
2" X 4"	18.75	12.50
2" X 6"	3.13	3.13
WEDGES PER STACK		
LUMBER	LENGTH	NO. REQD
2" X 4"	9'-0"	4

**STORAGE METHOD B**

PBXN6, TNT, ALL COMP A, ALL COMP B, COMP C-3 & C-4, EXPLOSIVE D, TOVEX, CYCLOTOL, OCTOL, PBX AND TETRYL (PACKED IN FIBERBOARD BOX)



PLAN VIEW  
80'-0" MAGAZINE  
(57 STACKS)

STORAGE IN 80'-0" MAGAZINE

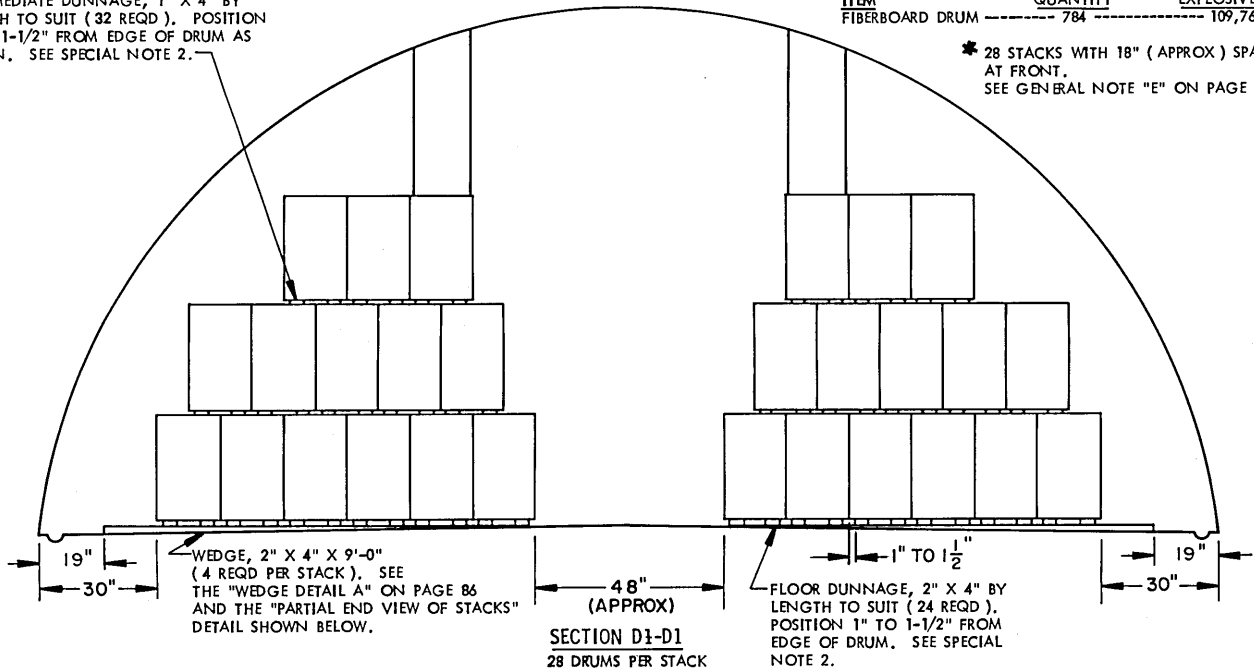
ITEM	QUANTITY	EXPLOSIVE WEIGHT
FIBERBOARD DRUM	1,596	223,440 LBS

\* STORAGE IN 40'-0" MAGAZINE

ITEM	QUANTITY	EXPLOSIVE WEIGHT
FIBERBOARD DRUM	784	109,760 LBS

\* 28 STACKS WITH 18" (APPROX) SPACE AT FRONT. SEE GENERAL NOTE "E" ON PAGE 2.

INTERMEDIATE DUNNAGE, 1" X 4" BY LENGTH TO SUIT (32 REQD). POSITION 1" TO 1-1/2" FROM EDGE OF DRUM AS SHOWN. SEE SPECIAL NOTE 2.

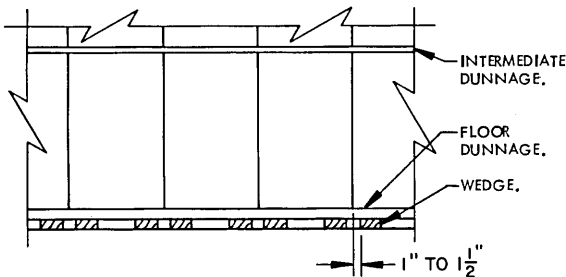


SECTION D1-D1  
28 DRUMS PER STACK

BILL OF MATERIAL (PER STACK)		
LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	42.67	14.22
2" X 4"	32.00	21.34
WEDGES PER STACK		
LUMBER	LENGTH	N.O. REQD
2" X 4"	9'-0"	4

SPECIAL NOTES:

