

STORAGE IN 80'-0" AND 40'-0" L X  
 25'-0" W X 10'-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				DRAWN BY <i>dh</i>	PROJ. ENG. <i>RHA/WRF</i>	INSTR. (RD) <i>WRF (RS)</i>
1	JUL 86	<i>WRF</i> <i>WRF</i>	<i>W Martin</i> <i>William F. Ernst</i>	CHECKER <i>W F Ernst</i>	LOG. ENG. OFFICE <i>W F Ernst</i>	
2	OCT 88	<i>WRF</i> <i>WRF</i>	<i>W B Hermsie</i> <i>William F. Ernst</i>			
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				U.S. ARMY AMC DRAWING		
				JULY 1986		
				CLASS	DIVISION	DRAWING
				19	48	4007/5
						FILE IM1000

DO NOT SCALE

## 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 10"-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 I, 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 OPEN AND AT INTERVALS NOT TO EXCEED ONE (1) HOUR.
  - (2) IN ORDER TO AFFORD MAXIMUM ASSURANCE OF FREEDOM OF ANY CONCENTRATION OF CONTAMINATION 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 PAGE 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.

## 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 1, TYPE I OR IV, HEAVY DUTY, FINISH B (GRADE 2), FED SPEC QQ-S-781.
- SEAL, STRAP----- : TYPE D, STYLE I, II, OR IV, CLASS H, FINISH B (GRADE 2), FED SPEC QQ-S-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 PAGE 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 WHENEVER 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 EQUIVALENT: 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 25.4 MM, AND ONE POUND EQUALS 0.454 KG.
- 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 JULY 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 FLOOR DUNNAGE AND INTERMEDIATE DUNNAGE ON PAGES 42 THRU 45 AND PAGE 53 TO BE LONGITUDINAL.
4. ADDING SPECIAL PROCEDURES ON PAGES 80 THRU 85 FOR STORAGE OF 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 MKVII.

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

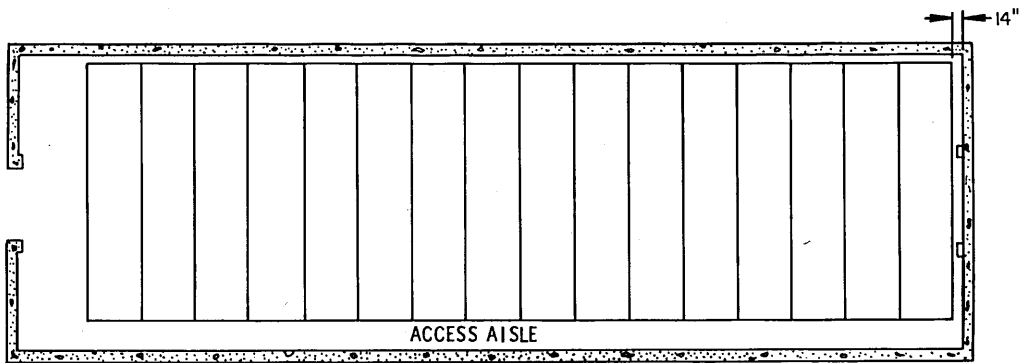
1. REMOVING PALLETIZED TNT FROM PAGES 46 AND 47, AND REPLACING WITH SMALL LOT STORAGE PROCEDURES.
2. UPDATING SPECIAL NOTES.

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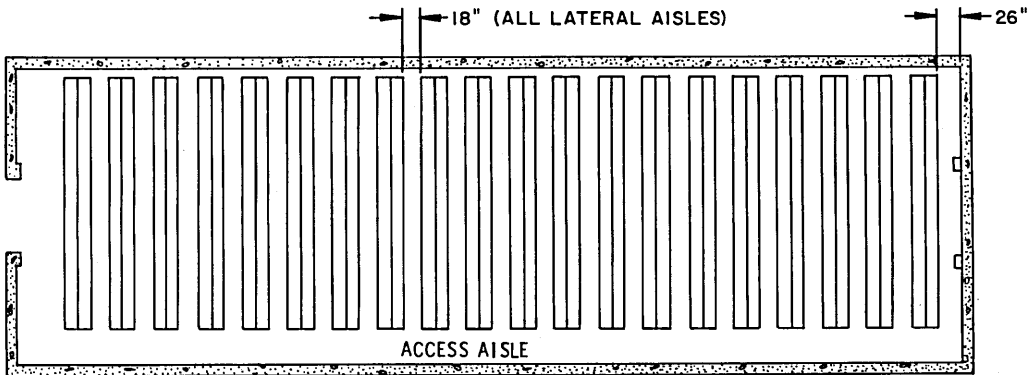
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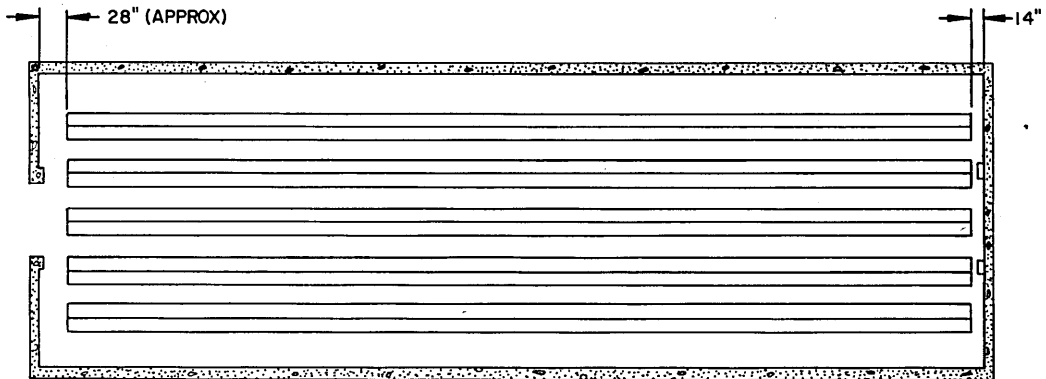
TYPICAL PLAN VIEW A

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



TYPICAL PLAN VIEW B

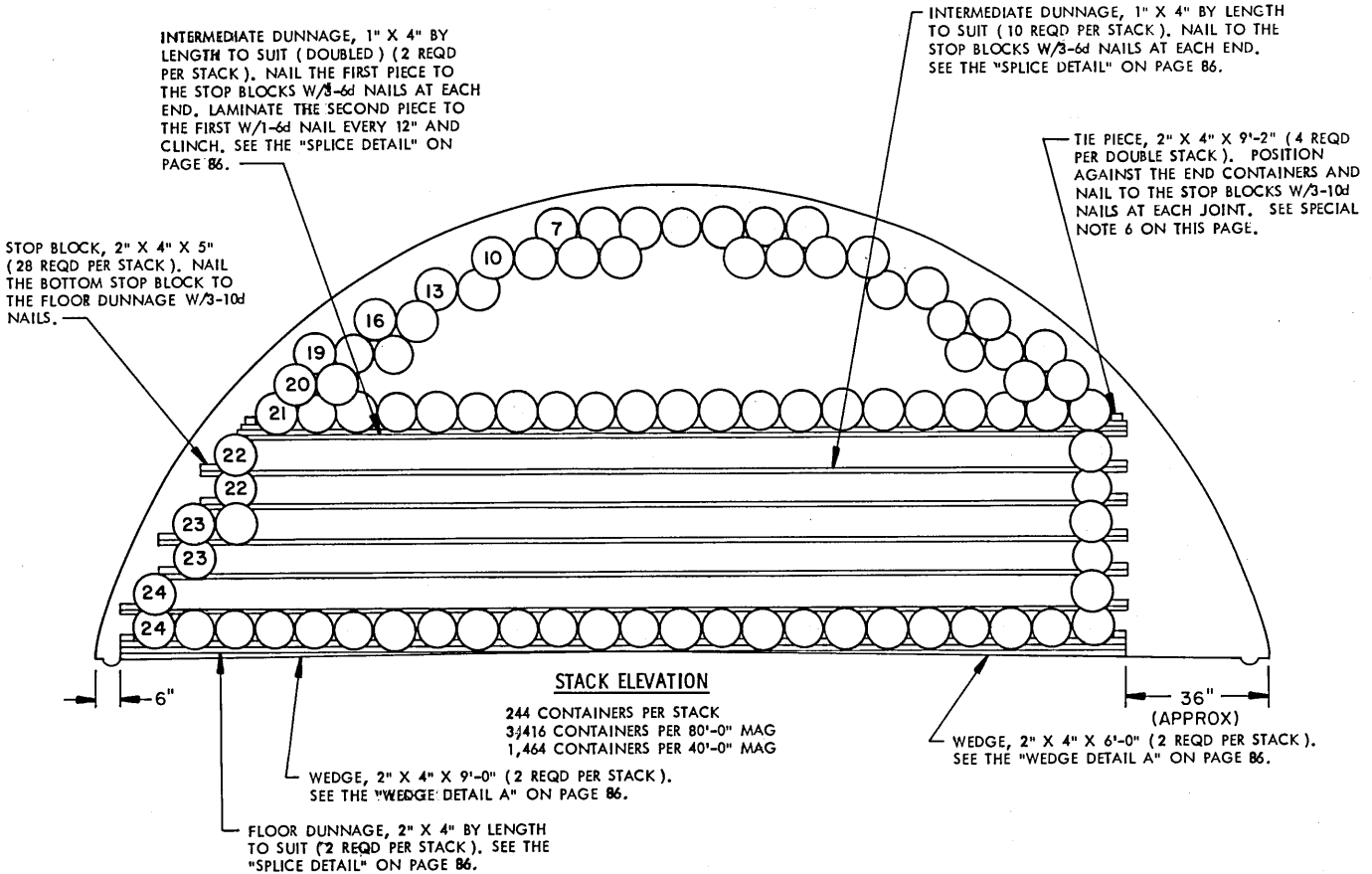
FOR USE WITH STORAGE METHODS SHOWN ON PAGES 68 THRU 71 AND 74 THRU 77. 80'-0" MAGAZINES SHOWN. QUANTITY OF STACKS SHOWN ABOVE IS TYPICAL.



TYPICAL PLAN VIEW C

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

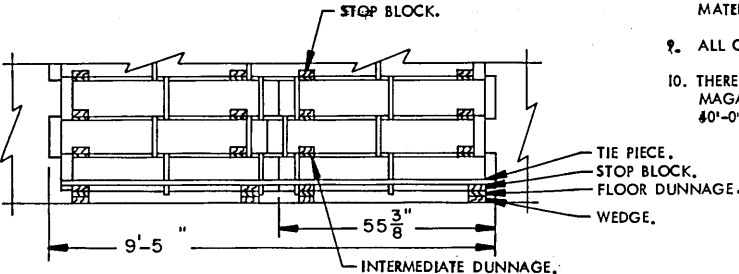
TYPICAL PLAN VIEWS



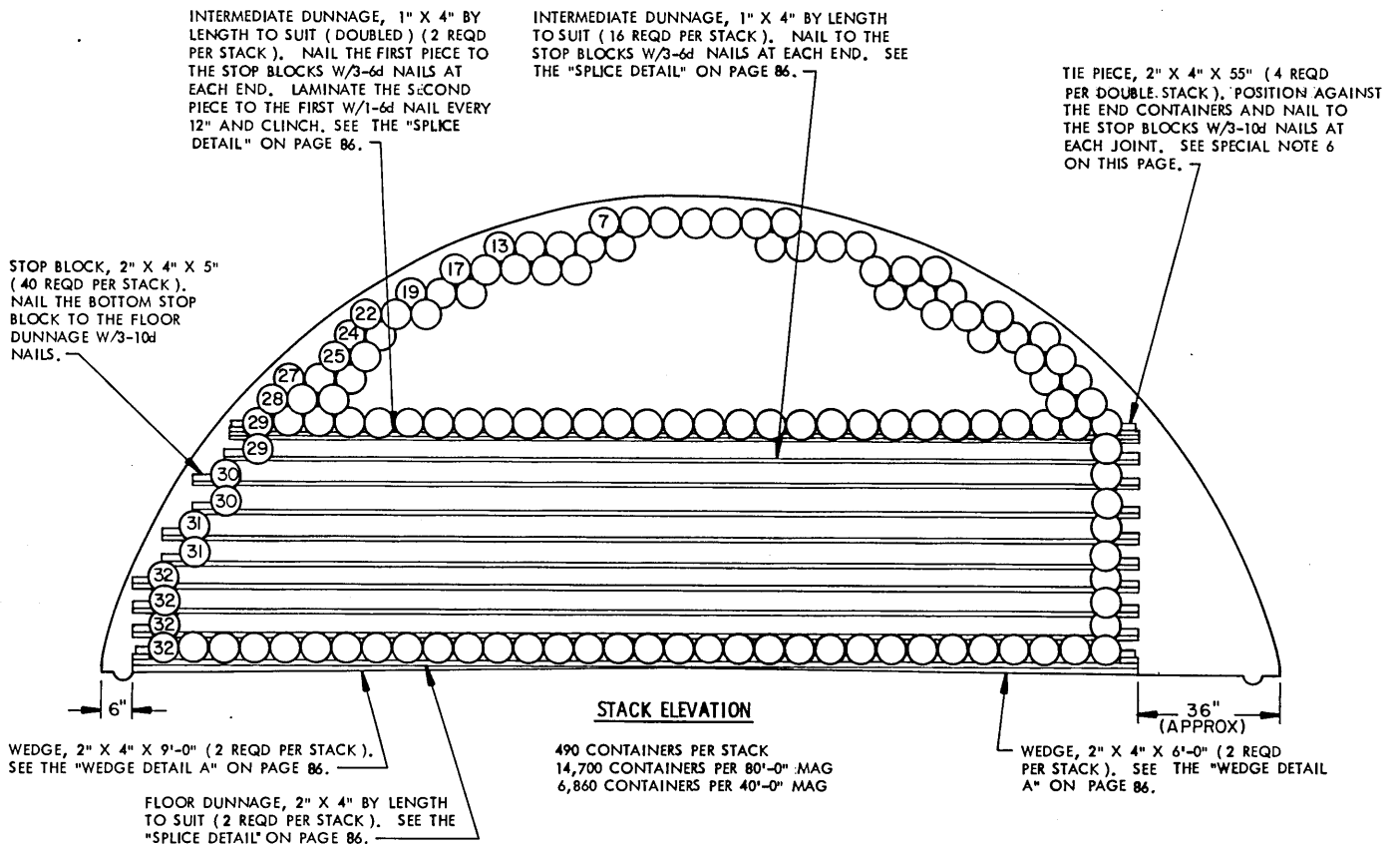
BILL OF MATERIAL ( PER STACK )		
LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	306	102
2" X 4"	77	52
NAILS		POUNDS
6d (2")	112	3/4
10d (3")	36	3/4
WEDGES PER STACK		
LUMBER	LENGTH	NO. REQD
2" X 4"	6'-0"	2
2" X 4"	9'-0"	2

**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 "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 SEVEN (7) ARE NESTED.
- THERE WILL BE APPROXIMATELY 12'-6" OF SPACE AT THE FRONT OF AN 80'-0" LONG MAGAZINE. THERE WILL BE APPROXIMATELY 10'-5" OF SPACE AT THE FRONT OF A 40'-0" LONG MAGAZINE.



**PARTIAL END VIEW OF DOUBLE STACK**

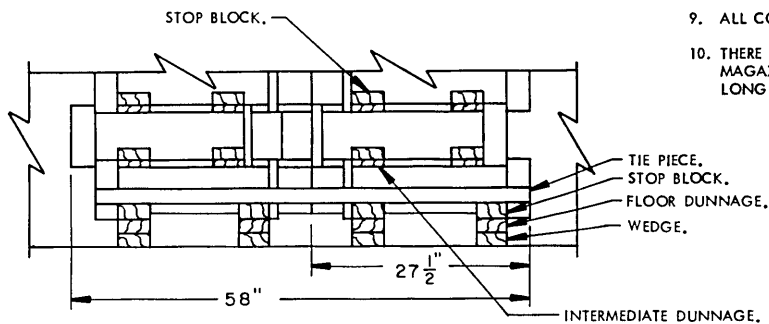


**SPECIAL NOTES:**

1. 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.
2. WHEN STORING THE M13A1 CONTAINER IT MAY BE NECESSARY TO ELIMINATE SOME CONTAINERS FROM EACH LAYER DUE TO SLIGHTLY LARGER DIAMETER OF THE CONTAINER.
3. THE NUMBERS SHOWN IN THE STACK ELEVATION INDICATE THE QUANTITY OF CONTAINERS PER LAYER IN A STACK.
4. SEE THE "TYPICAL PLAN VIEW A" ON PAGE 4.
5. STORE IN DOUBLE STACKS FOR BETTER STABILITY. SEE THE "PARTIAL END VIEW OF DOUBLE STACK" ON THIS PAGE.
6. 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.
7. NOTE: JOINTS IN INTERMEDIATE DUNNAGE MUST BE STAGGERED BOTH HORIZONTALLY AND VERTICALLY.
8. THE INTERMEDIATE DUNNAGE POSITIONED IMMEDIATELY UNDER THE NESTED CONTAINERS AT THE TOP OF THE STACK WILL BE OF DOUBLE THICKNESS 1" X 4" MATERIAL.
9. ALL CONTAINERS POSITIONED ABOVE LAYER TEN ( 10 ) ARE NESTED.
10. THERE WILL BE APPROXIMATELY 6'-4" OF SPACE AT THE FRONT OF AN 80'-0" LONG MAGAZINE. THERE WILL BE APPROXIMATELY 60" OF SPACE AT THE FRONT OF A 40'-0" LONG MAGAZINE.

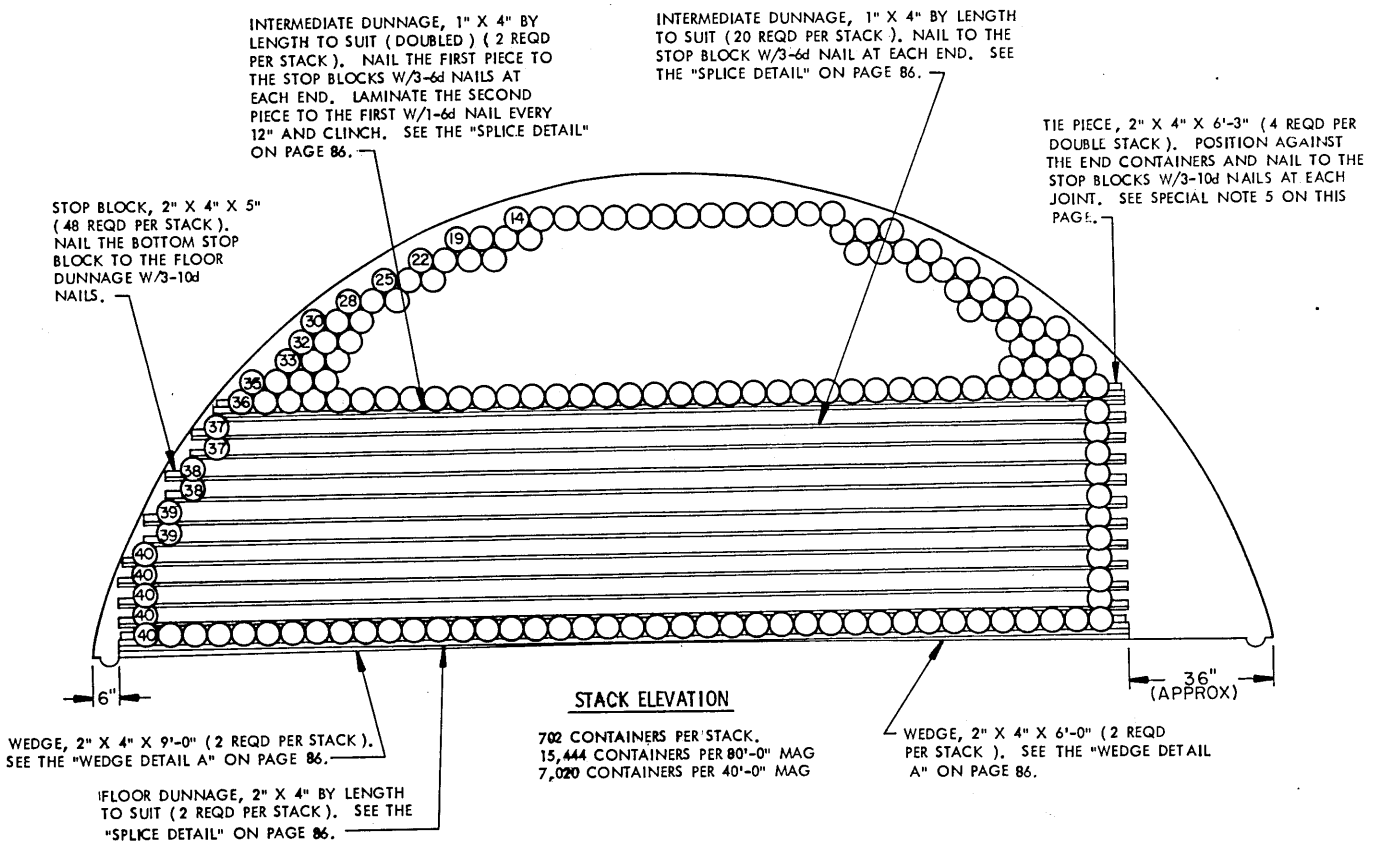
**BILL OF MATERIAL ( PER STACK )**

LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	493	165
2" X 4"	73	49
NAILS		
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**