- STORAGE AS SHOWN IS FOR A FIBERBOARD DRUM.  
DRUM DIMENSIONS --- 27-1/4" HIGH BY 16" DIAMETER.  
EXPLOSIVE WEIGHT --- 140 POUNDS.
- RANDOM LENGTHS OF LUMBER MAY BE USED FOR THE INTERMEDIATE AND FLOOR DUNNAGE.
- FIBERBOARD DRUMS, EXCEPT FOR NITROGUANIDINE AS SHOWN ON PAGE 67, WILL NOT BE STACKED MORE THAN THREE LAYERS HIGH.
- THE DRUMS IN EACH LAYER WILL BE STAGGERED ABOVE THE DRUMS IN THE LAYER UNDERNEATH, AS SHOWN.
- THE STORAGE PROCEDURES SHOWN ON THIS PAGE SHOULD ONLY BE USED WHEN STORING FIBERBOARD DRUMS SUCH AS THESE IN GEOGRAPHICAL AREAS IN WHICH THERE IS A HIGH HUMIDITY LEVEL. FOR PROCEDURES APPLICABLE TO THE STORAGE OF DRUMS IN GEOGRAPHICAL AREAS WHICH HAVE LOW HUMIDITY LEVELS, REFER TO PROCEDURES ON PAGE 53.

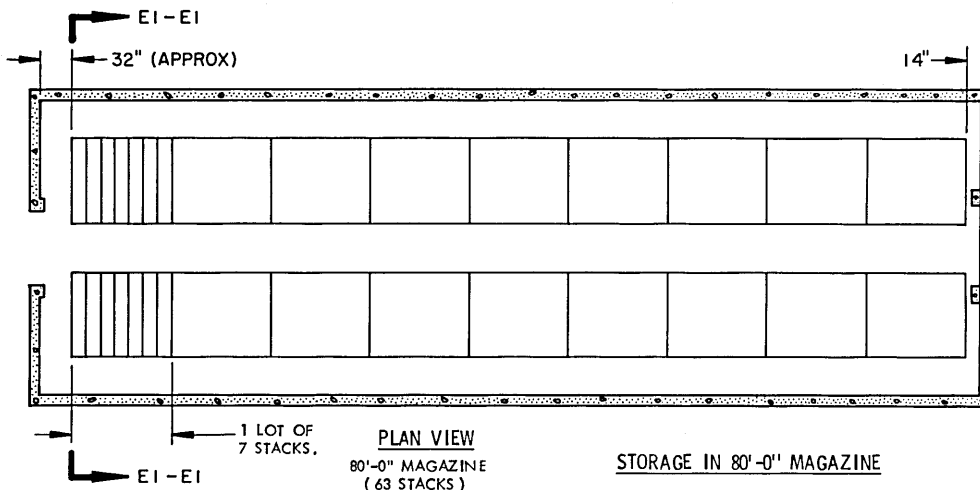


PARTIAL END VIEW OF STACKS

STORAGE METHOD B  
FIBERBOARD DRUM STORAGE, UNPALLETIZED

**SPECIAL NOTES:**

- STORAGE AS SHOWN IS FOR A FIBERBOARD DRUM.  
 DRUM DIMENSIONS ---  
 27-1/2" HIGH BY 14-1/2" DIAMETER.  
 EXPLOSIVE WEIGHT ---  
 50 POUNDS.
- THE NUMBERS SHOWN IN "SECTION E1-E1" INDICATE THE QUANTITY OF DRUMS PER LAYER IN EACH HALF OF THE STACK.
- EACH LOT CONSISTS OF 10,000 POUNDS (200 DRUMS), SIX (6) STACKS OF 30 DRUMS AND ONE (1) STACK OF 20 DRUMS.
- THE STORAGE PROCEDURES ON THIS PAGE SHOULD ONLY BE USED WHEN STORING FIBERBOARD DRUMS SUCH AS THESE IN GEOGRAPHICAL AREAS IN WHICH THERE IS A HIGH HUMIDITY LEVEL. FOR PROCEDURES APPLICABLE TO THE STORAGE OF NITROGUANIDINE IN GEOGRAPHICAL AREAS HAVING LOW HUMIDITY LEVELS, REFER TO THE STORAGE PROCEDURES ON PAGE 67.
- NITROGUANIDINE PACKED IN A 14.5" DIAMETER BY 17.04" HIGH DRUM AND PALLETIZED IN ACCORDANCE WITH NAVAL SEA SYSTEMS COMMAND DRAWING NR-53/B27 WILL BE STORED BY USING THE PROCEDURES SHOWN IN U.S. ARMY DARCOM DRAWING 19-48-4118-1-2-3-4-14-22PA1002.



**PLAN VIEW**  
 80'-0" MAGAZINE  
 (63 STACKS)

**STORAGE IN 80'-0" MAGAZINE**

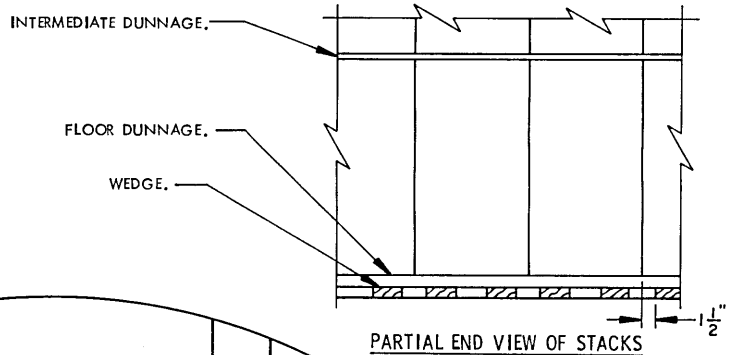
ITEM	QUANTITY	EXPLOSIVE WEIGHT
DRUM	1,800	90,000 LBS

**\*STORAGE IN 40'-0" MAGAZINE**

ITEM	QUANTITY	EXPLOSIVE WEIGHT
DRUM	800	40,000 LBS

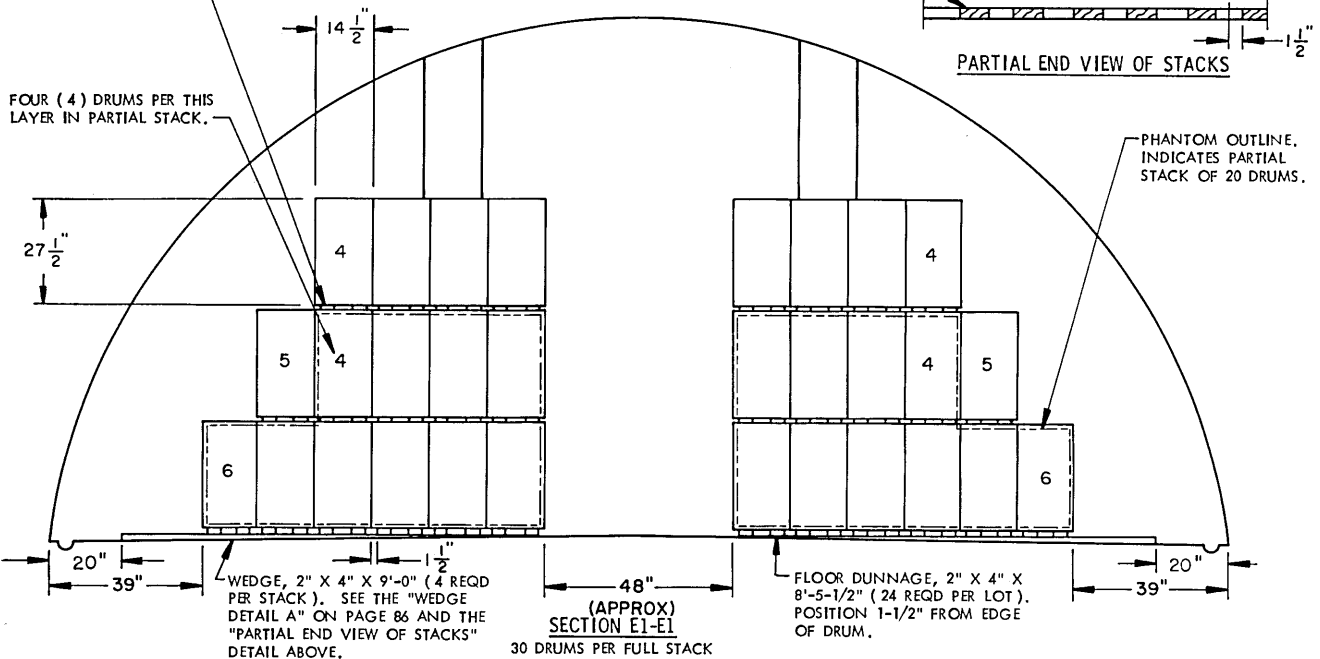
\* 28 STACKS WITH 60" (APPROX) SPACE REMAINING.  
 SEE GENERAL NOTE "E" ON PAGE 2.

BILL OF MATERIAL (PER LOT)		
LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	280.34	93.45
2" X 4"	203.00	135.34
WEDGES PER LOT		
LUMBER	LENGTH	NO. REQD
2" X 4"	9'-0"	28



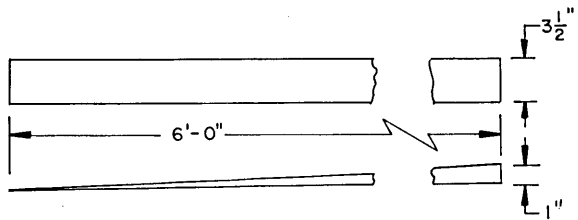
INTERMEDIATE DUNNAGE, 1" X 4" X 8'-5-1/2" (16 REQD PER LOT); 1" X 4" X 7'-3" (20 REQD PER LOT). POSITION 1-1/2" FROM EDGE OF DRUM AS SHOWN.

FOUR (4) DRUMS PER THIS LAYER IN PARTIAL STACK.



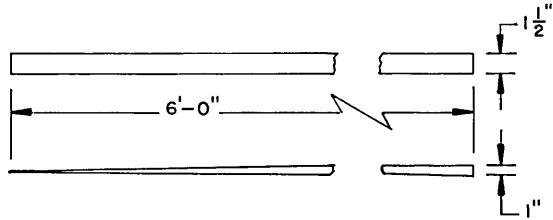
**SECTION E1-E1**  
 (APPROX)  
 30 DRUMS PER FULL STACK  
 20 DRUMS PER PARTIAL STACK