**CHARGE, PROPELLING, IN M13 SERIES CONTAINER**



**STACK ELEVATION**

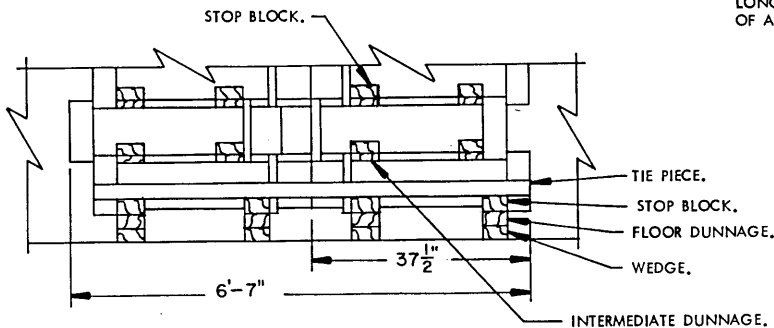
702 CONTAINERS PER STACK.  
 15,444 CONTAINERS PER 80'-0" MAG  
 7,020 CONTAINERS PER 40'-0" MAG

**SPECIAL NOTES:**

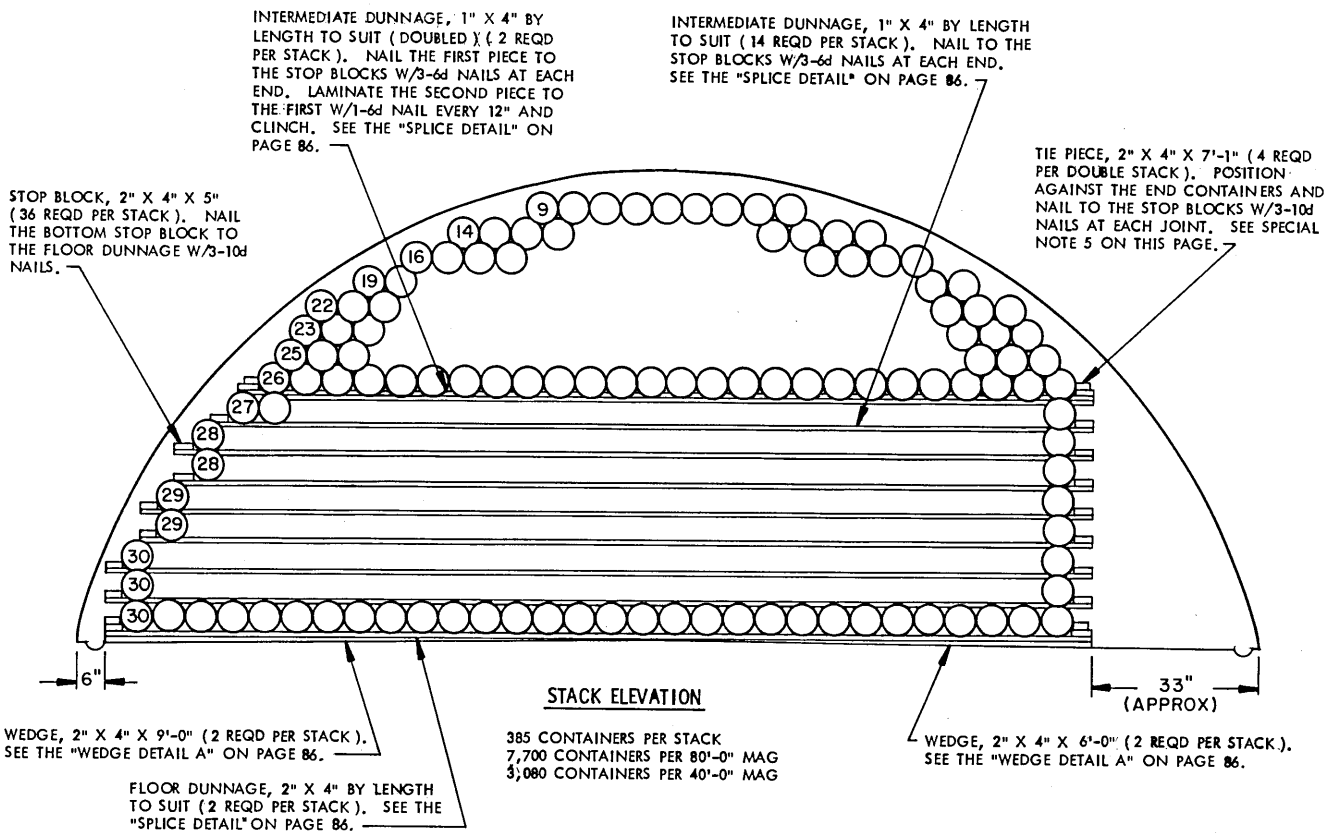
- STORAGE AS SHOWN IS FOR THE M14 CONTAINER. USE THIS SAME STORAGE FORMAT FOR ALL M14 SERIES CONTAINERS.  
 CONTAINER DIMENSIONS----- 37-1/2" LONG BY 6-11/16" DIAMETER.
- THE NUMBERS SHOWN IN THE STACK ELEVATION INDICATE THE QUANTITY OF CONTAINERS PER LAYER IN A STACK.
- SEE THE "TYPICAL PLAN VIEW A" ON PAGE 4.
- STORE IN DOUBLE STACKS FOR BETTER STABILITY. SEE THE "PARTIAL END VIEW OF DOUBLE STACK" ON THIS PAGE.
- NOTE:** THE "TIE PEICE" EQUALS THE APPROXIMATE LENGTH OF TWO (2) CONTAINERS AND AIDS IN STABILIZING THE STACKS. A "TIE PEICE IS USED ONLY ON THE BOTTOM LAYER AND TOP LAYER OF DUNNAGE.
- NOTE:** JOINTS IN INTERMEDIATE DUNNAGE MUST BE STAGGERED BOTH HORIZONTALY 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 6'-5" OF SPACE AT THE FRONT OF AN 80'-0" LONG MAGAZINE, THERE WILL BE APPROXIMATELY 71" OF SPACE AT THE FRONT OF A 40'-0" LONG MAGAZINE.

**BILL OF MATERIAL ( PER STACK )**

LUMBER	LINEAR FEET	BOARD FEET.
1" X 4"	572	191
2" X 4"	83	56
NAHLS	NO. REQD	POUNDS
6d (2")	174	1-1/4
10d (3")	36	3/4
WEDGES PER STACK		
LUMBER	LENGTH	NO. REQD
2" X 4"	6'-0"	2
2" X 4"	9'-0"	2



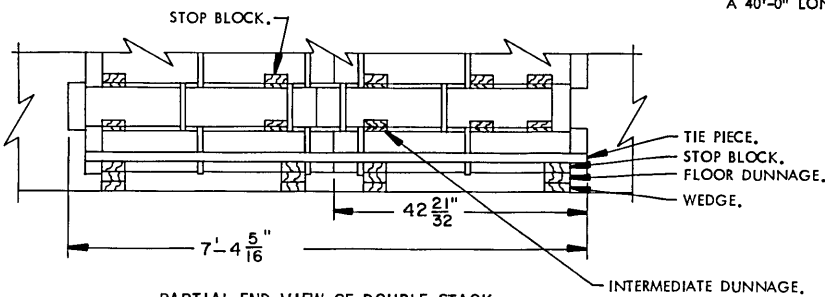
**PARTIAL END VIEW OF DOUBLE STACK**



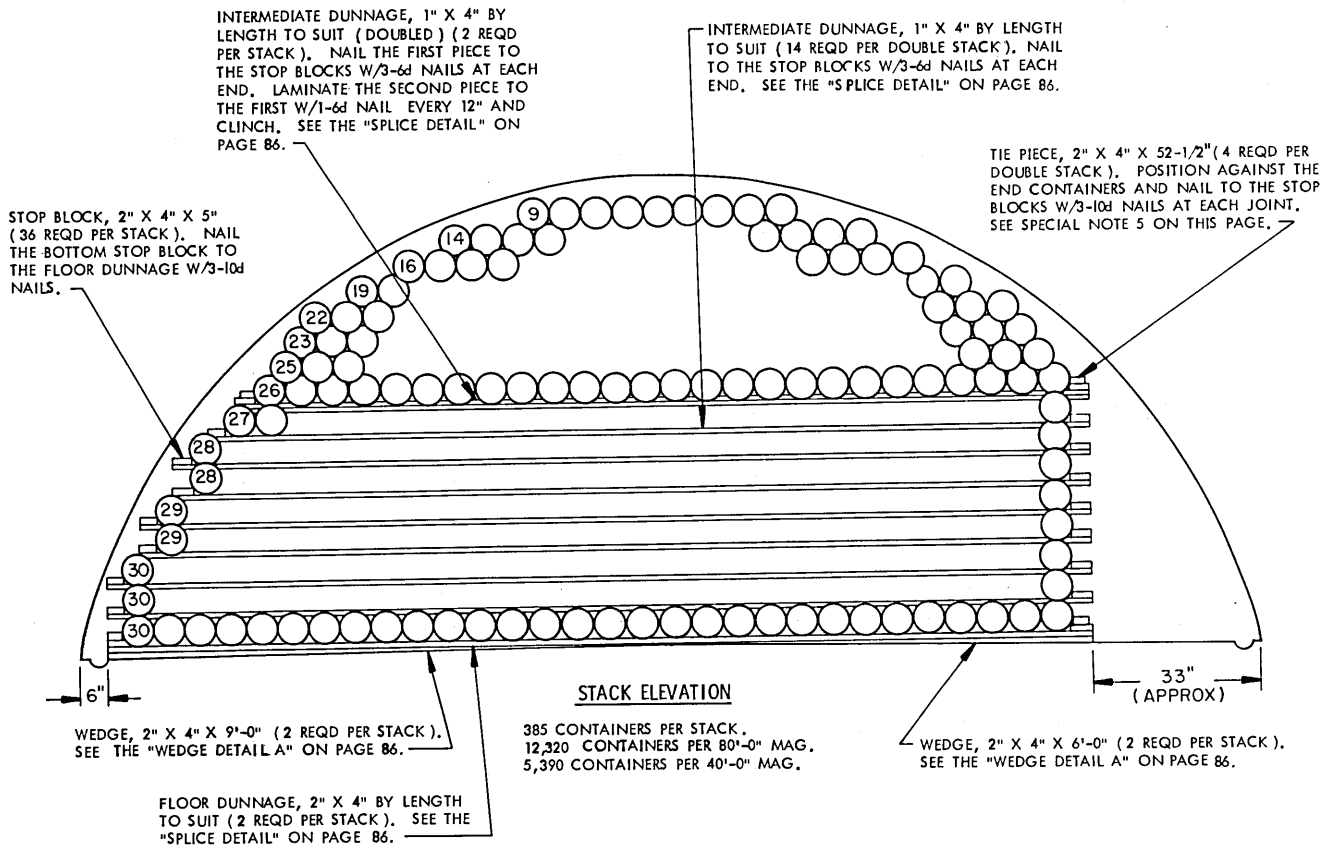
BILL OF MATERIAL ( PER STACK )		
LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	400	134
2" X 4"	77	52
NAILS	NO. REQD	POUNDS
6d ( 2" )	136	1
10d ( 3" )	36	3/4
WEDGES PER STACK		
LUMBER	LENGTH	NO. REQD
2" X 4"	6'-0"	2
2" X 4"	9'-0"	2

**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 NINE ( 9 ) ARE NESTED.
- THERE WILL BE APPROXIMATELY 63" OF SPACE AT THE FRONT OF AN 80'-0" LONG MAGAZINE. THERE WILL BE APPROXIMATELY 9'-5" OF SPACE AT THE FRONT OF A 40'-0" LONG MAGAZINE.







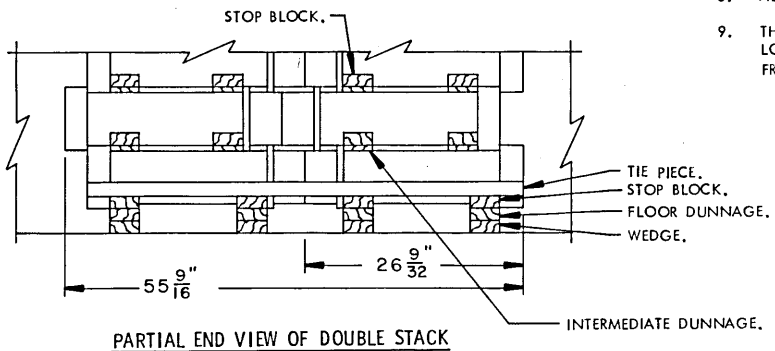
**STACK ELEVATION**

385 CONTAINERS PER STACK.  
 12,320 CONTAINERS PER 80'-0" MAG.  
 5,390 CONTAINERS PER 40'-0" MAG.

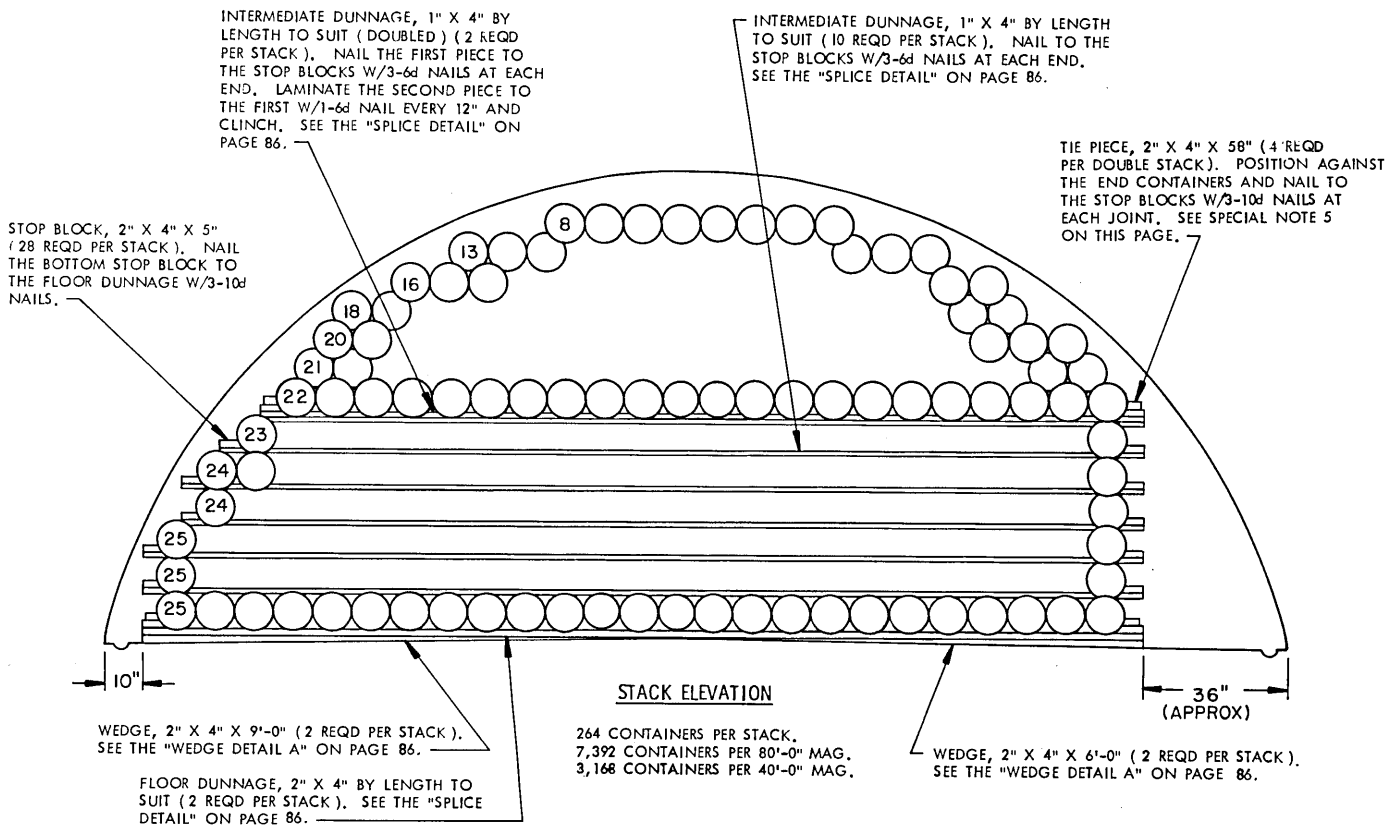
BILL OF MATERIAL (PER STACK)		
LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	400	134
2" X 4"	71	48
NAILS	NO. REQD	POUNDS
6d (2")	136	1
10d (3")	36	3/4
WEDGE PER STACK		
LUMBER	LENGTH	NO. REQD
2" X 4"	6'-0"	2
2" X 4"	9'-0"	2

**SPECIAL NOTES:**

- STORAGE AS SHOWN IS FOR THE 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 THE 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 6'-5" OF SPACE AT THE FRONT OF AN 80'-0" LONG MAGAZINE. THERE WILL BE APPROXIMATELY 57" OF SPACE AT THE FRONT OF A 40'-0" LONG MAGAZINE.



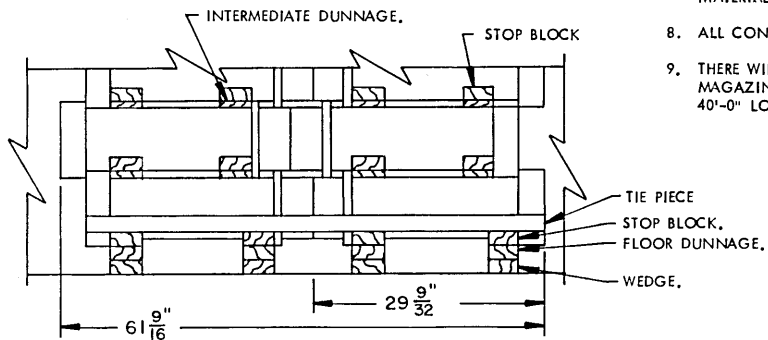
**PARTIAL END VIEW OF DOUBLE STACK**



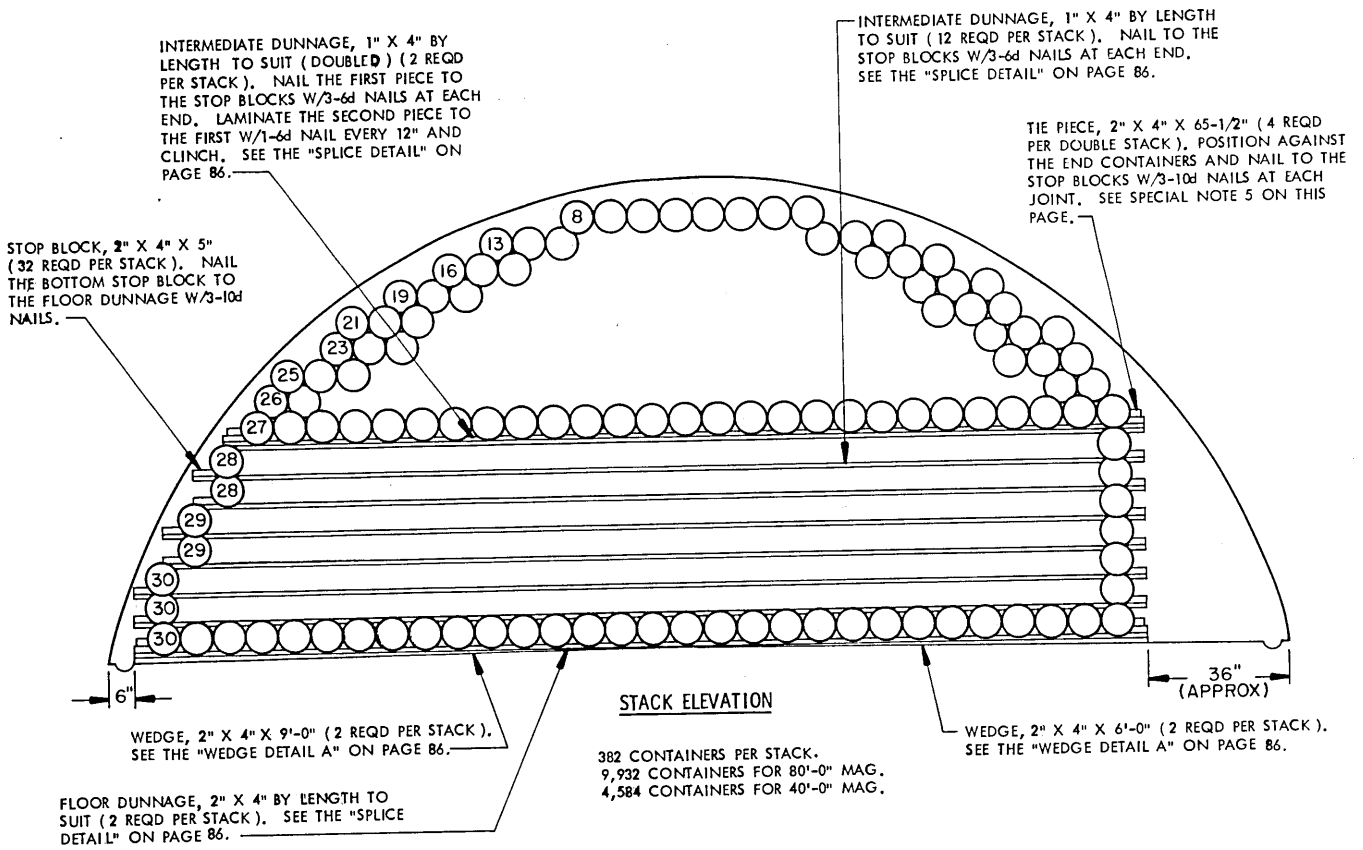
BILL OF MATERIAL ( PER STACK )		
LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	305	102
2" X 4"	68	46
NAILS	NO. REQD	POUNDS
6d ( 2" )	134	1
10d ( 3" )	36	3/4
WEDGES PER STACK		
LUMBER	LENGTH	NO. REQD
2" X 4"	6'-0"	2
2" X 4"	9'-0"	2

**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 SEVEN ( 7 ) ARE NESTED.
- THERE WILL BE APPROXIMATELY 8'-1" OF SPACE AT THE FRONT OF AN 80'-0" LONG MAGAZINE. THERE WILL BE APPROXIMATELY 7'-1" OF SPACE AT THE FRONT OF A 40'-0" LONG MAGAZINE.