**STORAGE METHOD B**  
**NITROGUANIDINE (PACKED IN FIBERBOARD DRUMS)**



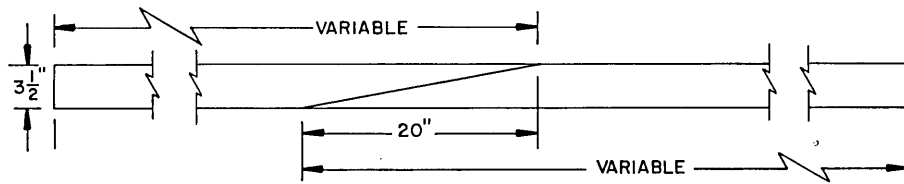
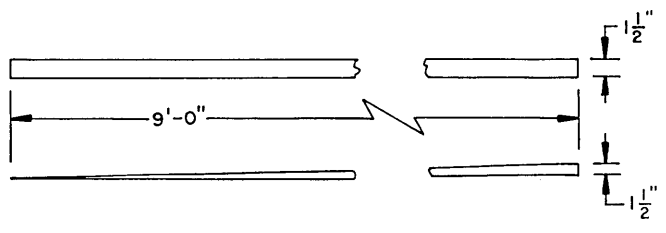
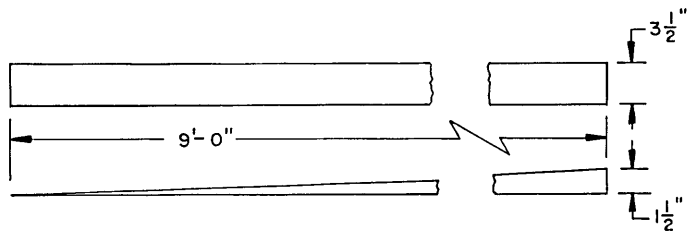
WEDGE DETAIL A

2" X 4" MATERIAL



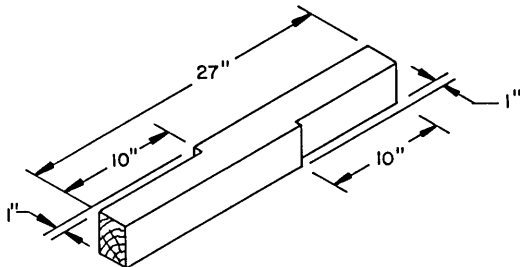
WEDGE DETAIL B

2" X 2" MATERIAL



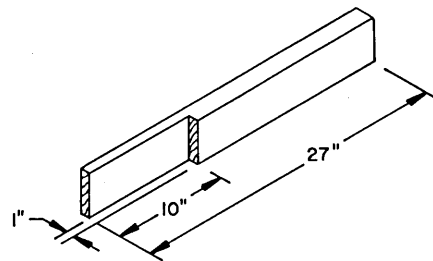
SPLICE DETAIL

1" X 4" OR 2" X 4" MATERIAL



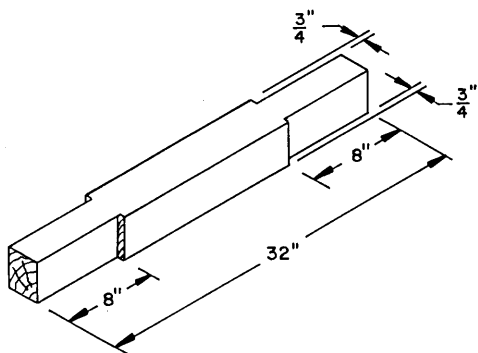
SUPPORT BLOCK A

4" X 4" MATERIAL, SEE SPECIAL NOTE 5 ON PAGE 68.



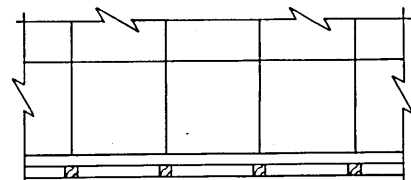
SUPPORT BLOCK B

2" X 4" MATERIAL, SEE SPECIAL NOTE 5 ON PAGE 68



SUPPORT BLOCK C

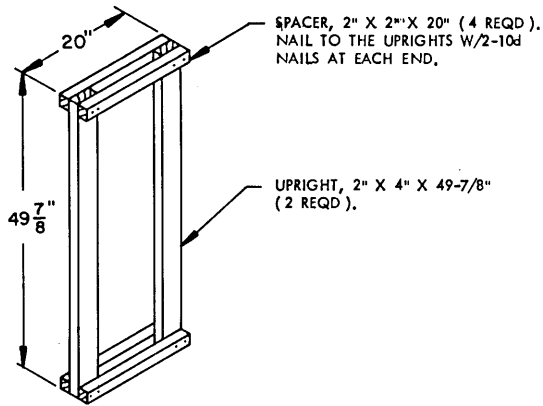
4" X 4" MATERIAL, SEE SPECIAL NOTE 5 ON PAGE 70.



PLACEMENT OF WEDGES

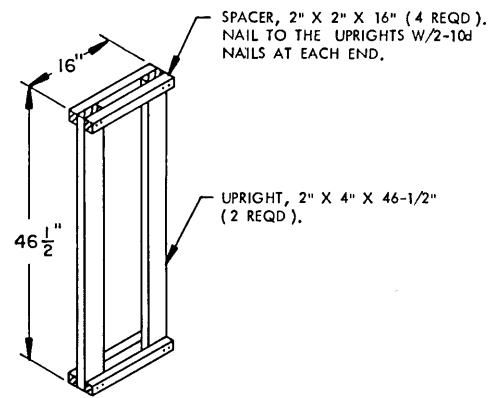
NOTE: WEDGES ARE CENTERED UNDER THE JOINTS BETWEEN STACKS.