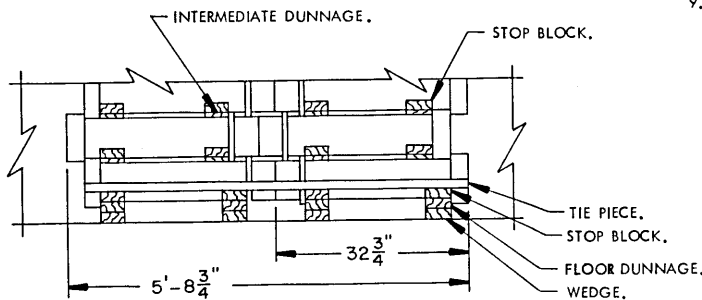
**PARTIAL END VIEW OF DOUBLE STACK**



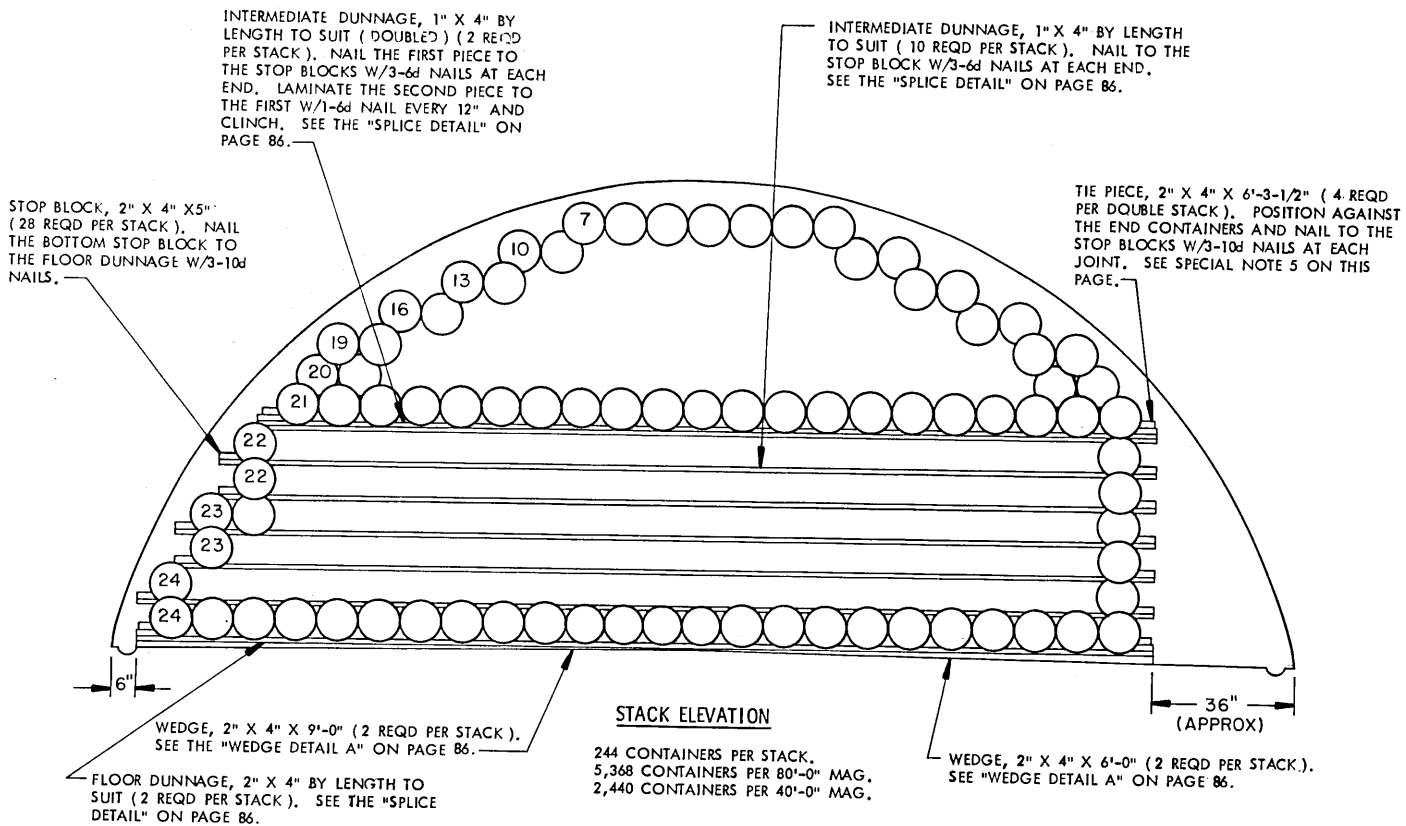
**SPECIAL NOTES:**

- 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.
- 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 THE 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 53" OF SPACE AT THE FRONT OF AN 80'-0" LONG MAGAZINE. THERE WILL BE APPROXIMATELY 54" OF SPACE AT THE FRONT OF A 40'-0" LONG MAGAZINE.

BILL OF MATERIAL ( PER STACK )		
LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	360	120
2" X 4"	72	48
NAILS	NO. REQD	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



**PARTIAL END VIEW OF DOUBLE STACK**



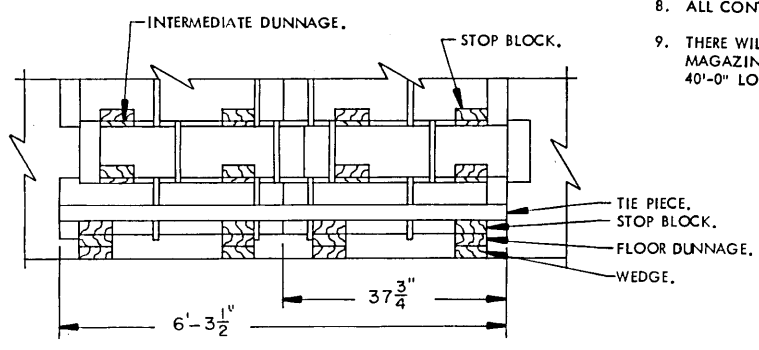
**STACK ELEVATION**

244 CONTAINERS PER STACK.  
 5,368 CONTAINERS PER 80'-0" MAG.  
 2,440 CONTAINERS PER 40'-0" MAG.

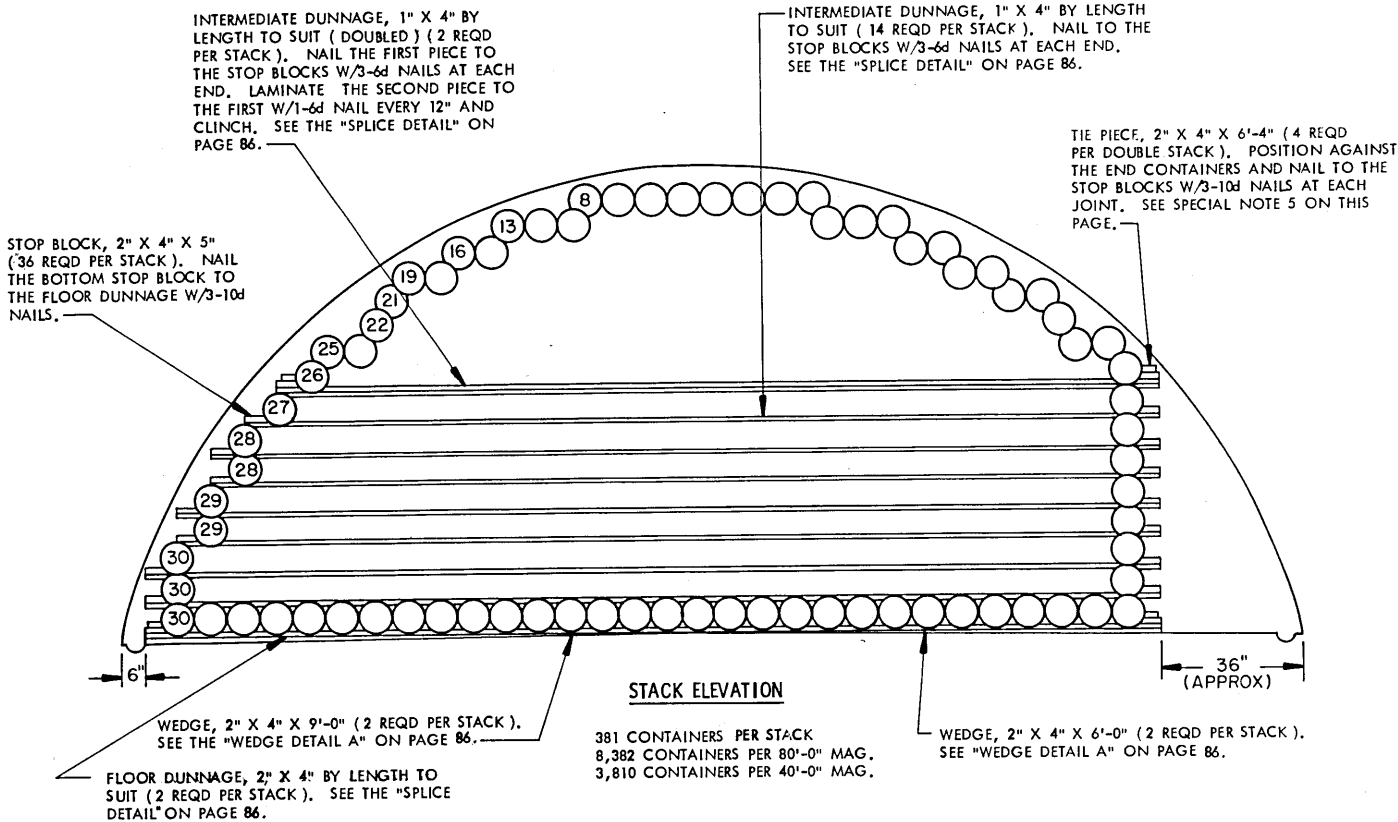
BILL OF MATERIAL ( PER STACK )		
LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	308	103
2" X 4"	72	48
NAILS		POUNDS
6d (2")	112	3/4
10d (3")	36	3/4
WEDGES PER STACK		
LUMBER	LENGTH	NO. REQD
2" X 4"	6'-0"	2
2" X 4"	9'-0"	2

**SPECIAL NOTES:**

- STORAGE AS SHOWN IS FOR THE 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 SEVEN (7) ARE NESTED.
- THERE WILL BE APPROXIMATELY 9'-7" OF SPACE AT THE FRONT OF AN 80'-0" LONG MAGAZINE. THERE WILL BE APPROXIMATELY 7'-5" OF SPACE AT THE FRONT OF A 40'-0" LONG MAGAZINE.



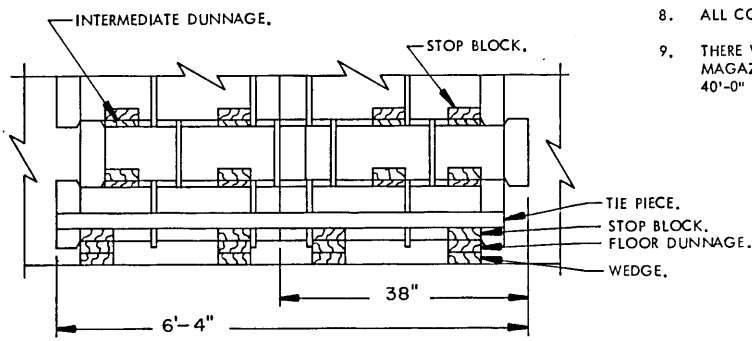
**PARTIAL END VIEW OF DOUBLE STACK**



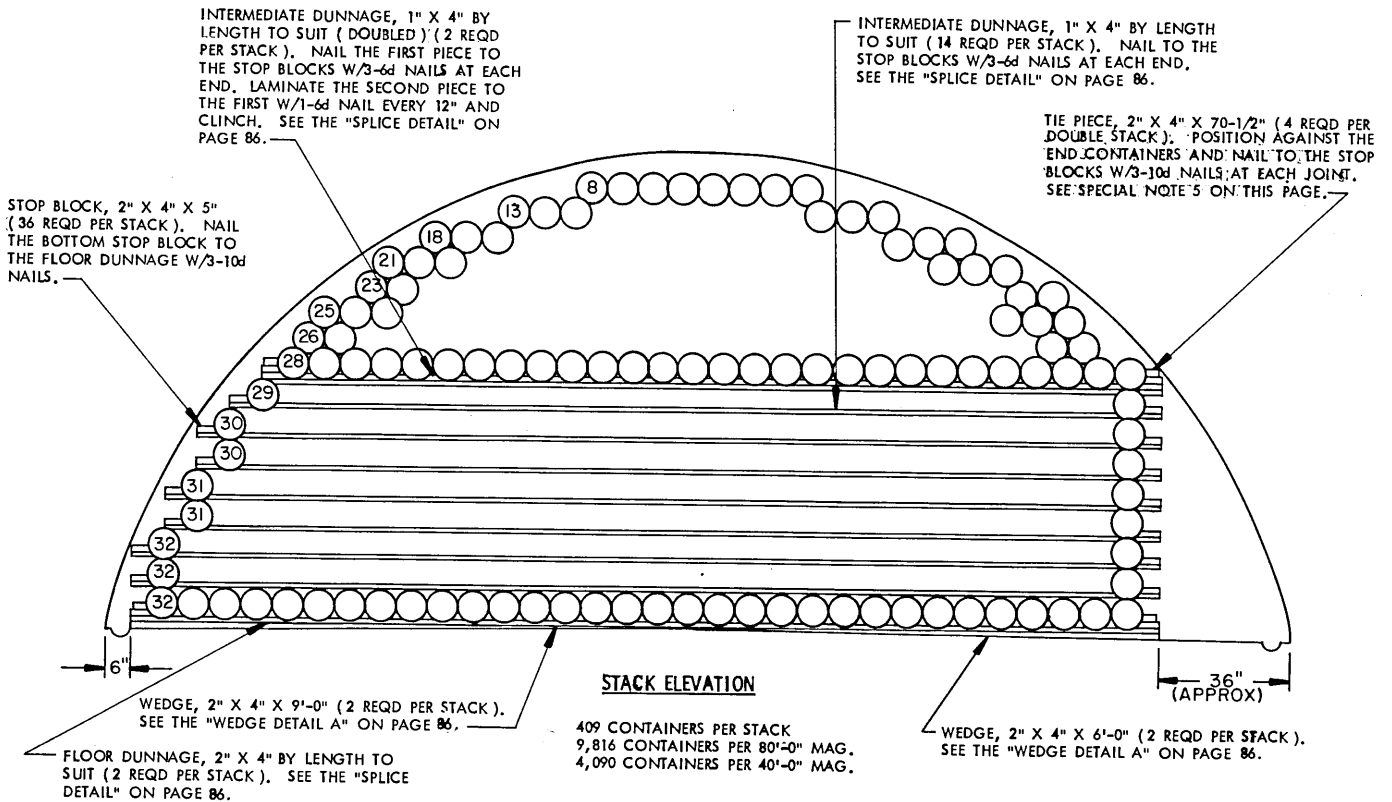
BILL OF MATERIAL ( PER STACK )		
LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	400	134
2" X 4"	79	27
NAILS	NO. REQD	POUNDS
6d (2")	136	1
10d (3")	36	3/4
WEDGES PER STACK		
LUMBER	LENGTH	NO. REQD
2" X 4"	6'-0"	2
2" X 4"	9'-0"	2

**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'-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 ABOVE LAYER NINE (9) ARE NESTED.
- THERE WILL BE APPROXIMATELY 9'-2" OF SPACE AT THE FRONT OF AN 80'-0" LONG MAGAZINE. THERE WILL BE APPROXIMATELY 7'-2" OF SPACE AT THE FRONT OF A 40'-0" LONG MAGAZINE.



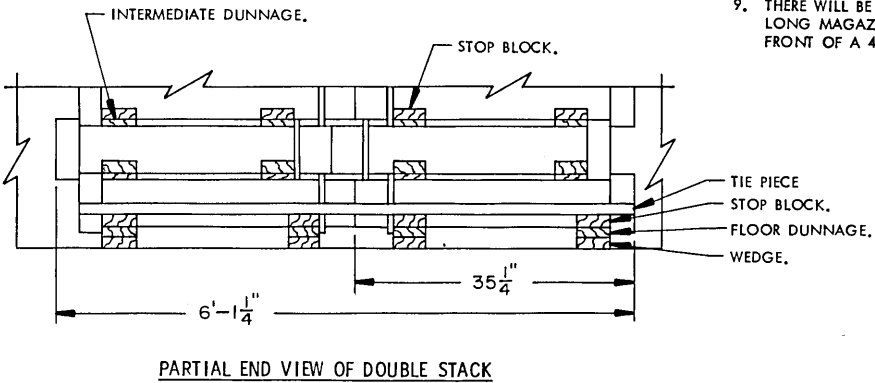
PARTIAL END VIEW OF DOUBLE STACK

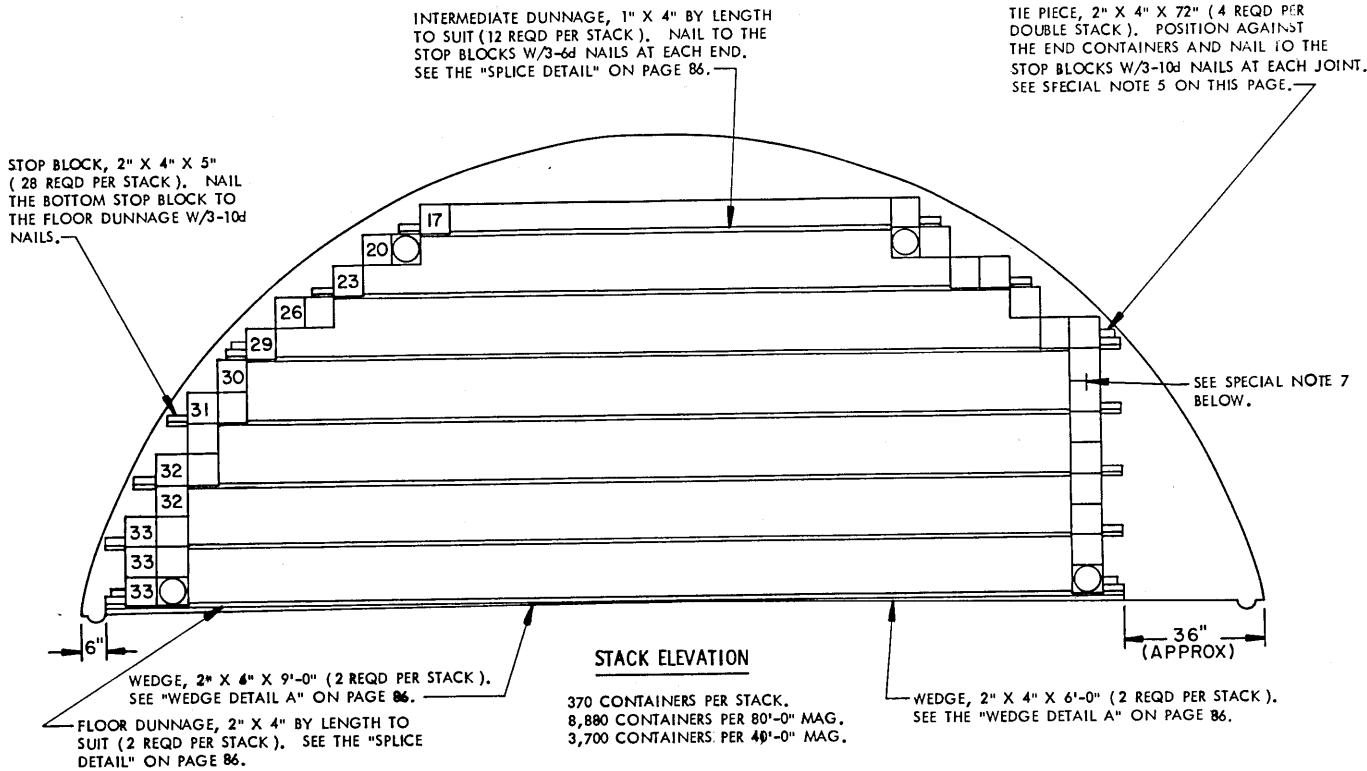


BILL OF MATERIAL ( PER STACK )		
LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	397	133
2" X 4"	74	25
NAILS	NO. REQD	POUNDS
6d ( 2" )	136	1
10d ( 3" )	36	3/4
WEDGES PER STACK		
LUMBER	LENGTH	NO. REQD
2" X 4"	6'-0"	2
2" X 4"	9'-0"	2

**SPECIAL NOTES:**

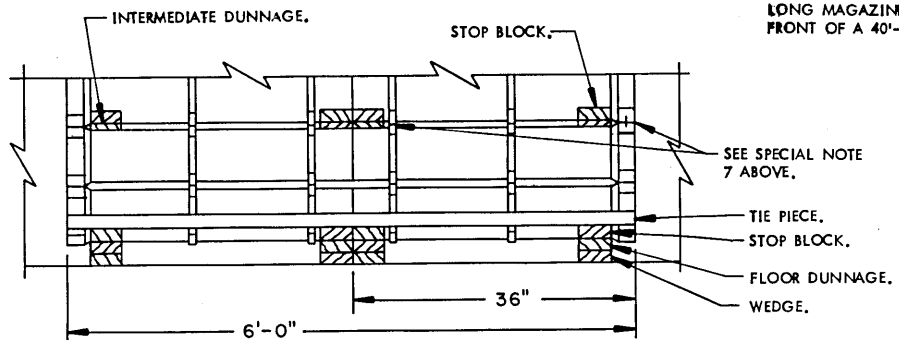
- STORAGE AS SHOWN IS FOR THE PA75 CONTAINER. USE THIS SAME STORAGE FORMAT FOR ALL PA75 SERIES CONTAINERS.  
 CONTAINER DIMENSIONS --- 35-1/4" LONG BY 7-25/32" DIAMETER.
- THE NUMBERS SHOWN IN THE STACK ELEVATION INDICATE THE QUANTITY OF CONTAINERS PER LAYER IN A STACK.
- SEE THE "TYPICAL PLAN VIEW A" 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 NINE ( 9 ) ARE NESTED.
- THERE WILL BE APPROXIMATELY 67" OF SPACE AT THE FRONT OF AN 80'-0" LONG MAGAZINE. THERE WILL BE APPROXIMATELY 8'-4" OF SPACE AT THE FRONT OF A 40'-0" LONG MAGAZINE.





BILL OF MATERIAL ( PER STACK )		
LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	237	79
2" X 4"	70	47
NAILS		POUNDS
6d (2")	72	1 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

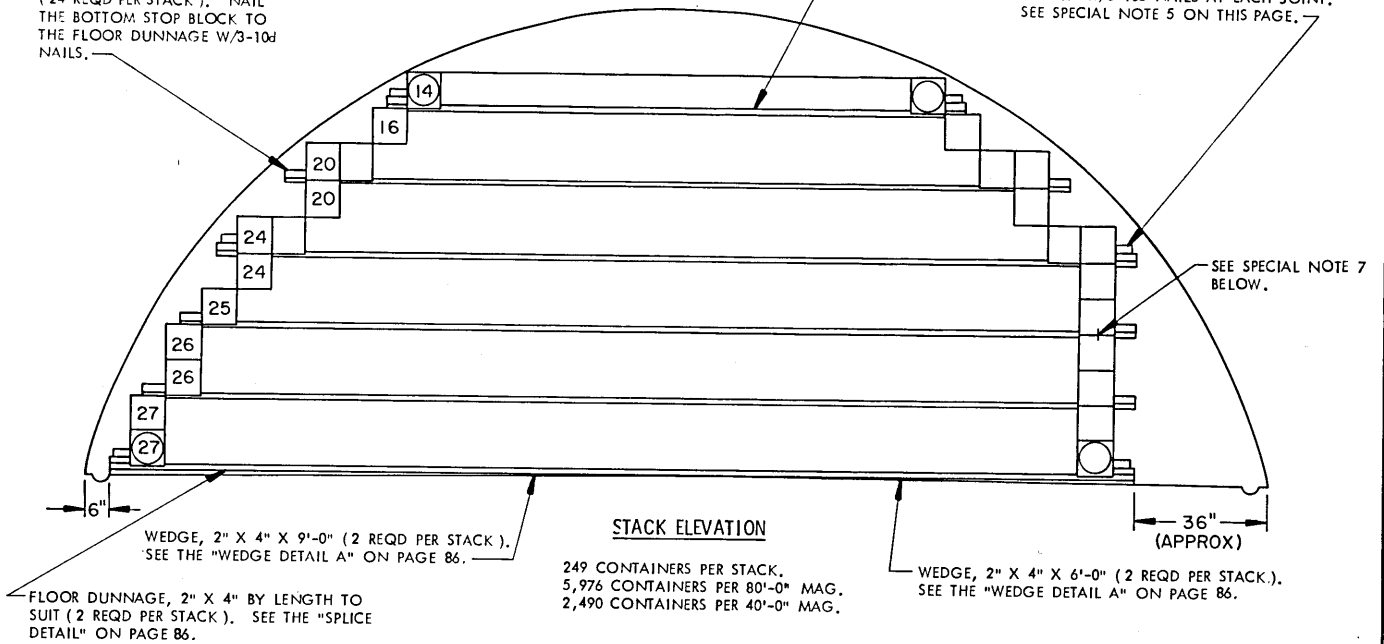
- SPECIAL NOTES:**
- STORAGE AS SHOWN IS FOR THE PA91 CONTAINER. USE THIS SAME STORAGE FORMAT FOR ALL PA91 SERIES CONTAINERS.  
CONTAINER DIMENSIONS --- 36" LONG BY 7-1/2" WIDE BY 7-1/2" HIGH.
  - THE NUMBERS SHOWN IN THE STACK ELEVATION INDICATE THE QUANTITY OF CONTAINERS PER LAYER IN A STACK.
  - SEE 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 STACKS. A "TIE PIECE" IS USED 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'-10" OF SPACE AT THE FRONT OF AN 80'-0" LONG MAGAZINE. THERE WILL BE APPROXIMATELY 8'-10" OF SPACE AT THE FRONT OF A 40'-0" LONG MAGAZINE.



INTERMEDIATE DUNNAGE, 1" X 4" BY LENGTH TO SUIT ( 10 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 6'-1" ( 4 REQD PER DOUBLE 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" ( 24 REQD PER STACK ). NAIL THE BOTTOM STOP BLOCK TO THE FLOOR DUNNAGE W/3-10d NAILS.



**STACK ELEVATION**

249 CONTAINERS PER STACK,  
5,976 CONTAINERS PER 80'-0" MAG.  
2,490 CONTAINERS PER 40'-0" MAG.

**BILL OF MATERIAL ( PER STACK )**

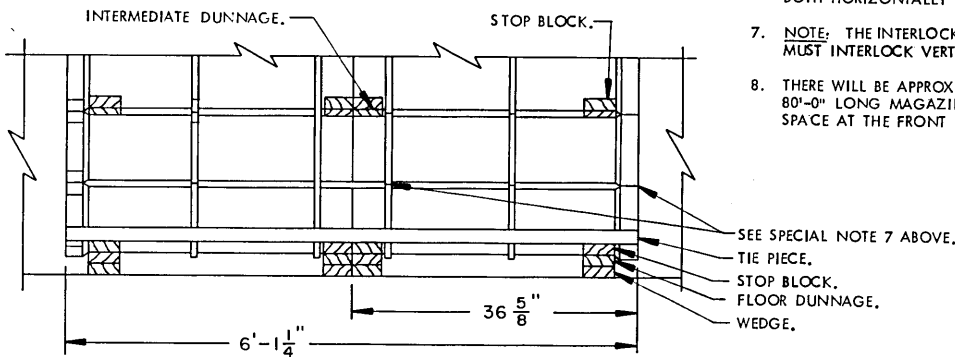
LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	194	65
2" X 4"	69	46
NAILS	NO. REQD	POUNDS
6d (2")	60	1/2
10d (3")	36	3/4
WEDGES PER STACK		
LUMBER	LENGTH	NO. REQD
2" X 4"	6'-0"	2
2" X 4"	9'-0"	2

**SPECIAL NOTES:**

1. STORAGE AS SHOWN IS FOR THE PA92 CONTAINER. USE THIS SAME STORAGE FORMAT FOR ALL PA92 SERIES CONTAINERS.

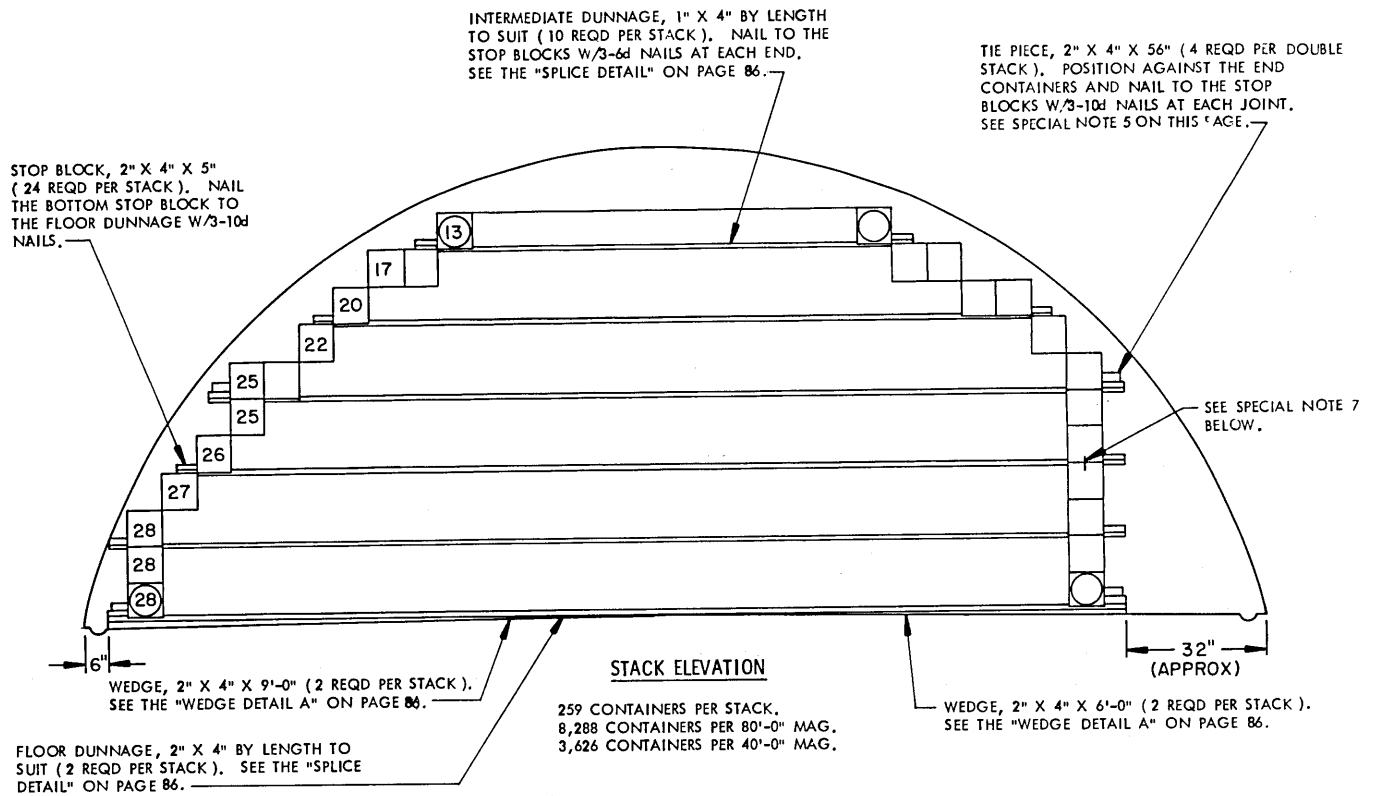
CONTAINER DIMENSIONS --- 36-5/8" LONG BY 9-1/4" WIDE BY 9-1/4" HIGH.

- THE NUMBERS SHOWN IN THE 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" LONG MAGAZINE. THERE WILL BE APPROXIMATELY 8'-4" OF SPACE AT THE FRONT OF A 40'-0" LONG MAGAZINE.



**PARTIAL END VIEW OF DOUBLE STACK**

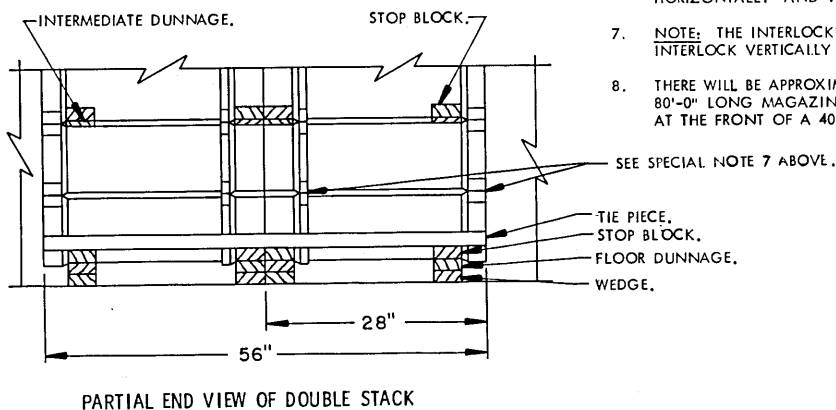


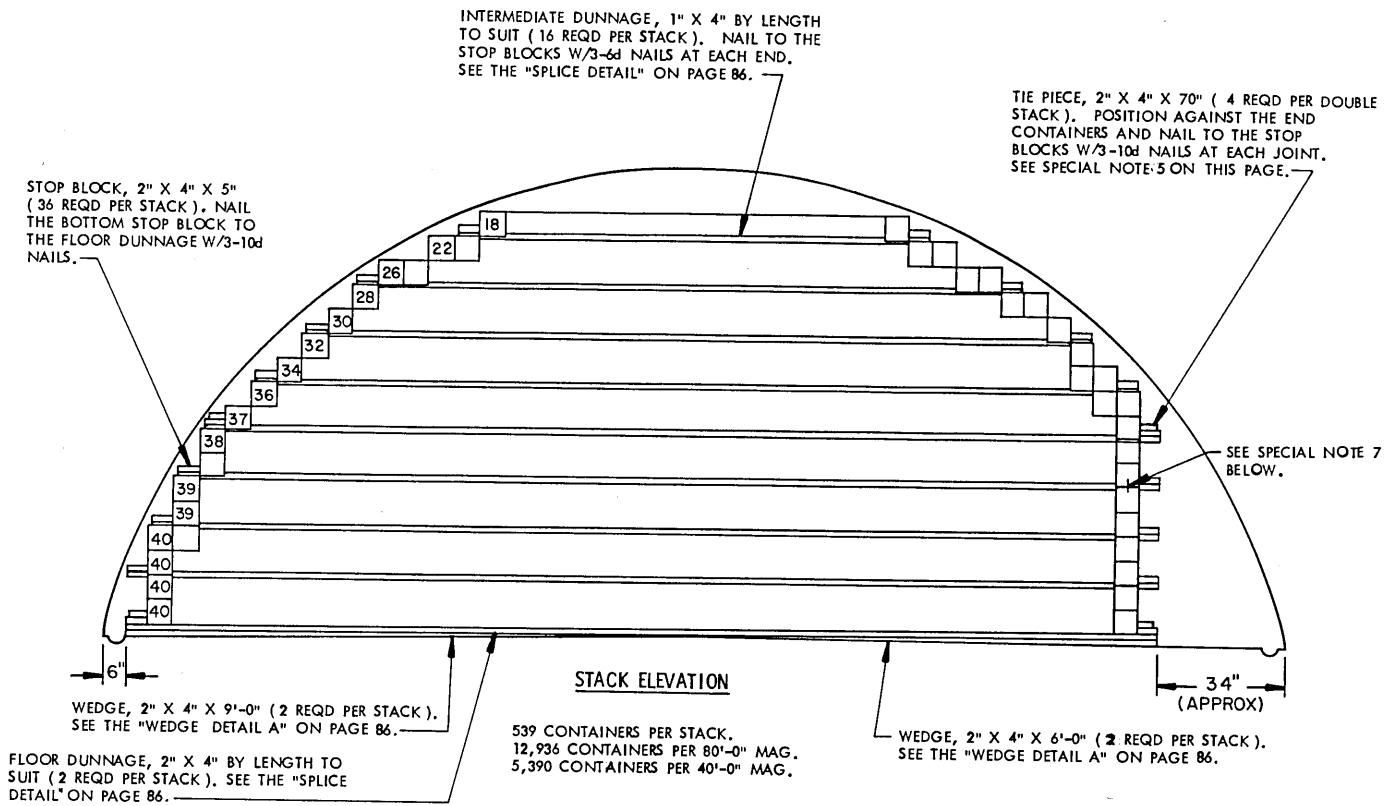


BILL OF MATERIAL		
LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	193	65
2" X 4"	67	45
NAILS	NO. REQD	POUNDS
6d (2")	60	1/2
10d (3")	36	3/4
WEDGES PER STACK		
LUMBER	LENGTH	NO. REQD
2" X 4"	6'-0"	2
2" X 4"	9'-0"	2

**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" LONG MAGAZINE. THERE WILL BE APPROXIMATELY 6'-2" AT THE FRONT OF A 40'-0" LONG MAGAZINE.

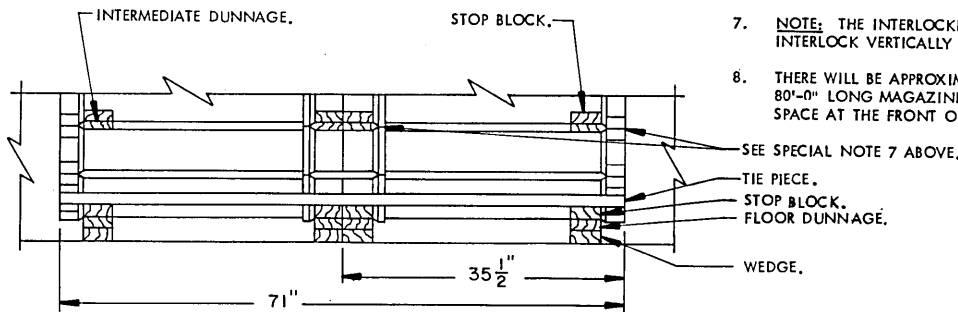




BILL OF MATERIAL		
LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	313	104
2" X 4"	78	49
NAILS		POUNDS
6d (2")	96	3/4
10d (3")	36	3/4
WEDGES PER STACK		
LUMBER	LENGTH	NO. REQD
2" X 4"	6'-0"	2
2" X 4"	9'-0"	2

**SPECIAL NOTES:**

- STORAGE AS SHOWN IS FOR THE PA94 CONTAINER. USE THIS SAME STORAGE FORMAT FOR ALL PA94 SERIES CONTAINERS.  
CONTAINER DIMENSION --- 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 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'-10" OF SPACE AT THE FRONT OF AN 80'-0" LONG MAGAZINE. THERE WILL BE APPROXIMATELY 9'-3" OF SPACE AT THE FRONT OF A 40'-0" LONG MAGAZINE.



**PARTIAL END VIEW OF DOUBLE STACK**

INTERMEDIATE DUNNAGE, 1" X 4" BY LENGTH TO SUIT (22 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 DOUBLE 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" (32 REQD PER STACK). NAIL THE BOTTOM STOP BLOCK TO THE FLOOR DUNNAGE W/3-10d NAILS.

SEE SPECIAL NOTE 7 BELOW.

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**

370 CONTAINERS PER STACK.  
12,580 CONTAINERS PER 80'-0" MAG.  
5,920 CONTAINERS PER 40'-0" MAG.

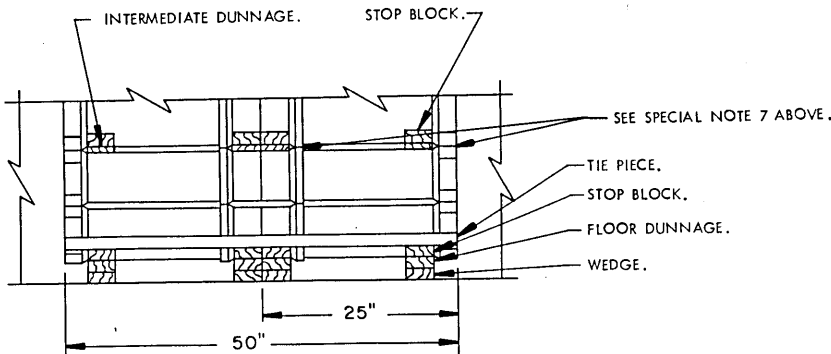
WEDGE, 2" X 4" X 6'-0" (2 REQD PER STACK). SEE THE "WEDGE DETAIL A" ON PAGE 86.

**SPECIAL NOTES:**

- STORAGE AS SHOWN IS FOR THE 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.
- 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 8'-0" OF SPACE AT THE FRONT OF AN 80'-0" LONG MAGAZINE. THERE WILL BE APPROXIMATELY 66" OF SPACE AT THE FRONT OF A 40'-0" LONG MAGAZINE.

**BILL OF MATERIAL ( PER STACK )**

LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	266	89
2" X 4"	68	45
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

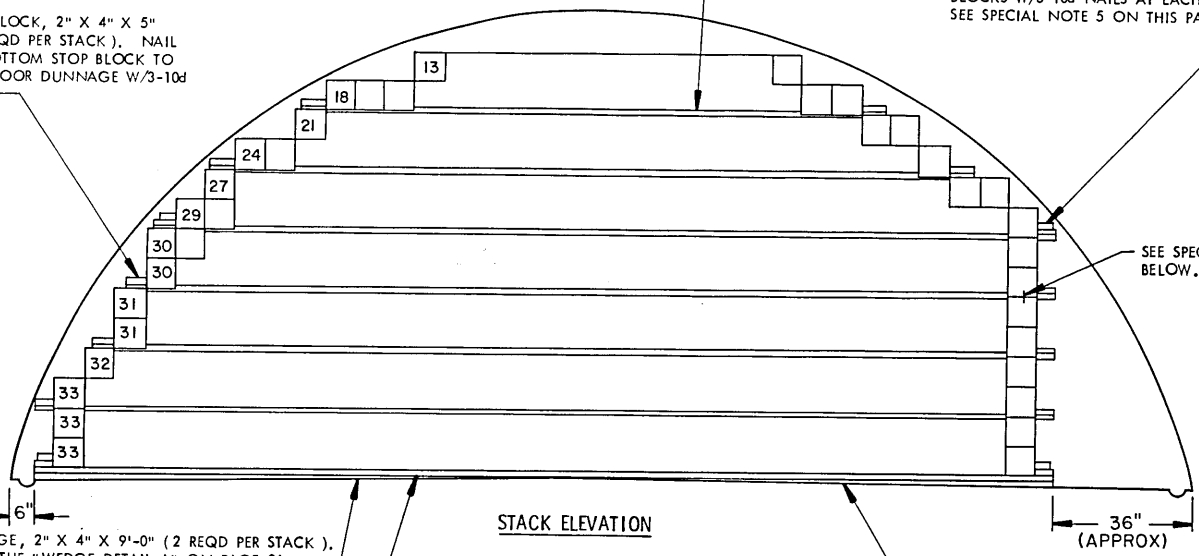


**PARTIAL END VIEW OF DOUBLE STACK**

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 63" ( 4 REQD PER DOUBLE 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" ( 28 REQD PER STACK ). NAIL THE BOTTOM STOP BLOCK TO THE FLOOR DUNNAGE W/3-10d NAILS.