DETAILS



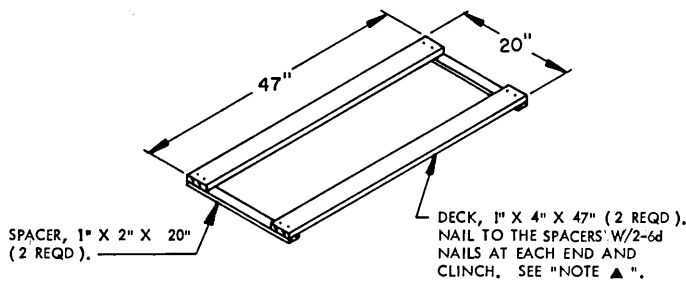
**SEPARATOR ASSEMBLY A**

FOR USE IN THE STORAGE SHOWN ON PAGE 34.



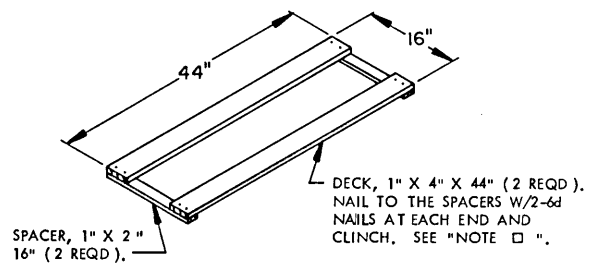
**SEPARATOR ASSEMBLY B**

FOR USE IN THE STORAGE SHOWN ON PAGE 35.



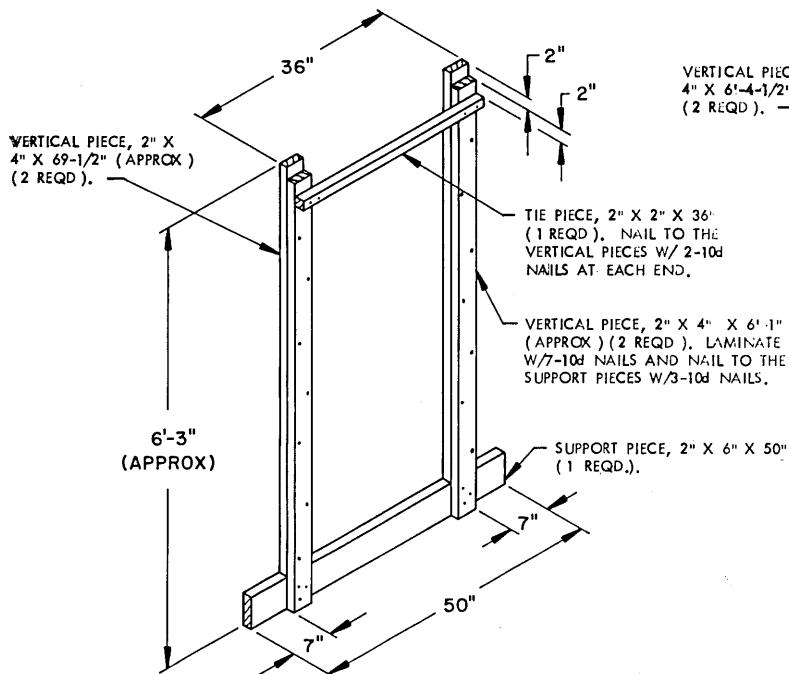
**DECK ASSEMBLY A**

NOTE ▲: 17 DECK ASSEMBLIES OF THIS SIZE SHOWN ABOVE AND ONE DECK ASSEMBLY 31" LONG ARE REQUIRED FOR THE STORAGE SHOWN ON PAGE 34.



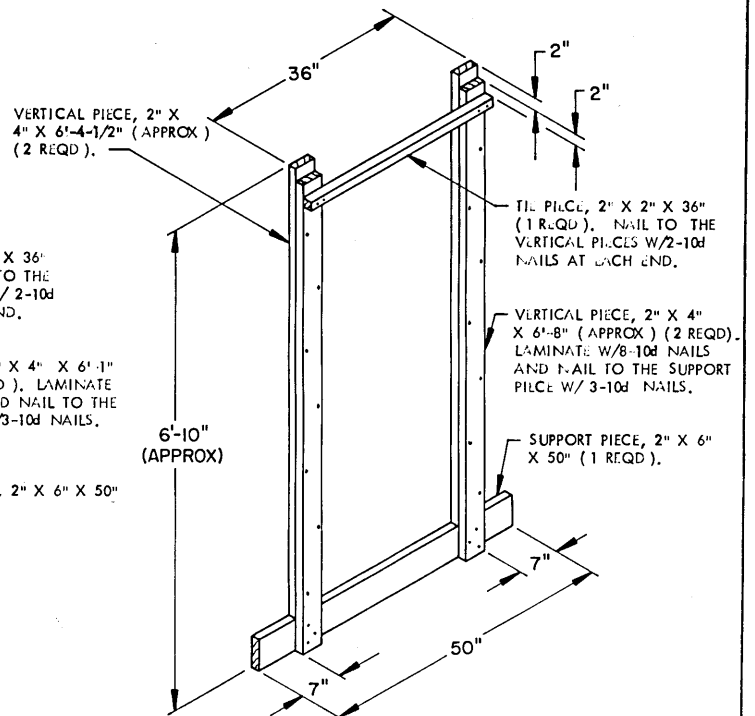
**DECK ASSEMBLY B**

NOTE □: 18 DECK ASSEMBLIES OF THIS SIZE SHOWN ABOVE AND ONE DECK ASSEMBLY 29-1/2" LONG ARE REQUIRED FOR THE STORAGE SHOWN ON PAGE 35.