SEE SPECIAL NOTE 7 BELOW.

**STACK ELEVATION**

385 CONTAINERS PER STACK.  
10,780 CONTAINERS PER 80'-0" MAG.  
4,620 CONTAINERS PER 40'-0" MAG.

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

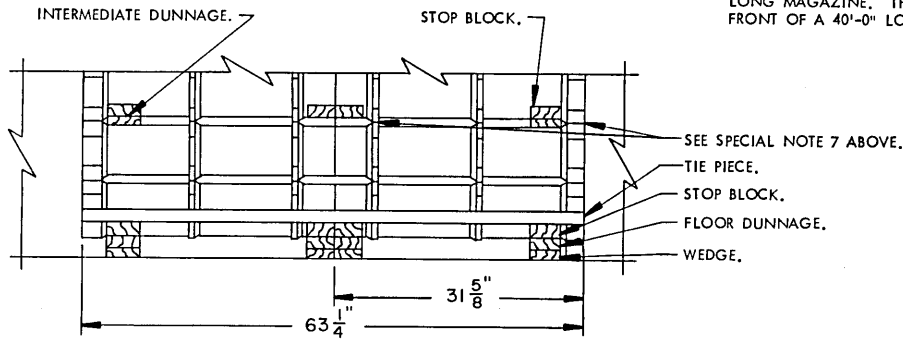
WEDGE, 2" X 4" X 6'-0" ( 2 REQD PER STACK ). SEE THE "WEDGE DETAIL A" ON PAGE 86.

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

**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 THIRD 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" LONG MAGAZINE. THERE WILL BE APPROXIMATELY 7'-3" OF SPACE AT THE FRONT OF A 40'-0" LONG MAGAZINE.

BILL OF MATERIAL ( PER STACK )		
LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	236	79
2" X 4"	68	46
NAILS		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



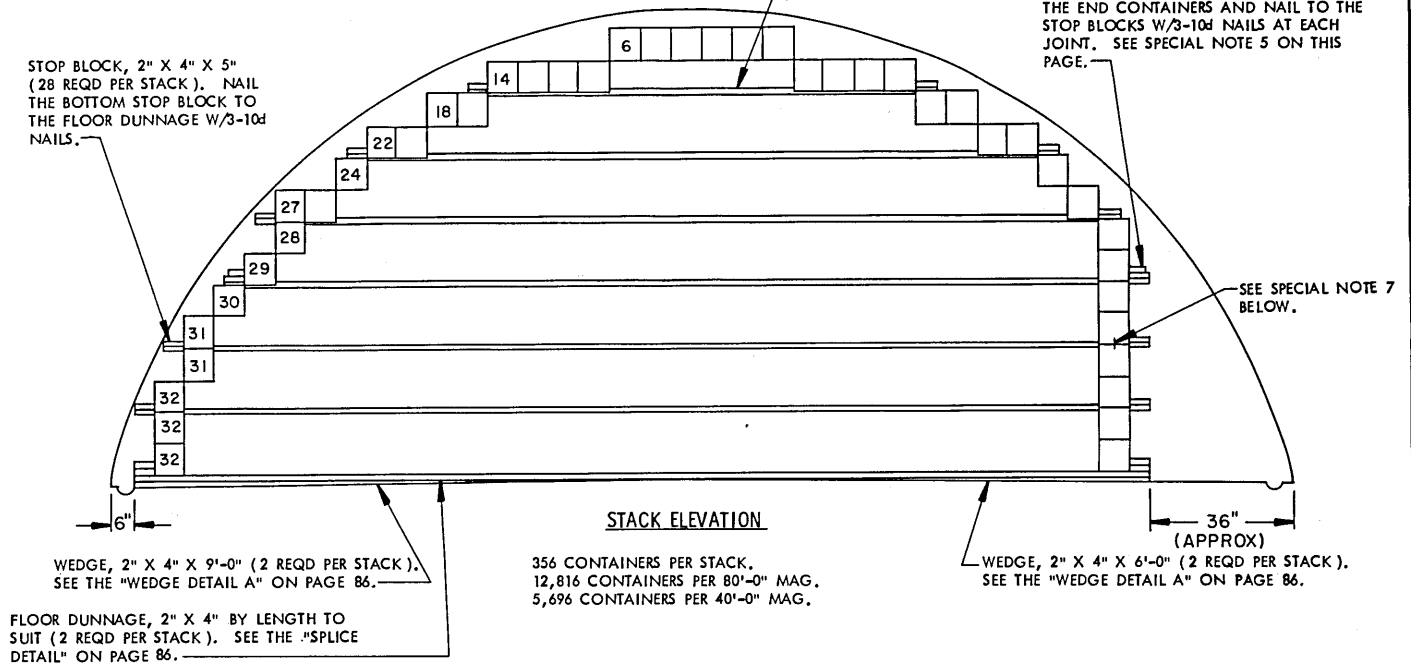
**PARTIAL VIEW OF DOUBLE STACK**

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 50" ( 4 REQD PER DOUBLE 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" ( 28 REQD PER STACK ). NAIL THE BOTTOM STOP BLOCK TO THE FLOOR DUNNAGE W/3-10d NAILS.

SEE SPECIAL NOTE 7 BELOW.



**STACK ELEVATION**

356 CONTAINERS PER STACK,  
12,816 CONTAINERS PER 80'-0" MAG,  
5,696 CONTAINERS PER 40'-0" MAG.

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

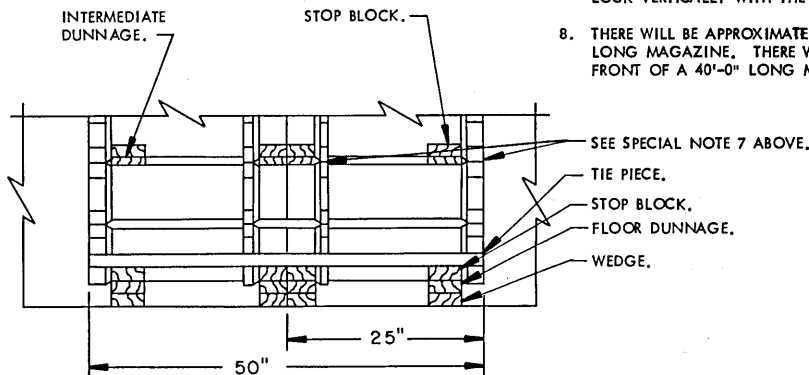
WEDGE, 2" X 4" X 6'-0" ( 2 REQD PER STACK ).  
SEE THE "WEDGE DETAIL A" ON PAGE 86.

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

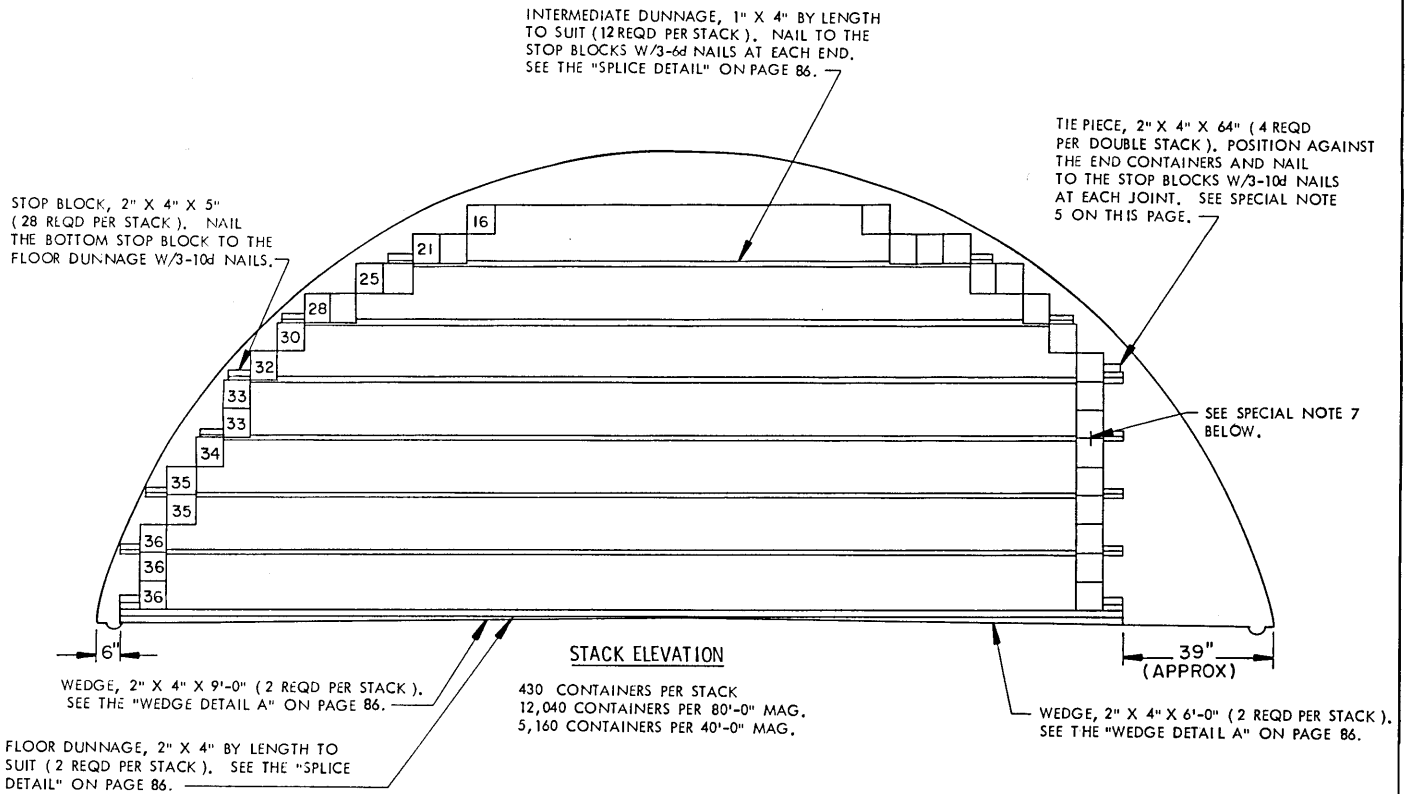
**SPECIAL NOTES:**

1. STORAGE AS SHOWN IS FOR THE PA97 CONTAINERS. 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 THIRD 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" LONG MAGAZINE. THERE WILL BE APPROXIMATELY 66" OF SPACE AT THE FRONT OF A 40'-0" LONG MAGAZINE.

BILL OF MATERIAL ( PER STACK )		
LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	230	77
2" X 4"	66	44
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



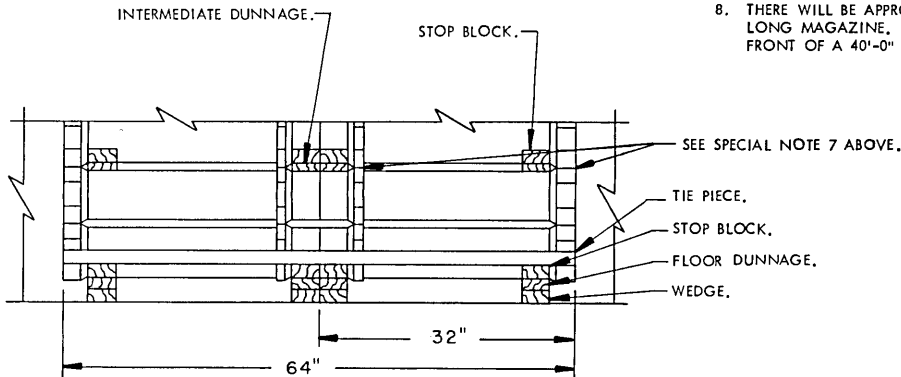
**PARTIAL END VIEW OF DOUBLE STACK**



**SPECIAL NOTES:**

- STORAGE AS SHOWN IS FOR THE PA99 CONTAINER. USE THIS SAME STORAGE FORMAT FOR ALL PA99 SERIES CONTAINERS.  
 CONTAINER DIMENSION --- 32" LONG BY 7-1/4" WIDE BY 7-1/4" 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 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 50" OF SPACE AT THE FRONT OF AN 80'-0" LONG MAGAZINE. THERE WILL BE APPROXIMATELY 6'-10" OF SPACE AT THE FRONT OF A 40'-0" LONG MAGAZINE.

BILL OF MATERIAL ( PER STACK )		
LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	260	87
2" X 4"	71	47
NAILS		NO. REQD
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

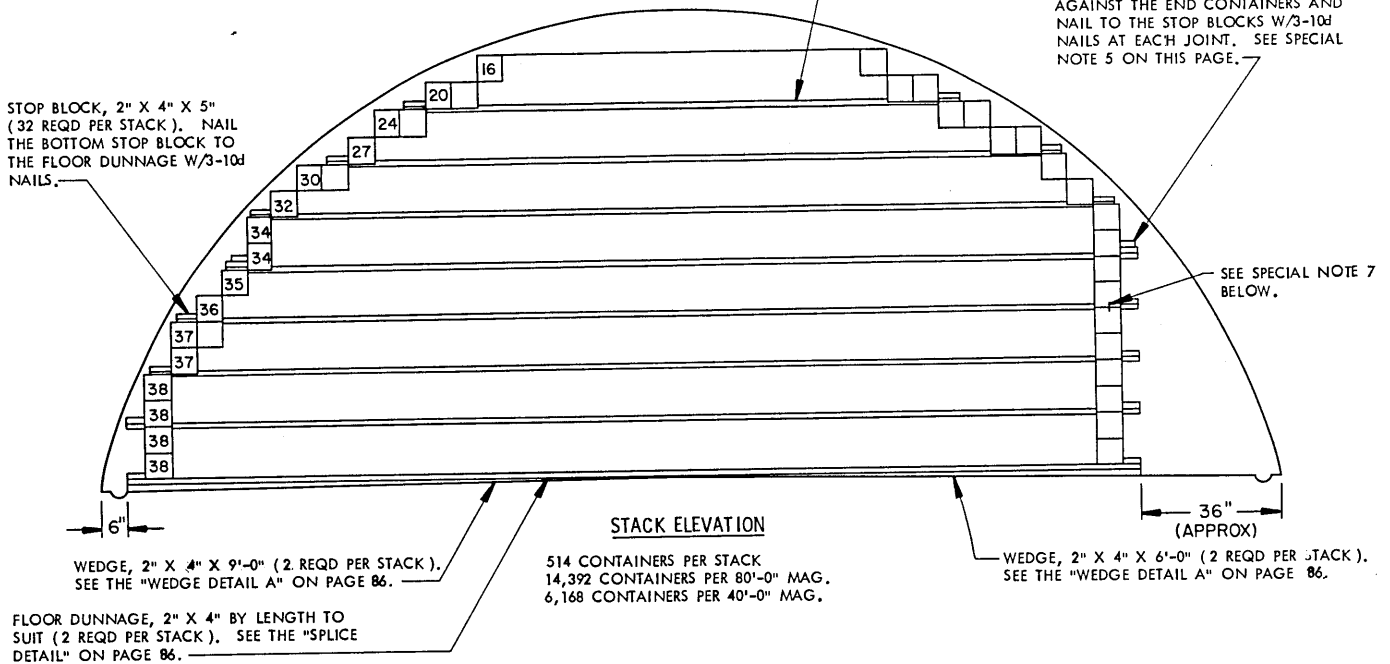


**PARTIAL END VIEW OF DOUBLE STACK**

INTERMEDIATE DUNNAGE, 1" X 4" BY LENGTH TO SUIT (14 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 63" (4 REQD PER DOUBLE 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.

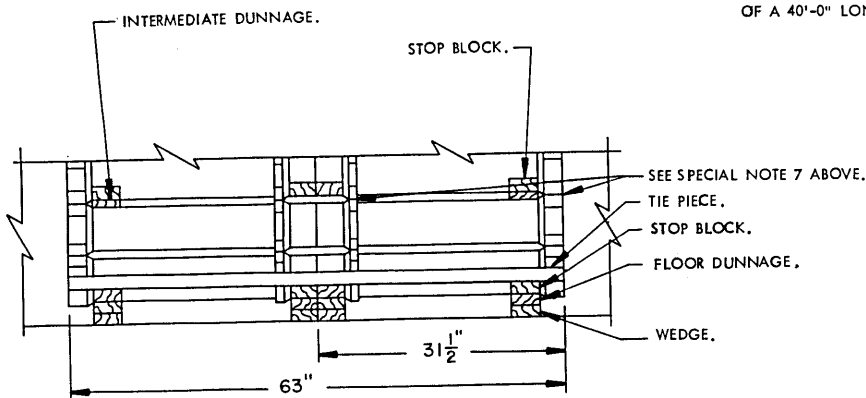
STOP BLOCK, 2" X 4" X 5" (32 REQD PER STACK). NAIL THE BOTTOM STOP BLOCK TO THE FLOOR DUNNAGE W/3-10d NAILS.



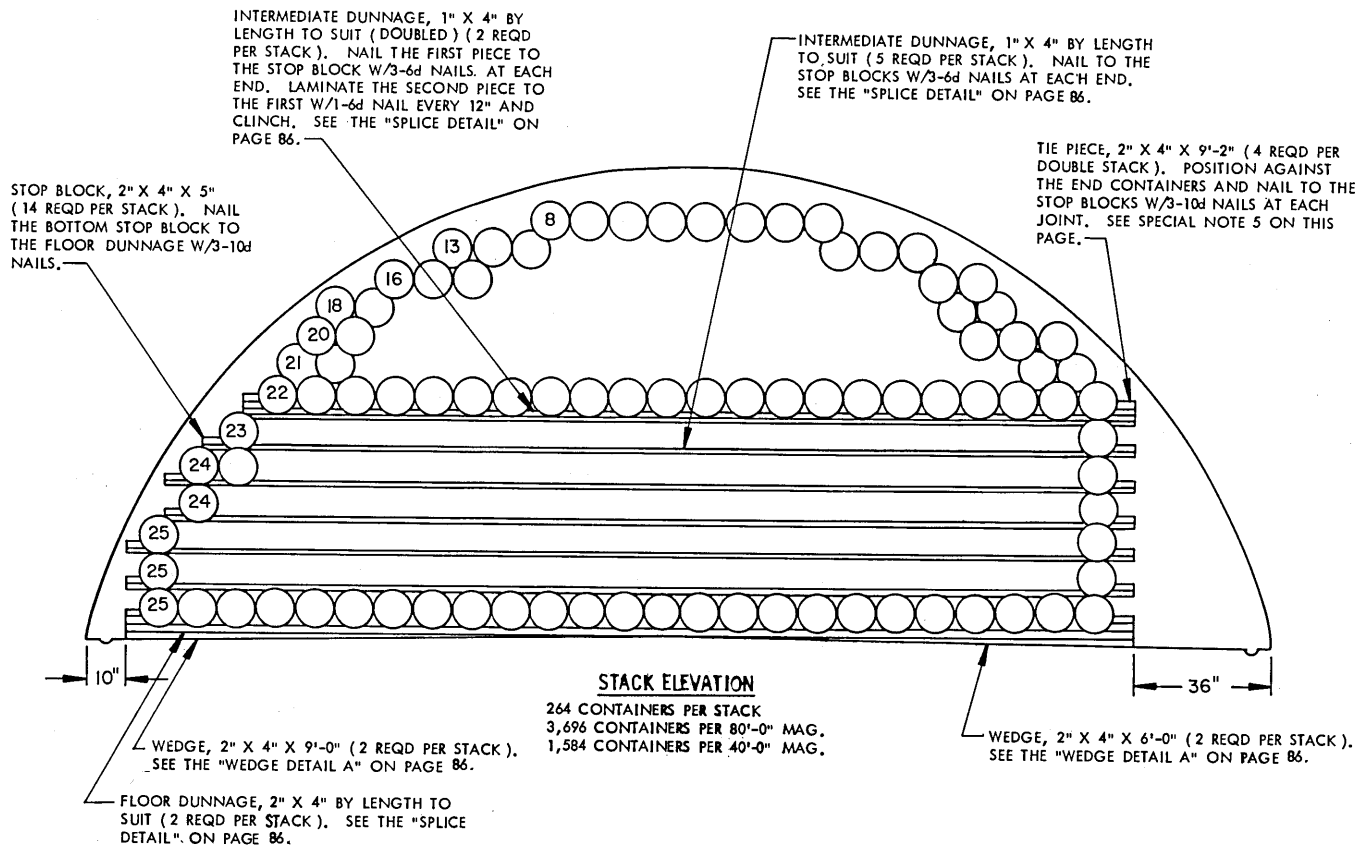
**SPECIAL NOTES:**

- 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.
- 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 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 64" OF SPACE AT THE FRONT OF AN 80'-0" LONG MAGAZINE. THERE WILL BE APPROXIMATELY 7'-4" OF SPACE AT THE FRONT OF A 40'-0" LONG MAGAZINE.