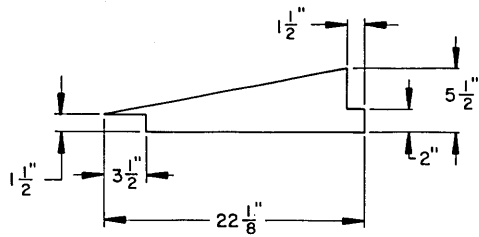
**RETAINER ASSEMBLY A**

SEE SPECIAL NOTE 7 ON PAGE 71.

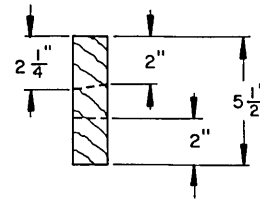


**RETAINER ASSEMBLY B**

SEE SPECIAL NOTE 7 ON PAGE 74.

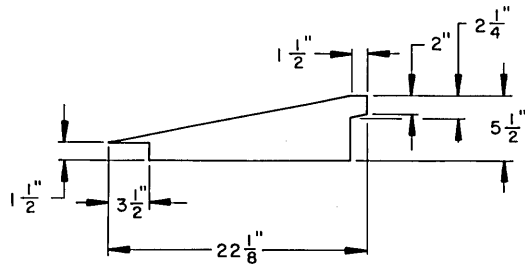


**BRACE A**  
2" X 6" MATERIAL

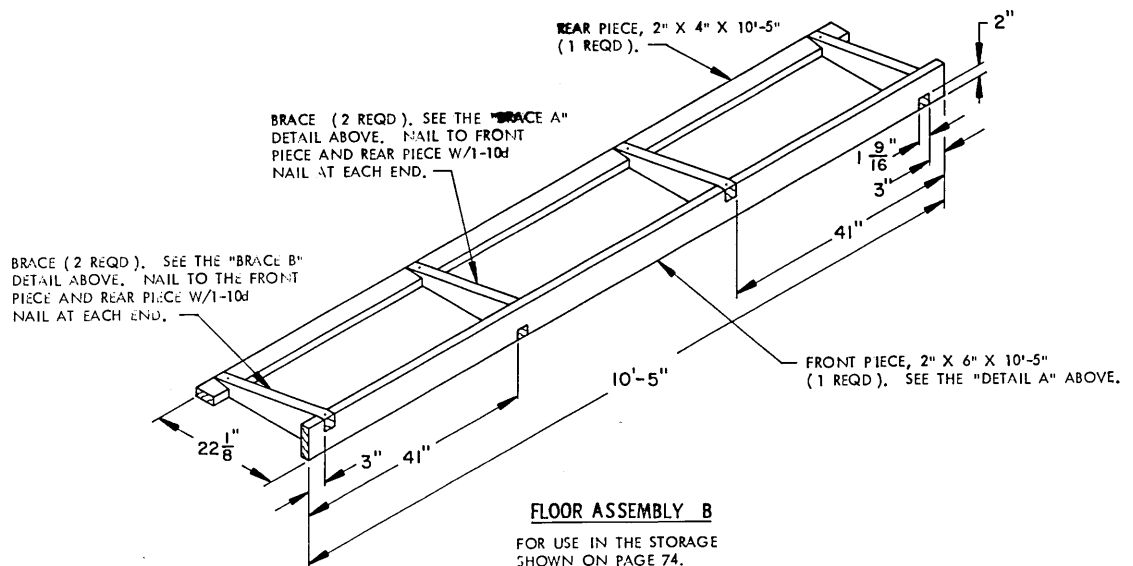
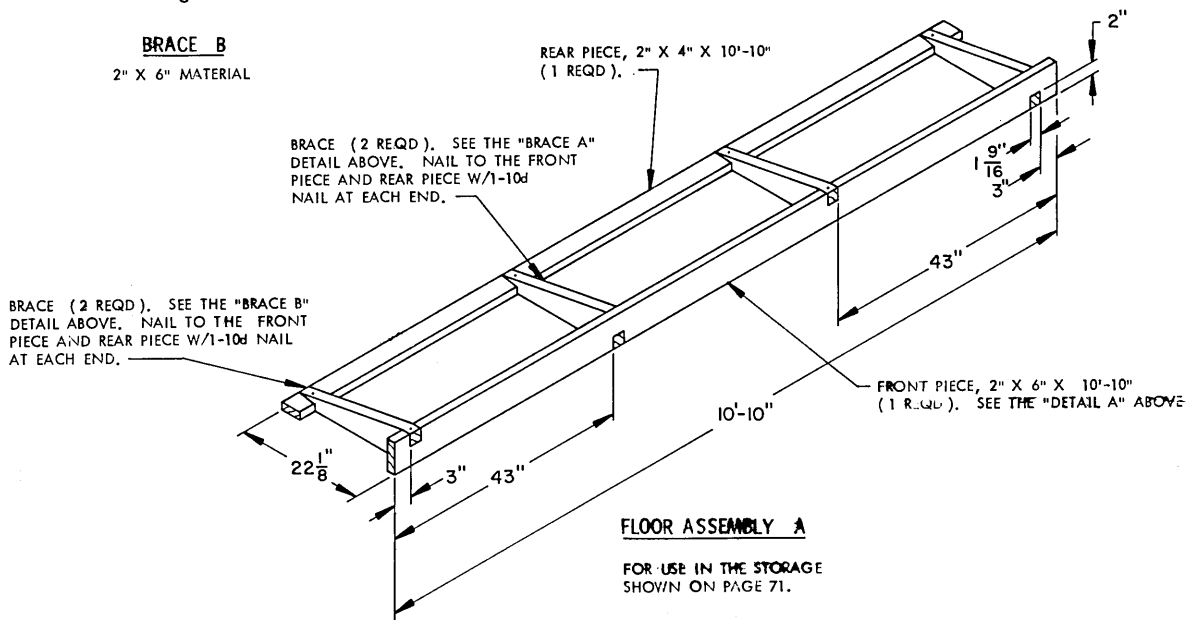