BILL OF MATERIAL ( PER STACK )		
LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	278	93
2" X 4"	70	47
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**

264 CONTAINERS PER STACK  
 3,696 CONTAINERS PER 80'-0" MAG.  
 1,584 CONTAINERS PER 40'-0" MAG.

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.

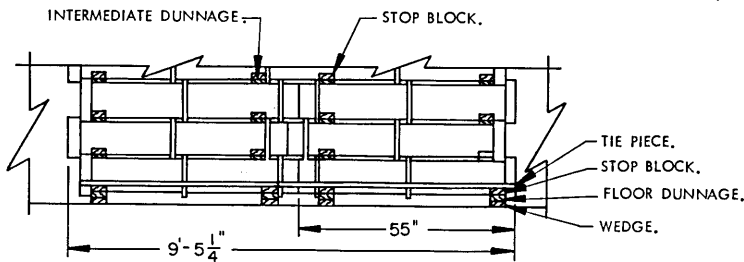
WEDGE, 2" X 4" X 6'-0" (2 REQD PER STACK). SEE THE "WEDGE DETAIL A" ON PAGE 86.

**BILL OF MATERIAL ( PER STACK )**

LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	302	101
2" X 4"	76	51
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

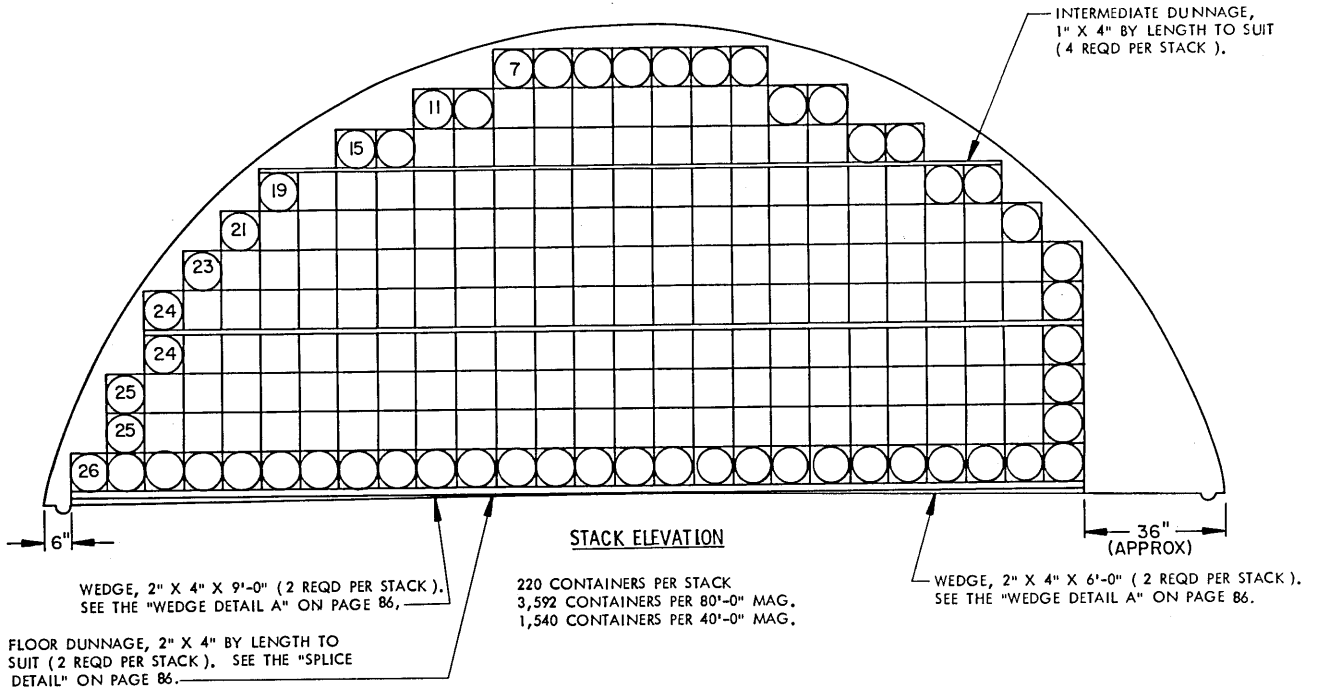
**SPECIAL NOTES:**

- 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 INTERMEDIATE 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 SEVEN (7) ARE NESTED.
- THERE WILL BE APPROXIMATELY 12'-10" OF SPACE AT THE FRONT OF AN 80'-0" LONG MAGAZINE. THERE WILL BE APPROXIMATELY 10'-7" OF SPACE AT THE FRONT OF A 40'-0" LONG MAGAZINE.



**PARTIAL END VIEW OF DOUBLE STACK**

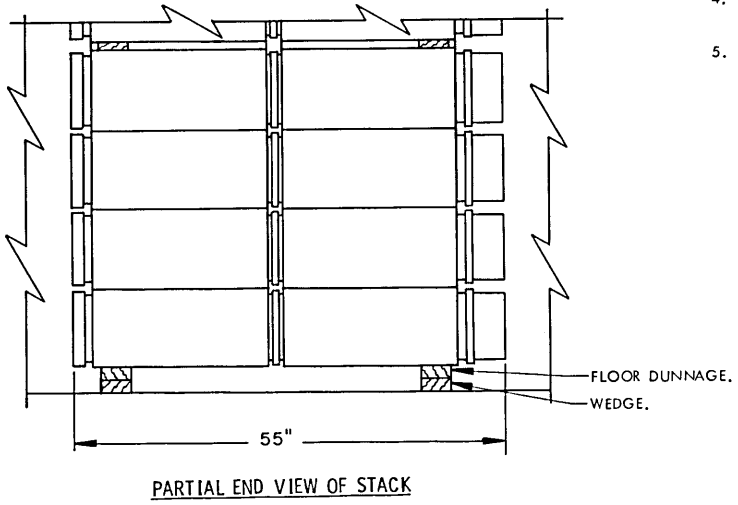




**BILL OF MATERIAL (PER STACK)**

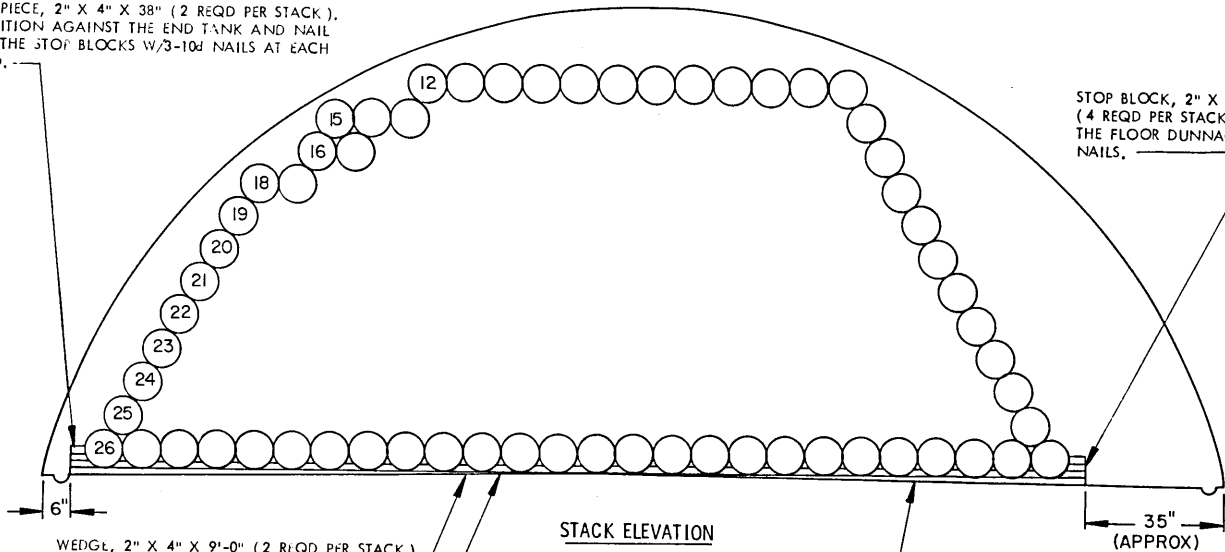
LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	78	26
2" X 4"	47	32
WEDGES PER STACK		
LUMBER	LENGTH	NO. REQD
2" X 4"	6'-0"	2
2" X 4"	9'-0"	2

- SPECIAL NOTES:**
- STORAGE AS SHOWN IS FOR THE M460 CONTAINER WITH PROTECTIVE COVER. USE THIS SAME STORAGE FORMAT FOR ALL M460 SERIES CONTAINERS HAVING THE PROTECTIVE COVER.  
CONTAINER DIMENSIONS --- 55" LONG BY 9-15/16" WIDE BY 9-15/16" 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 "PARTIAL END VIEW OF DOUBLE STACK" ON THIS PAGE.
  - THERE WILL BE APPROXIMATELY 48" OF SPACE AT THE FRONT OF AN 80'-0" LONG MAGAZINE. THERE WILL BE APPROXIMATELY 6'-9" OF SPACE AT THE FRONT OF A 40'-0" LONG MAGAZINE.



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

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.

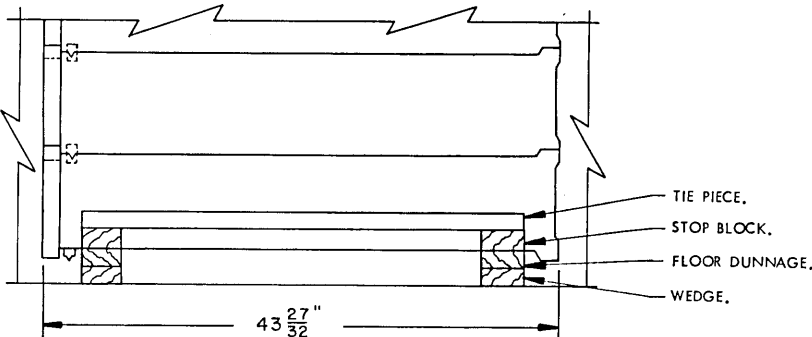
241 CARTRIDGE TANKS PER STACK.  
4,820 CARTRIDGE TANKS PER 80'-0" MAG.  
2,169 CARTRIDGE TANKS PER 40'-0" MAG.

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"	56	38
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

SPECIAL NOTES:

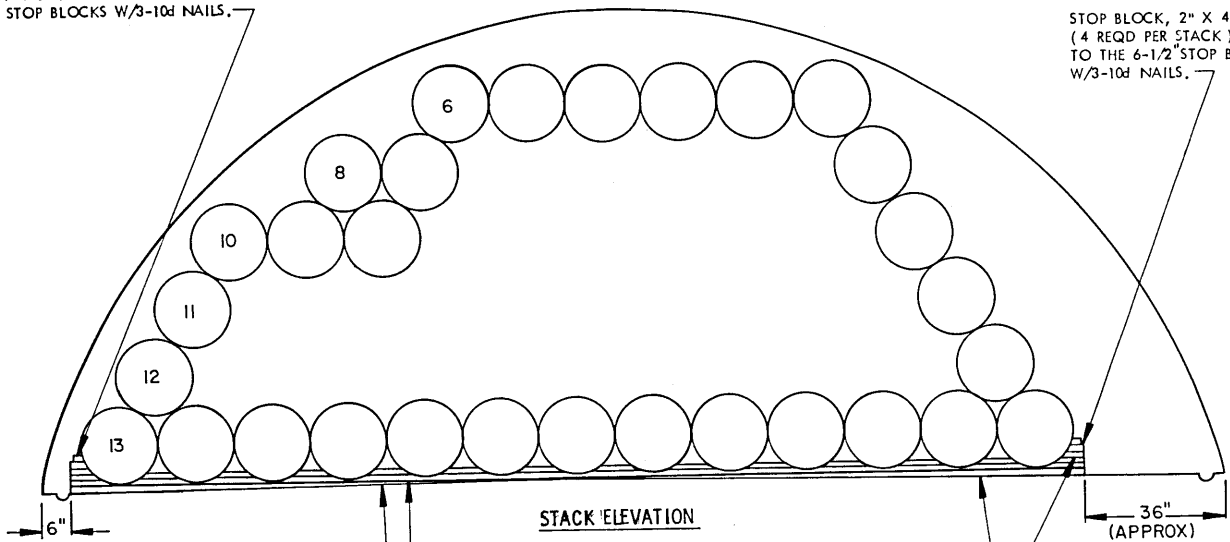
1. STORAGE AS SHOWN IS FOR THE MK4 CARTRIDGE TANK FOR 6"/47. USE THIS SAME STORAGE FORMAT FOR ALL MK4 CARTRIDGE TANK MODS.  
TANK DIMENSIONS --- 43-27/32" LONG BY 9-21/32" DIAMETER.
2. THE NUMBERS SHOWN IN THE STACK ELEVATION INDICATE THE QUANTITY OF TANKS PER LAYER IN A STACK.
3. SEE THE "TYPICAL PLAN 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" LONG MAGAZINE. THERE WILL BE APPROXIMATELY 71" OF SPACE AT THE FRONT OF A 40'-0" LONG MAGAZINE.



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.

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



**STACK ELEVATION**

60 POWDER TANKS PER STACK.  
 960 POWDER TANKS PER 80'-0" MAG.  
 420 POWDER TANKS PER 40'-0" MAG.

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

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

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.

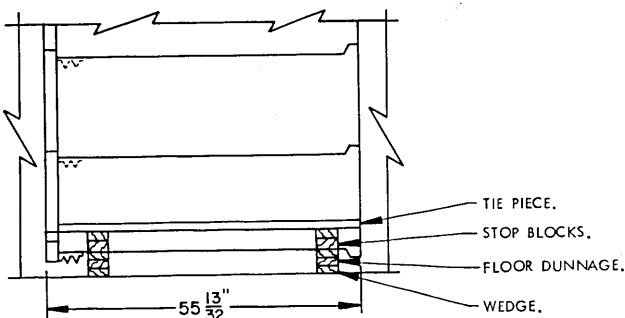
WEDGE, 2" X 4" X 6'-0" (2 REQD PER STACK). SEE THE "WEDGE DETAIL A" ON PAGE 86.

**BILL OF MATERIAL ( PER STACK )**

LUMBER	LINEAR FEET	BOARD FEET
2" X 4"	106	71
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

**SPECIAL NOTES:**

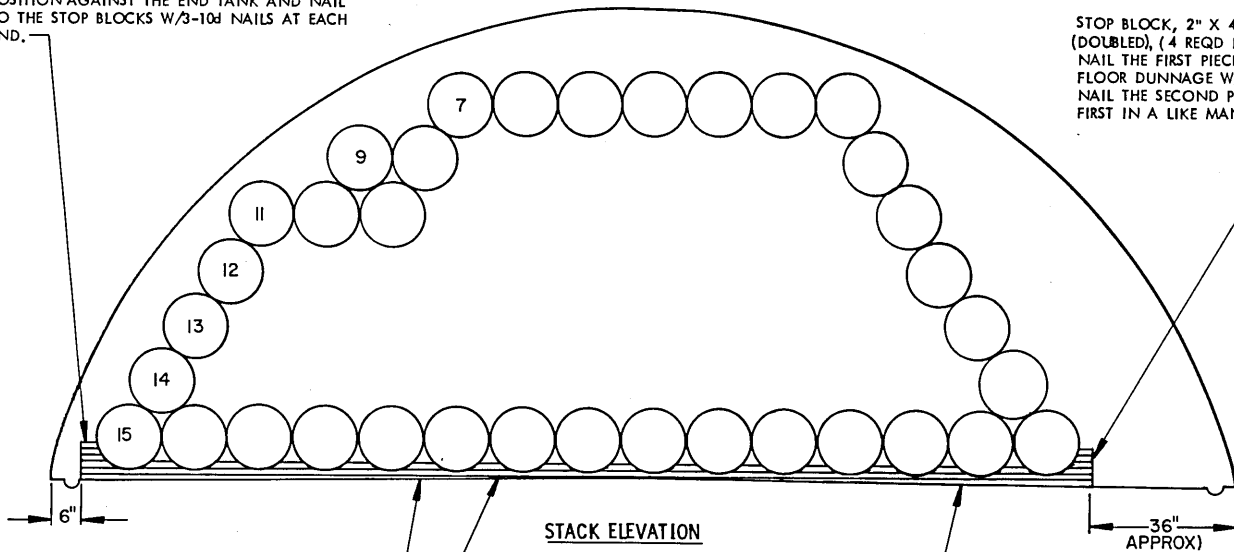
1. STORAGE AS SHOWN IS FOR THE MKIV POWDER TANKS FOR 16"/50. USE THIS SAME STORAGE FORMAT FOR ALL MKIV POWDER TANKS.  
 TANK DIMENSIONS --- 55-13/32" LONG BY 19-1/2" DIAMETER.
2. THE NUMBERS SHOWN IN THE STACK ELEVATION INDICATE THE QUANTITY OF POWDER TANKS PER LAYER IN A STACK.
3. SEE THE "TYPICAL PLAN VIEW A" ON PAGE 4.
4. STAGGER ALL JOINTS IN FLOOR DUNNAGE.
5. THERE WILL BE APPROXIMATELY 61" OF SPACE AT THE FRONT OF AN 80'-0" LONG MAGAZINE. THERE WILL BE APPROXIMATELY 6'-6" OF SPACE AT THE FRONT OF A 40'-0" LONG MAGAZINE.



**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.

STOP BLOCK, 2" X 4" X 5"  
(DOUBLED), (4 REQD PER STACK).  
NAIL THE FIRST PIECE TO THE  
FLOOR DUNNAGE W/3-10d NAILS.  
NAIL THE SECOND PIECE TO THE  
FIRST IN A LIKE MANNER.



STACK ELEVATION

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

81 POWDER TANKS PER STACK.  
1,296 POWDER TANKS PER 80'-0" MAG.  
567 POWDER TANKS PER 40'-0" MAG.

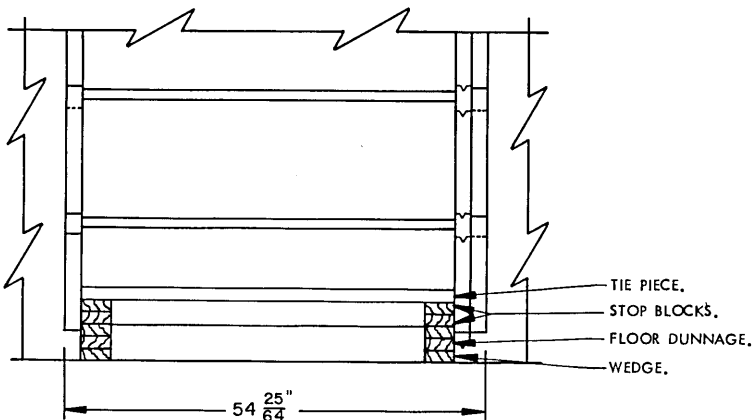
WEDGE, 2" X 4" X 6'-0" (2 REQD PER STACK).  
SEE THE "WEDGE DETAIL A" ON PAGE 86.

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".

BILL OF MATERIAL (PER STACK)		
LUMBER	LINEAR FEET	BOARD FEET
2" X 4"	58	39
NAILS	NO. REQD	POUNDS
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:

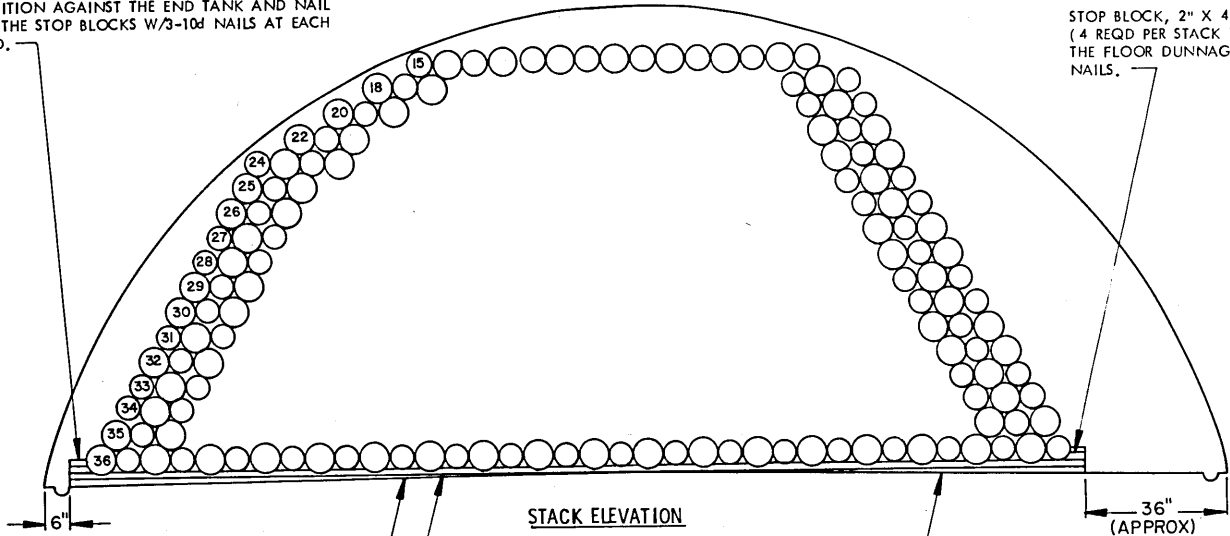
- STORAGE AS SHOWN IS FOR THE MK8 MOD. O POWDER TANK FOR 16".  
~~USE THIS SAME STORAGE FORMAT FOR ALL MK8 POWDER TANK MODS.~~  
TANK DIMENSIONS --- 54-25/32" LONG BY 16-1/4" DIAMETER.
- THE NUMBERS SHOWN IN THE STACK ELEVATION INDICATE THE QUANTITY  
OF TANKS PER LAYER IN A STACK.
- SEE THE "TYPICAL PLAN VIEW A" ON PAGE 4.
- STAGGER ALL JOINTS IN FLOOR DUNNAGE.
- THERE WILL BE APPROXIMATELY 6'-4" OF SPACE AT THE FRONT OF AN 80'-0"  
LONG MAGAZINE. THERE WILL BE APPROXIMATELY 7'-1" OF SPACE AT THE  
FRONT OF A 40'-0" LONG MAGAZINE.



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**

465 CARTRIDGE TANKS PER STACK  
13,950 CARTRIDGE TANKS PER 80'-0" MAG.  
6,510 CARTRIDGE TANKS PER 40'-0" MAG.

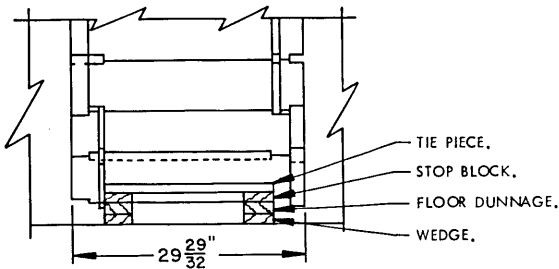
WEDGE, 2" X 4" X 9'-0" (2 REQD PER STACK).  
SEE THE "WEDGE DETAIL A" ON PAGE B6.  
FLOOR DUNNAGE, 2" X 4" BY LENGTH TO  
SUIT (2 REQD PER STACK). SEE THE "SPLICE  
DETAIL" ON PAGE B6.

WEDGE, 2" X 4" X 6'-0" (2 REQD PER STACK).  
SEE THE "WEDGE DETAIL A" ON PAGE B6.

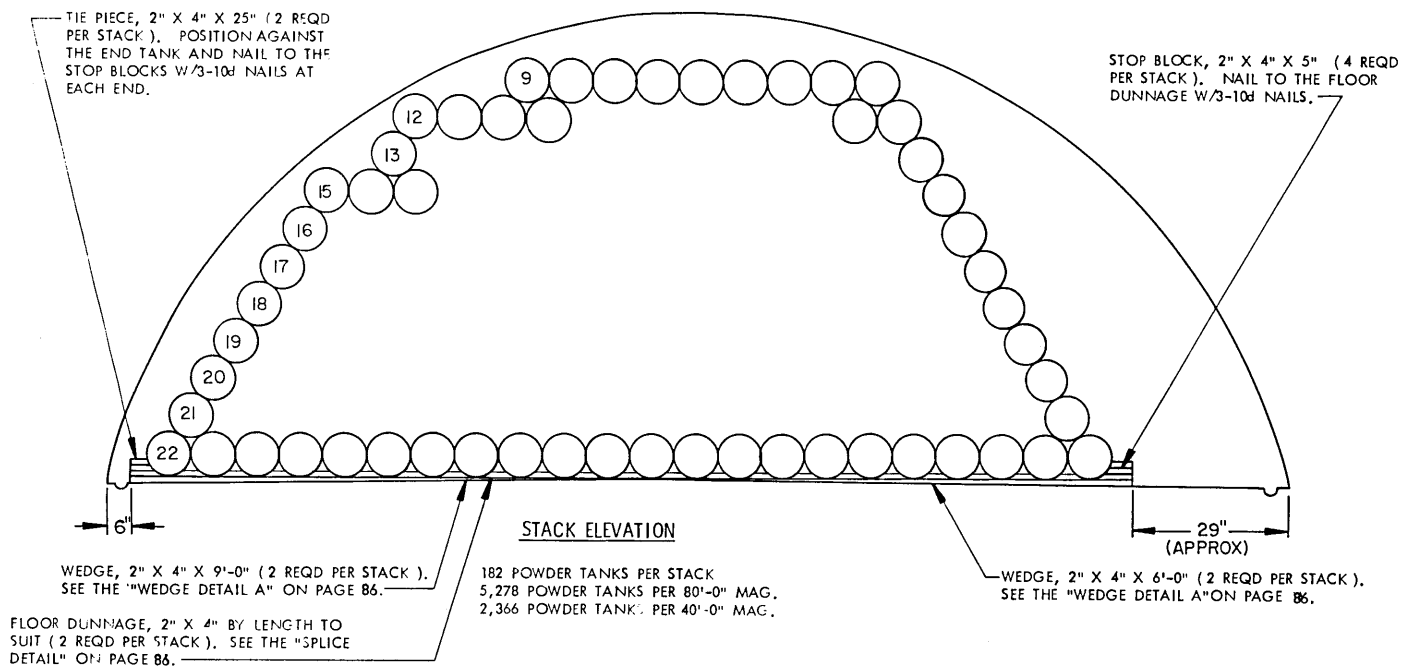
**SPECIAL NOTES:**

1. 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 TANKS MODS.  
TANK DIMENSIONS --- 29-29/32" 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 49" OF SPACE AT THE FRONT OF A N 80'-0" LONG MAGAZINE. THERE WILL BE APPROXIMATELY 47" OF SPACE AT THE FRONT OF A 40'-0" LONG MAGAZINE.

BILL OF MATERIAL (PER STACK)		
LUMBER	LINEAR FEET	BOARD FEET
2" X 4"	57	38
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**

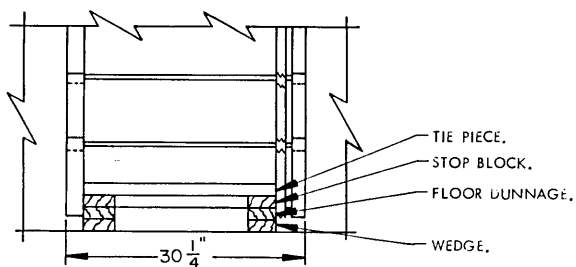


**BILL OF MATERIAL ( PER STACK )**

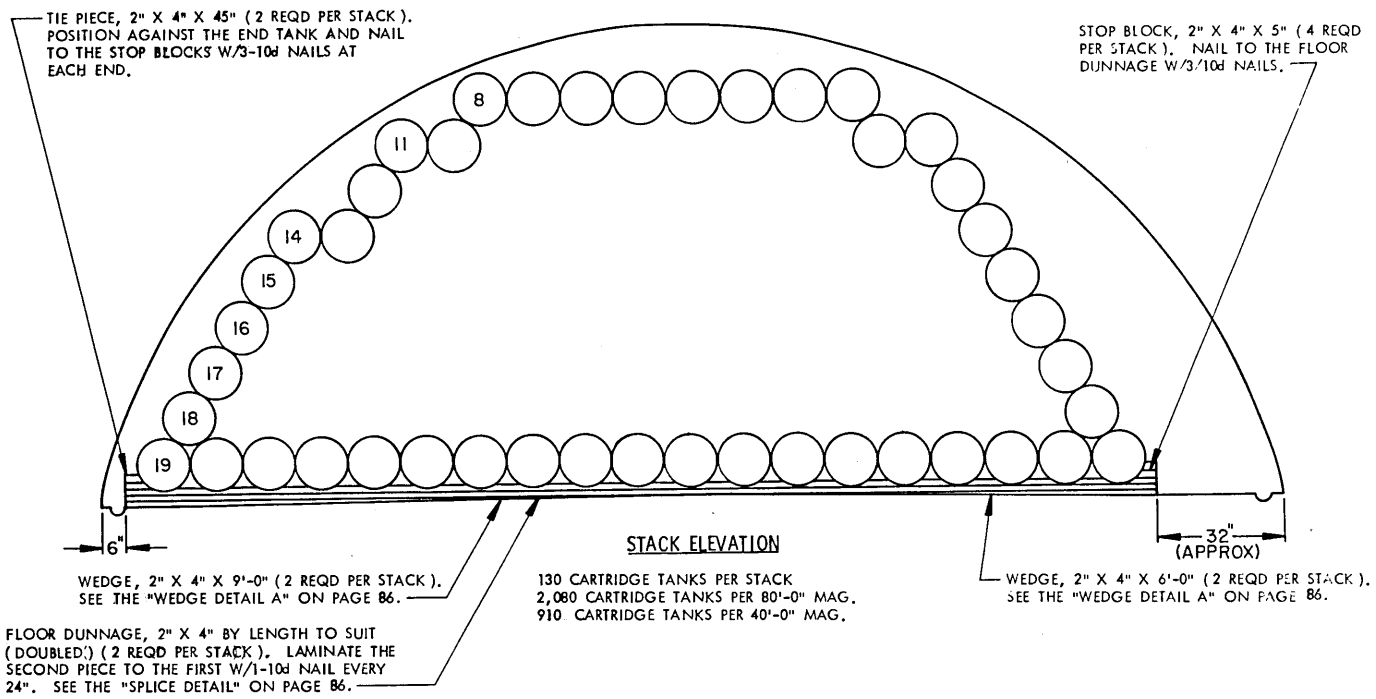
LUMBER	LINEAR FEET	BOARD FEET
2" X 4"	52	35
NAILS	NO. REQD	POUNDS
10d ( 3" )	24	1/2
WEDGES PER STACK		
LUMBER	LENGTH	NO. REQD
2" X 4"	6'-0"	2
2" X 4"	9'-0"	2

**SPECIAL NOTES:**

- 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.
- 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 69" OF SPACE AT THE FRONT OF AN 80'-0" LONG MAGAZINE. THERE WILL BE APPROXIMATELY 64" OF SPACE AT THE FRONT OF A 40'-0" LONG MAGAZINE.

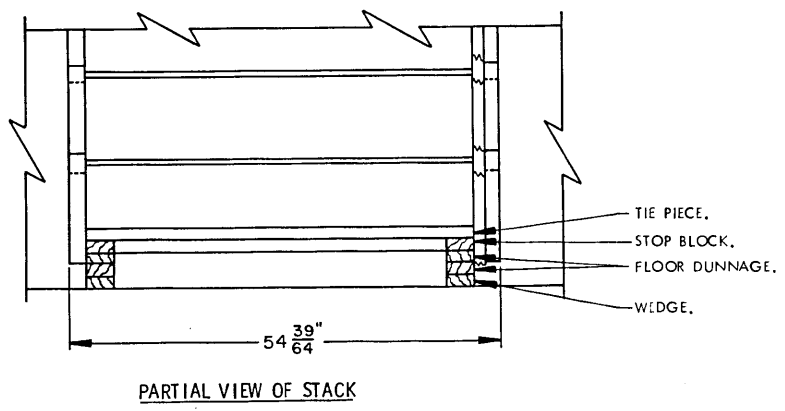


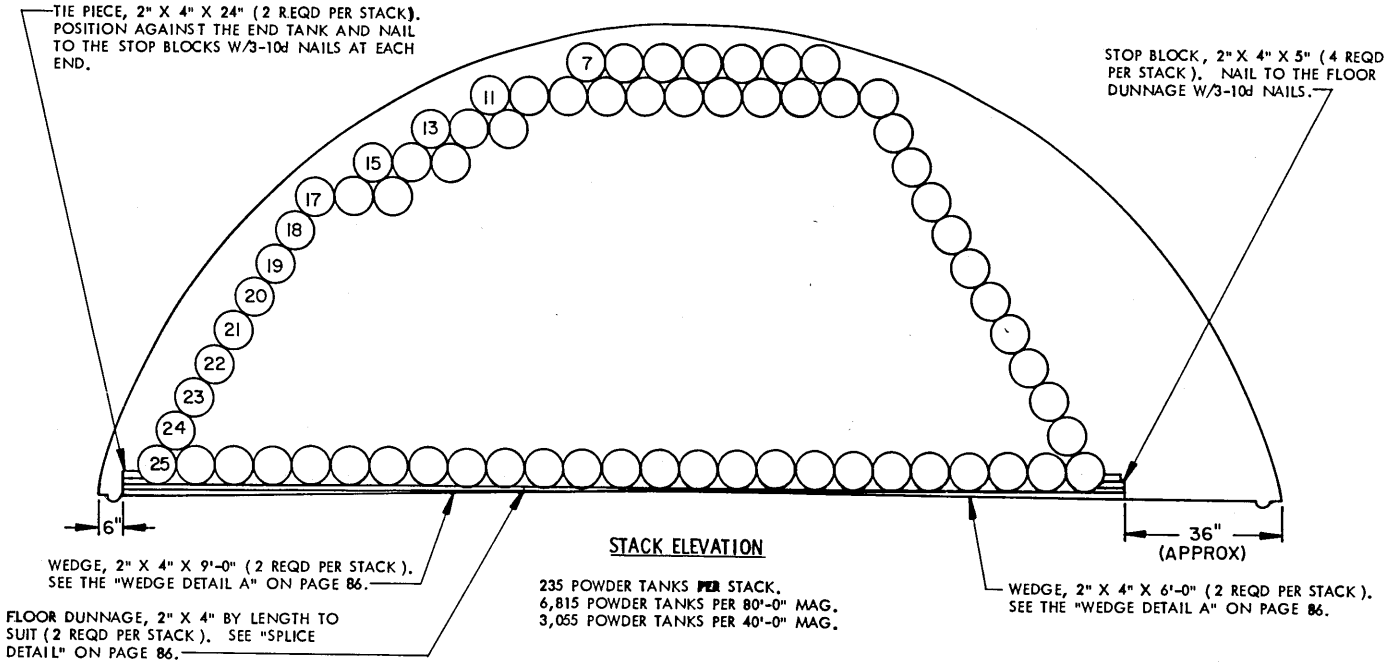
**PARTIAL VIEW OF STACK**



BILL OF MATERIAL ( PER STACK )		
LUMBER	LINEAR FEET	BOARD FEET
2" X 4"	103	69
NAILS	NO. REQD	POUNDS
10d (3")	24	1/2
WEDGES PER STACK		
LUMBER	LENGTH	NO. STACK
2" X 4"	6'-0"	2
2" X 4"	9'-0"	2

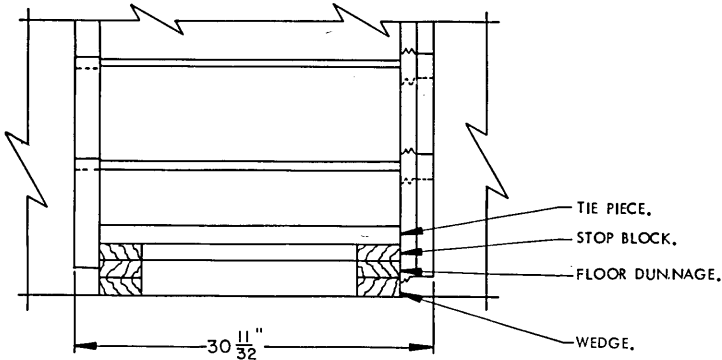
- SPECIAL NOTES:**
- STORAGE AS SHOWN IS FOR THE MK11, MOD.0 AND MK13, MOD.0 CARTRIDGE TANKS FOR 8"/55. USE THIS SAME STORAGE FORMAT FOR ALL MK11 AND MK13 CARTRIDGE TANK MODS.  
TANK DIMENSIONS --- 54-39/64" LONG BY 13-5/16" DIAMETER.
  - THE NUMBERS SHOWN IN THE STACK ELEVATION INDICATE THE QUANTITY 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 6'-1" OF SPACE AT THE FRONT OF AN 80'-0" LONG MAGAZINE. THERE WILL BE APPROXIMATELY 7'-0" OF SPACE AT THE FRONT OF A 40'-0" LONG MAGAZINE.





BILL OF MATERIAL ( PER STACK )		
LUMBER	LINEAR FEET	BOARD FEET
2" X 4"	53	36
NAILS	NO. REQD	POUNDS
10# (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 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.
  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 66" 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.

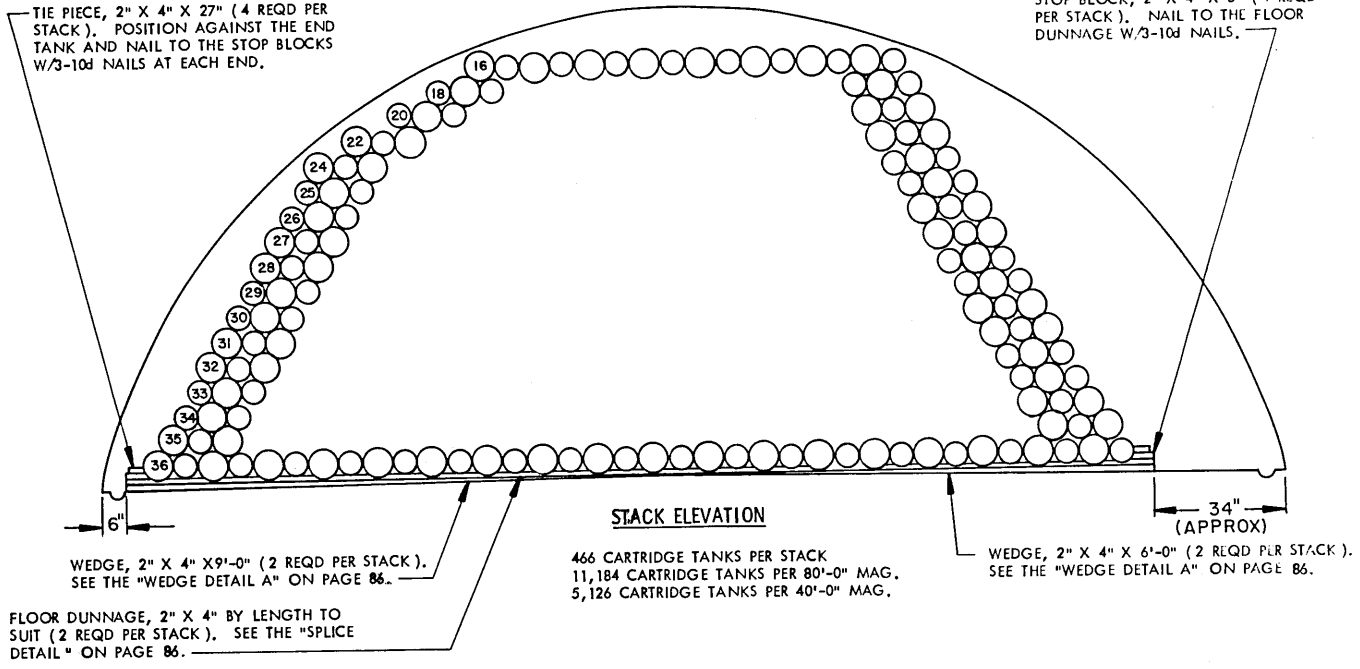


PARTIAL END VIEW OF STACK



TIE PIECE, 2" X 4" X 27" (4 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.



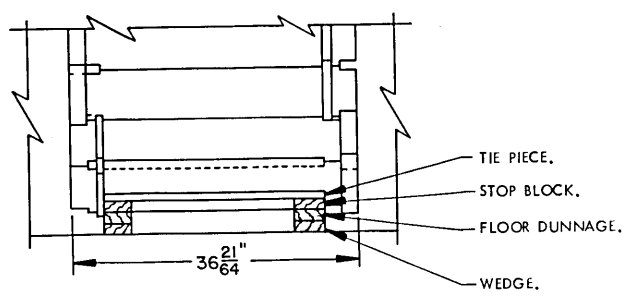
466 CARTRIDGE TANKS PER STACK  
 11,184 CARTRIDGE TANKS PER 80'-0" MAG.  
 5,126 CARTRIDGE TANKS PER 40'-0" MAG.

**BILL OF MATERIAL ( PER STACK )**

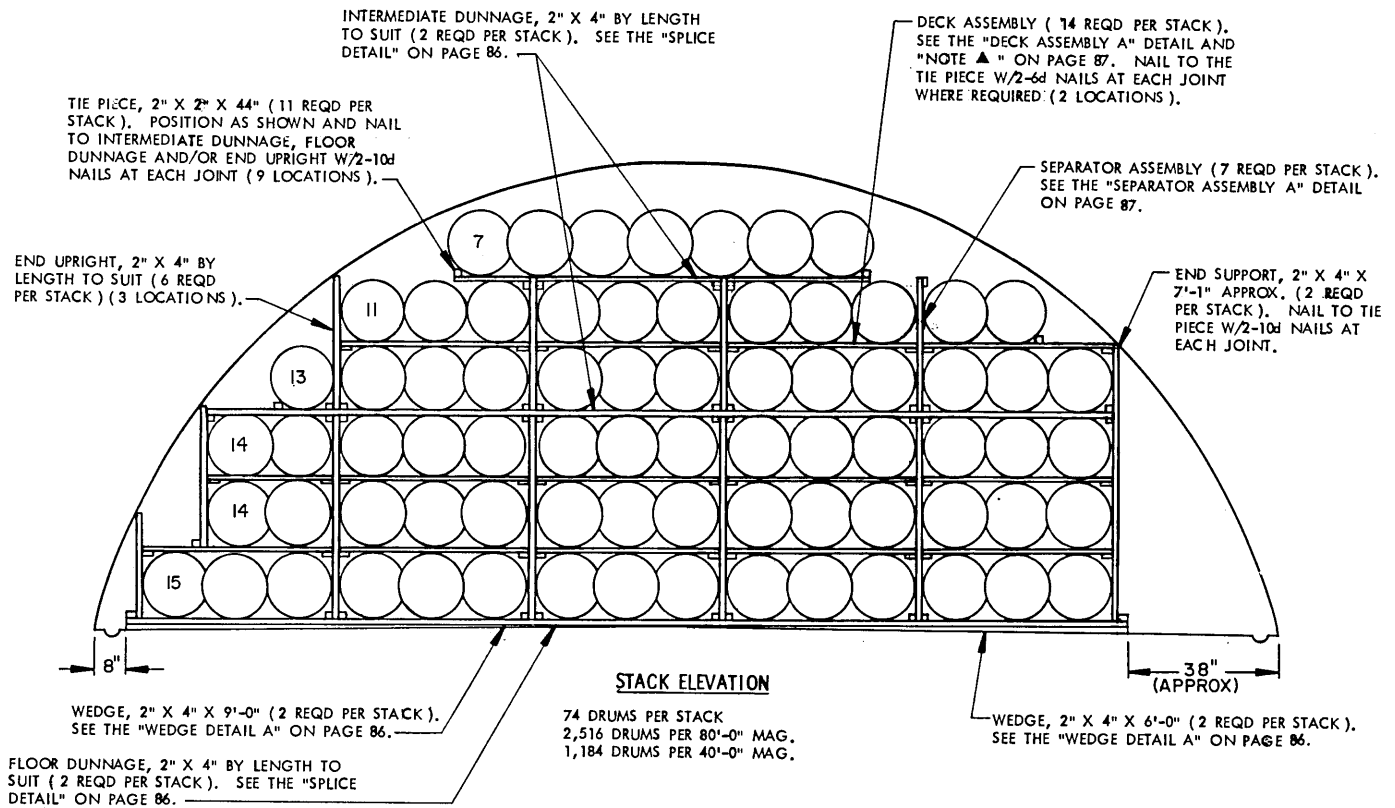
LUMBER	LINEAR FEET	BOARD FEET
2" X 4"	56	38
NAILS	NO. REQD	POUNDS
10d (3")	24	1/2
WEDGES PER STACK		
LUMBER	LENGTH	NO. REQD
2" X 4"	6'-0"	2
2" X 4"	9'-0"	2

**SPECIAL NOTES:**

- STORAGE AS SHOWN IS FOR THE MK14, MOD.1, AND MK21, 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.
- 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'-2" OF SPACE AT THE FRONT OF AN 80'-0" LONG MAGAZINE. THERE WILL BE APPROXIMATELY 67" OF SPACE AT THE FRONT OF A 40'-0" LONG MAGAZINE.