**DETAIL A**

THE END VIEW OF THE FRONT PIECE DEPICTED ABOVE SHOWS DIMENSIONS OF THE NOTCHES.

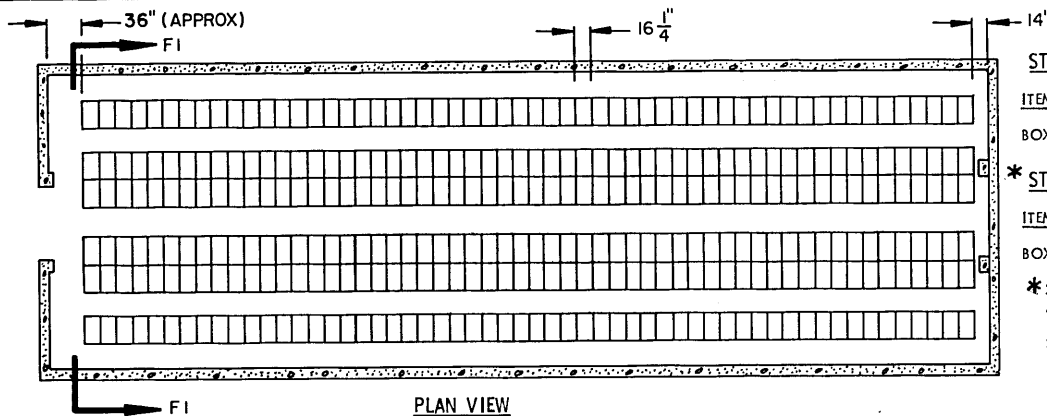


**BRACE B**  
2" X 6" MATERIAL



**DETAILS**





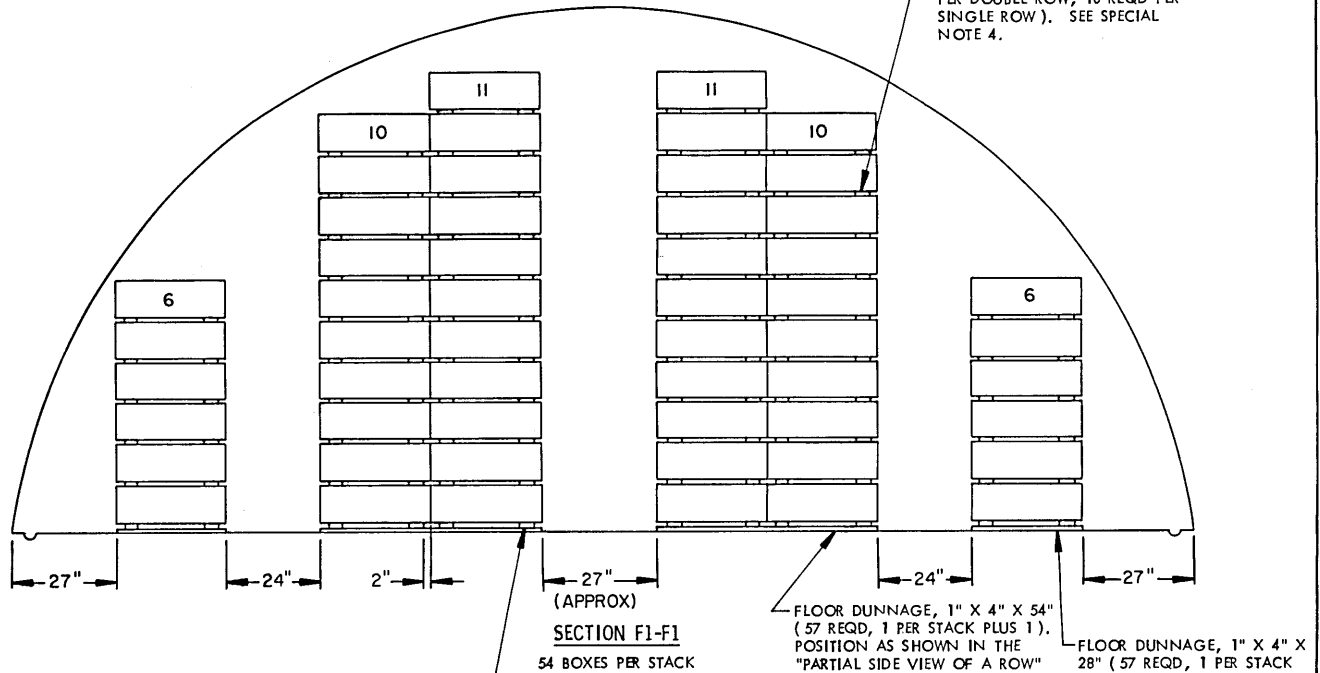
**PLAN VIEW**  
80'-0" MAGAZINE  
(56 STACKS)

STORAGE IN 80'-0" MAGAZINE		
ITEM	QUANTITY	EXPLOSIVE WEIGHT
BOXES	3,024	332,640 LBS

* STORAGE IN 40'-0" MAGAZINE		
ITEM	QUANTITY	EXPLOSIVE WEIGHT
BOXES	1,458	160,380 LBS

\* 27 STACKS WITH 27" (APPROX) SPACE AT FRONT.  
SEE GENERAL NOTE "E" ON PAGE 2.



**SECTION F1-F1**  
54 BOXES PER STACK

BILL OF MATERIAL (PER DOUBLE ROW) *		
LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	3,139	1,047
2" X 4"	304	203
(PER SINGLE ROW) **		
LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	892	298
2" X 4"	152	102

SUPPORT PIECE, 2" X 4" BY RANDOM LENGTHS (4 REQD PER DOUBLE ROW, 2 REQD PER SINGLE ROW). SEE SPECIAL NOTE 3.

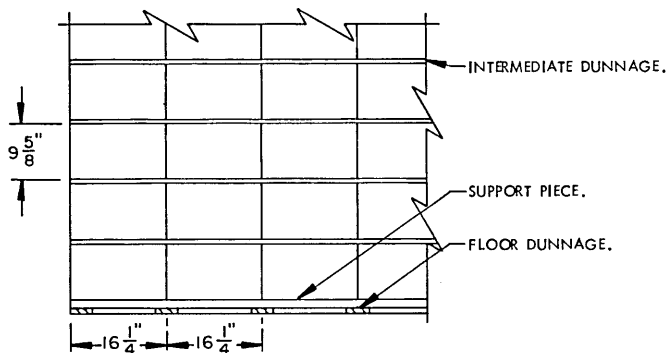
FLOOR DUNNAGE, 1" X 4" X 54" (57 REQD, 1 PER STACK PLUS 1). POSITION AS SHOWN IN THE "PARTIAL SIDE VIEW OF A ROW" BELOW.

FLOOR DUNNAGE, 1" X 4" X 28" (57 REQD, 1 PER STACK PLUS 1). POSITION AS SHOWN IN THE "PARTIAL VIEW OF A ROW" BELOW.

**SPECIAL NOTES:**

- STORAGE AS SHOWN IS FOR THE M2 AND MK VII STEEL BOX.  
BOX DIMENSIONS --- 16-1/4" LONG BY 9-5/8" WIDE BY 28-3/8" HIGH.  
EXPLOSIVE WEIGHT --- 110 POUNDS PER BOX.
- THE NUMBERS SHOWN IN THE SECTION VIEW INDICATE THE QUANTITY OF BOXES HIGH IN A STACK.
- JOINTS IN THE SUPPORT PIECES MUST BE CENTERED ON THE FLOOR DUNNAGE PIECES AS NEAR AS POSSIBLE. JOINTS IN LATERALLY ADJACENT SUPPORT PIECES NEED NOT BE STAGGERED.
- RANDOM LENGTH MATERIAL, OF NOT LESS THAN 48", MAY BE USED FOR THE 1" X 4" INTERMEDIATE DUNNAGE PIECES. THE JOINTS IN THE INTERMEDIATE DUNNAGE SHOULD BE CENTERED UNDER THE LENGTH OF THE BOX, AND LATERALLY ADJACENT JOINTS MUST BE LOCATED AT LEAST 16" FROM EACH OTHER. ALSO, THE JOINTS IN AN UPPER LAYER OF A ROW MUST BE STAGGERED AT LEAST 16" FROM THE JOINTS IN THE NEXT LOWER LAYER.
- CONTAINERS MAY BE STACKED TO ALLOW EASE OF ACCESS FOR INSPECTION BASED ON OPERATIONAL AND STORAGE CONDITIONS. THE SELECTION OF A STORAGE PROCEDURE FROM THOSE DEPICTED ON PAGES 70 AND 71 OR ON THIS PAGE, IS THE OPTION OF THE STORING ACTIVITY.

- ONE DOUBLE ROW STACK REQUIRES 56.0 LINEAR FEET OF 1" X 4" PLUS 1 PIECE 54" LONG, AND 5.42 LINEAR FEET OF 2" X 4".
- ONE SINGLE ROW STACK REQUIRES 15.88 LINEAR FEET OF 1" X 4" PLUS 1 PIECE 28" LONG, AND 2.71 LINEAR FEET OF 2" X 4".



**PARTIAL SIDE VIEW OF A ROW**

STORAGE METHOD C  
POWDER, PROPELLANT (PACKED IN STEEL BOX, M2 AND MK VII)