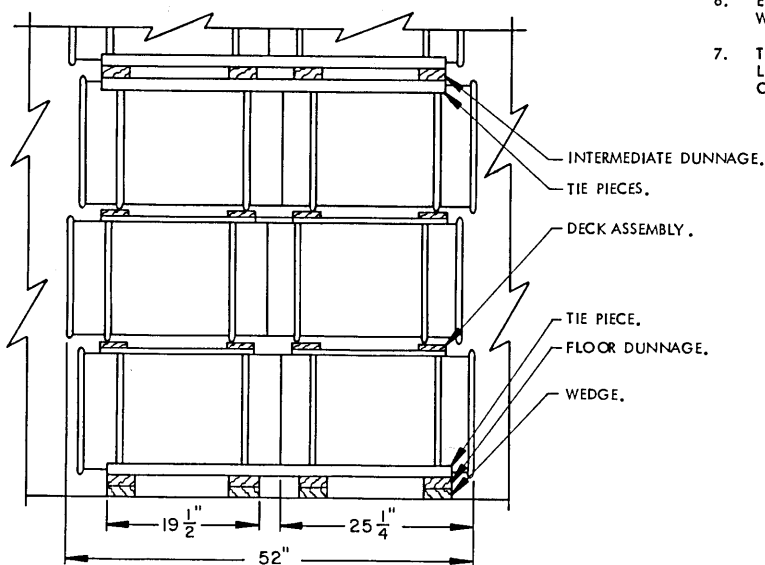
**PARTIAL END VIEW OF STACK**



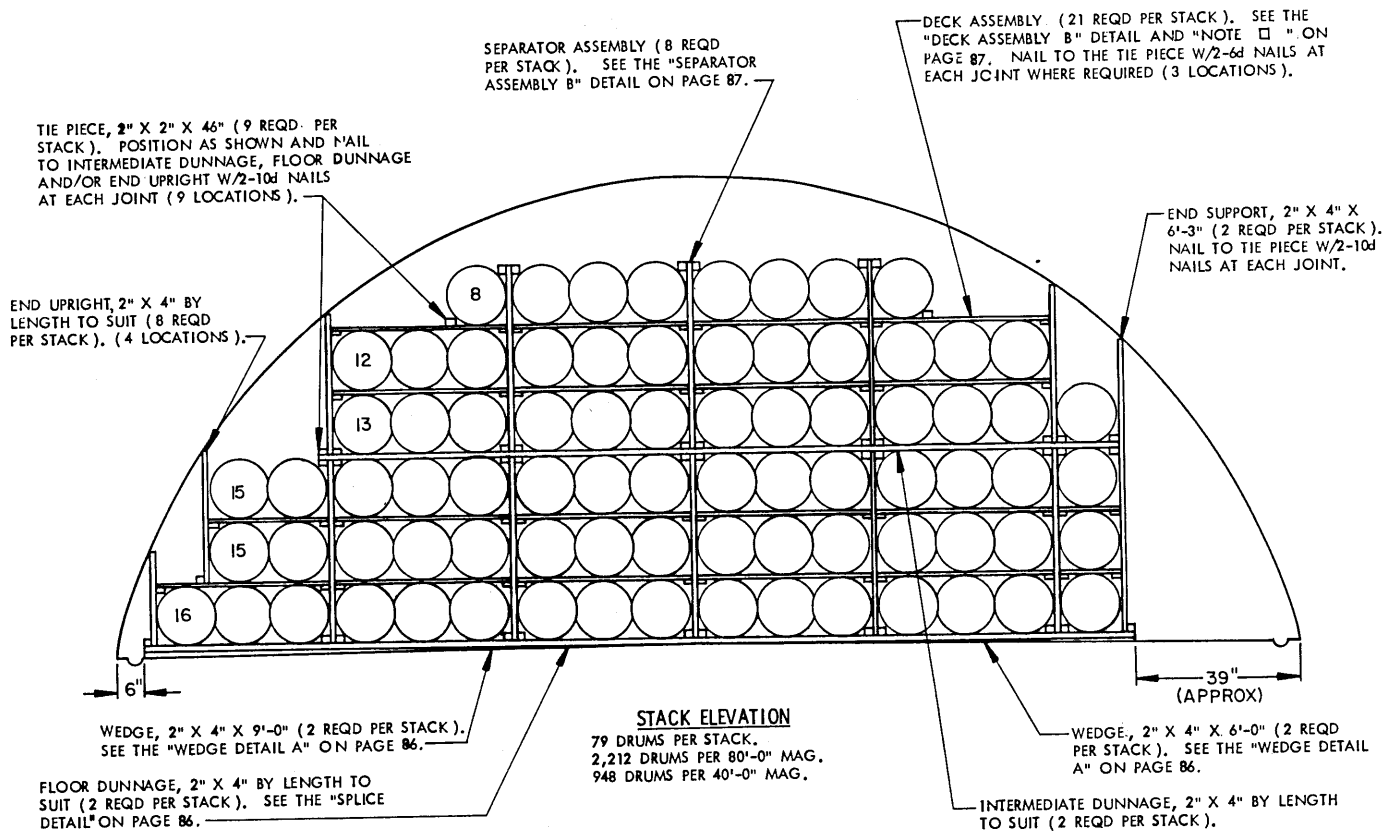
BILL OF MATERIAL (PER STACK)		
LUMBER	LINEAR FEET	BOARD FEET
1" X 2"	47	8
1" X 4"	107	36
2" X 2"	134	45
2" X 4"	150	100
NAILS	NO. REQD	POUNDS
6d (2")	136	3/4
10d (3")	216	3-1/2
WEDGES PER STACK		
LUMBER	LENGTH	NO. REQD
2" X 4"	6'-0"	2
2" X 4"	9'-0"	2

**SPECIAL NOTES:**

- STORAGE AS SHOWN IS FOR PROPELLING CHARGES FOR THE 105 MM 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" LONG MAGAZINE, THERE WILL BE APPROXIMATELY 50" OF SPACE AT THE FRONT OF A 40'-0" LONG MAGAZINE.



**PARTIAL END VIEW OF DOUBLE STACK**  
END SUPPORT PIECES HAVE BEEN OMITTED FOR CLARITY.



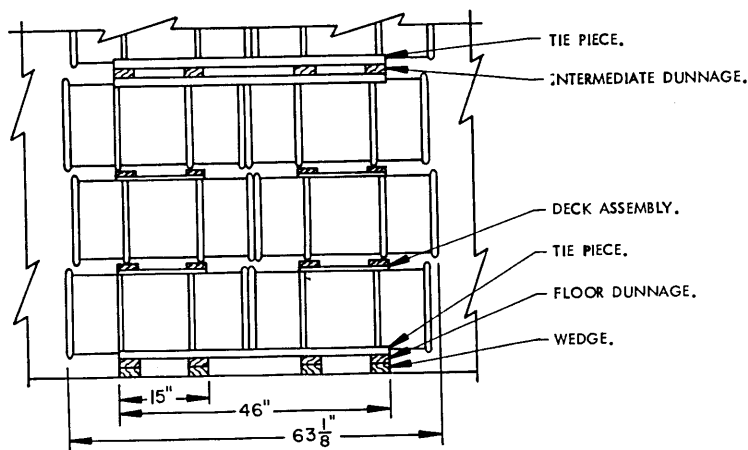
**STACK ELEVATION**

79 DRUMS PER STACK.  
2,212 DRUMS PER 80'-0" MAG.  
948 DRUMS PER 40'-0" MAG.

BILL OF MATERIAL ( PER STACK )		
LUMBER	LINEAR FEET	BOARD FEET
1" X 2"	56	10
1" X 4"	140	47
2" X 2"	77	26
2" X 4"	162	108
NAILS	NO. REQD	POUNDS
6d (2")	220	1-1/2
10d (3")	176	2-3/4
WEDGES PER STACK		
LUMBER	LENGTH	NO. REQD
2" X 4"	6'-0"	2
2" X 4"	9'-0"	2

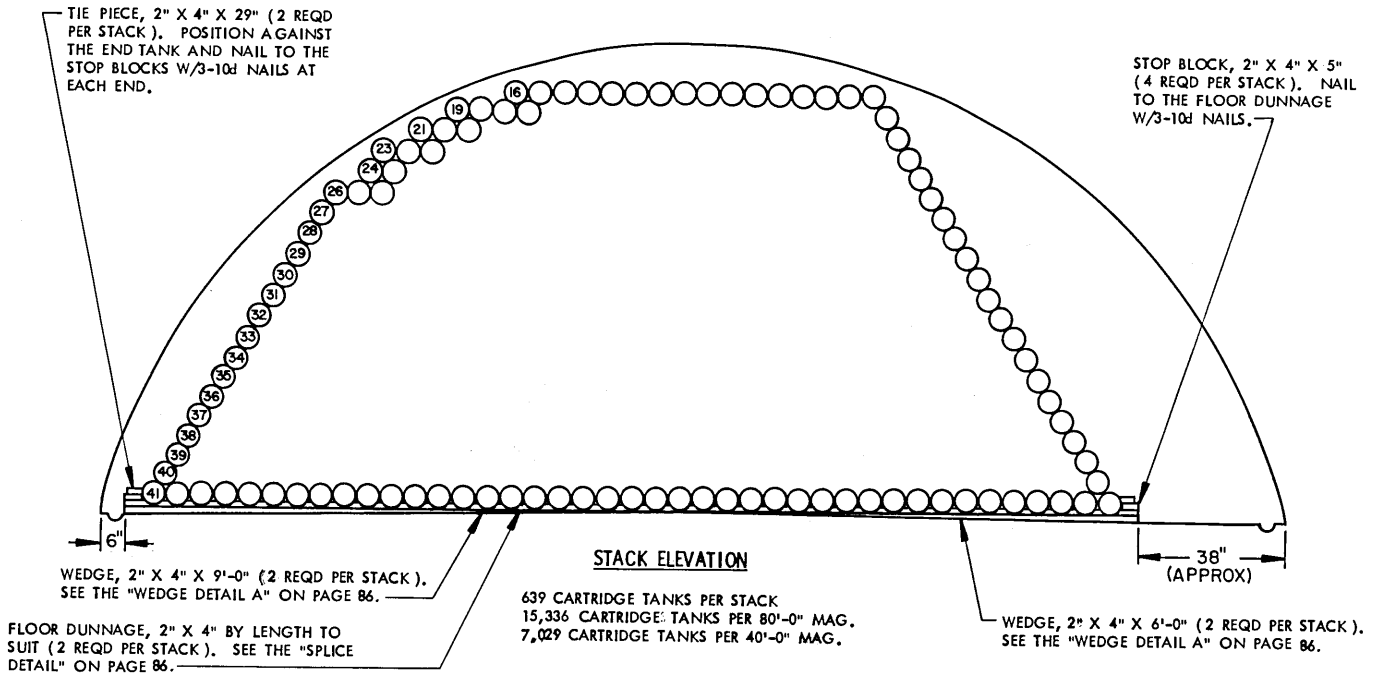
**SPECIAL NOTES:**

- STORAGE AS SHOWN IS FOR THE PROPELLING CHARGE 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" LONG MAGAZINE. THERE WILL BE APPROXIMATELY 7'-3" OF SPACE AT THE FRONT OF A 40'-0" LONG MAGAZINE.



**PARTIAL END VIEW OF DOUBLE STACK**

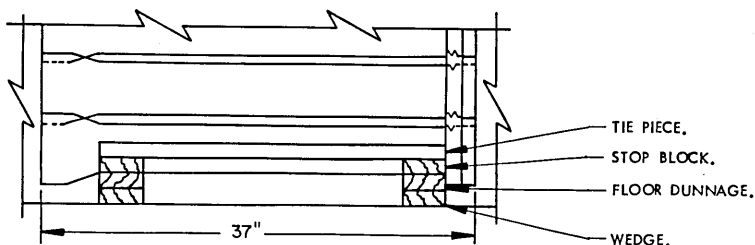
END SUPPORT PIECES HAVE BEEN OMITTED FOR CLARITY.



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

**SPECIAL NOTES:**

1. STORAGE AS SHOWN IS FOR THE MK5, MOD.2 CARTRIDGE TANKS 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" LONG MAGAZINE. THERE WILL BE 59" OF SPACE AT THE FRONT OF A 40'-0" LONG MAGAZINE.

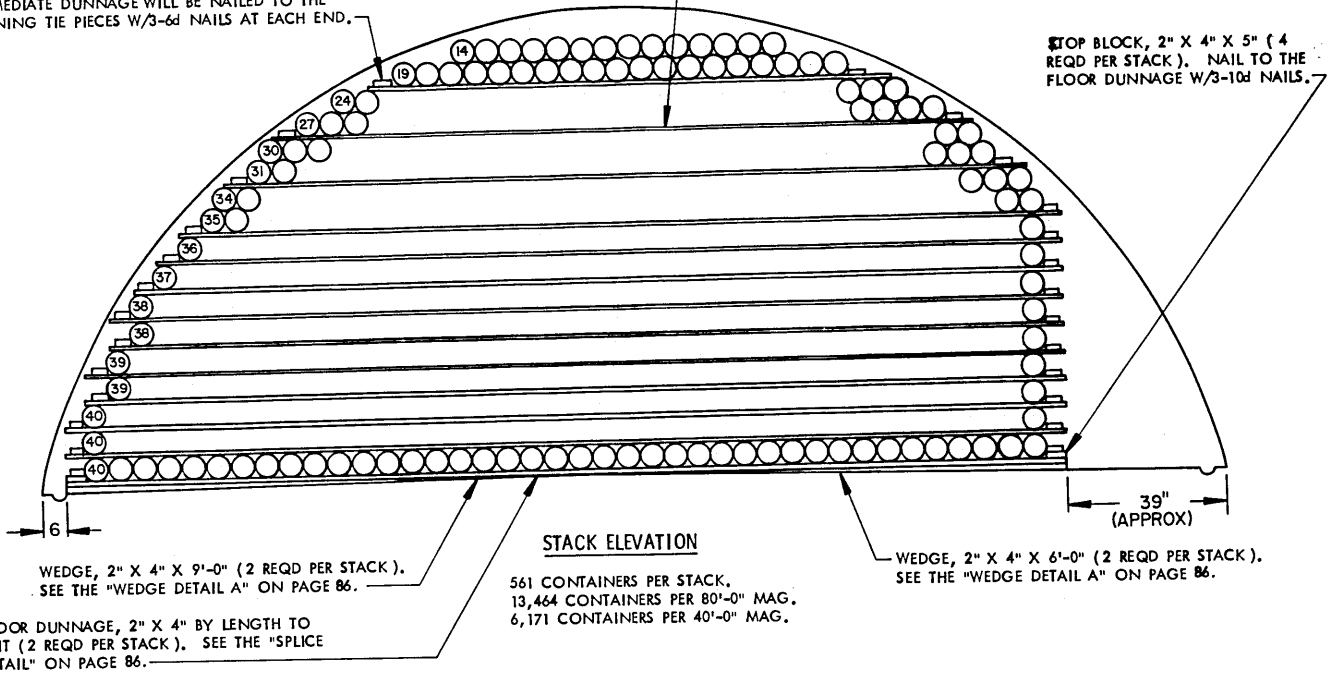


**PARTIAL END VIEW OF STACK**

INTERMEDIATE DUNNAGE, 1" X 4" BY LENGTH TO SUIT (24 REQD PER STACK). SEE THE "SPLICE DETAIL" ON PAGE 86.

TIE PIECE, 2" X 4" X 37" (26 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.

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.

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

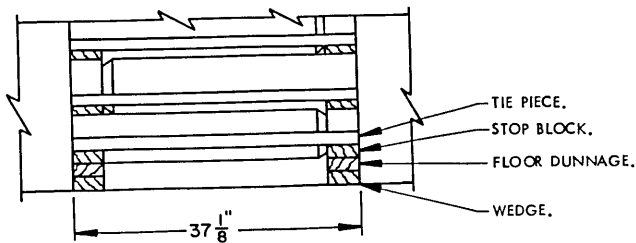
FLOOR DUNNAGE, 2" X 4" BY LENGTH TO SUIT (2 REQD PER STACK). SEE THE "SPLICE DETAIL" ON PAGE 86.

561 CONTAINERS PER STACK.  
13,464 CONTAINERS PER 80'-0" MAG.  
6,171 CONTAINERS PER 40'-0" MAG.

**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" LONG MAGAZINE. THERE WILL BE APPROXIMATELY 58" OF SPACE AT THE FRONT OF A 40'-0" LONG MAGAZINE.

BILL OF MATERIAL ( PER STACK )		
LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	488	163
2" X 4"	128	86
NAILS	NO. REQD	POUNDS
6d (2")	168	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

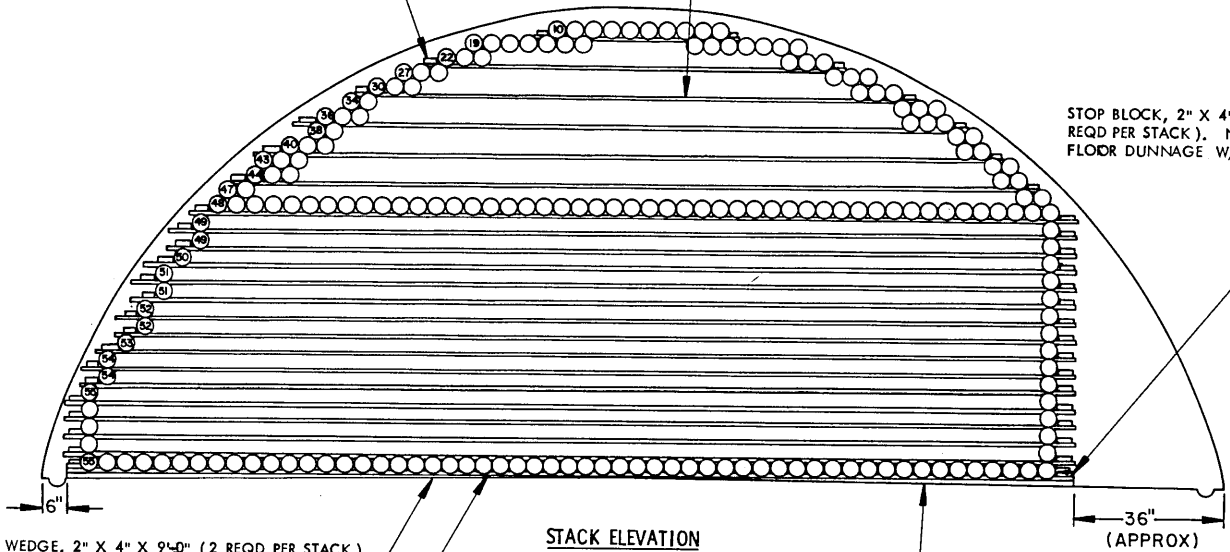


PARTIAL END VIEW OF STACK

TIE PIECE, 2" X 4" X 20" (44 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 (42 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.



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**

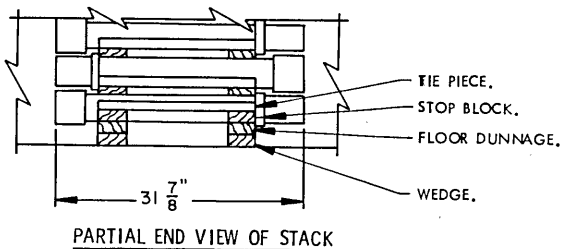
1,228 CONTAINERS PER STACK.  
34,384 CONTAINERS PER 80'-0" MAG.  
15,964 CONTAINERS PER 40'-0" MAG.

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"	863	288
2" X 4"	118	79
NAILS		POUNDS
6d (2")	252	1-1/2
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:**

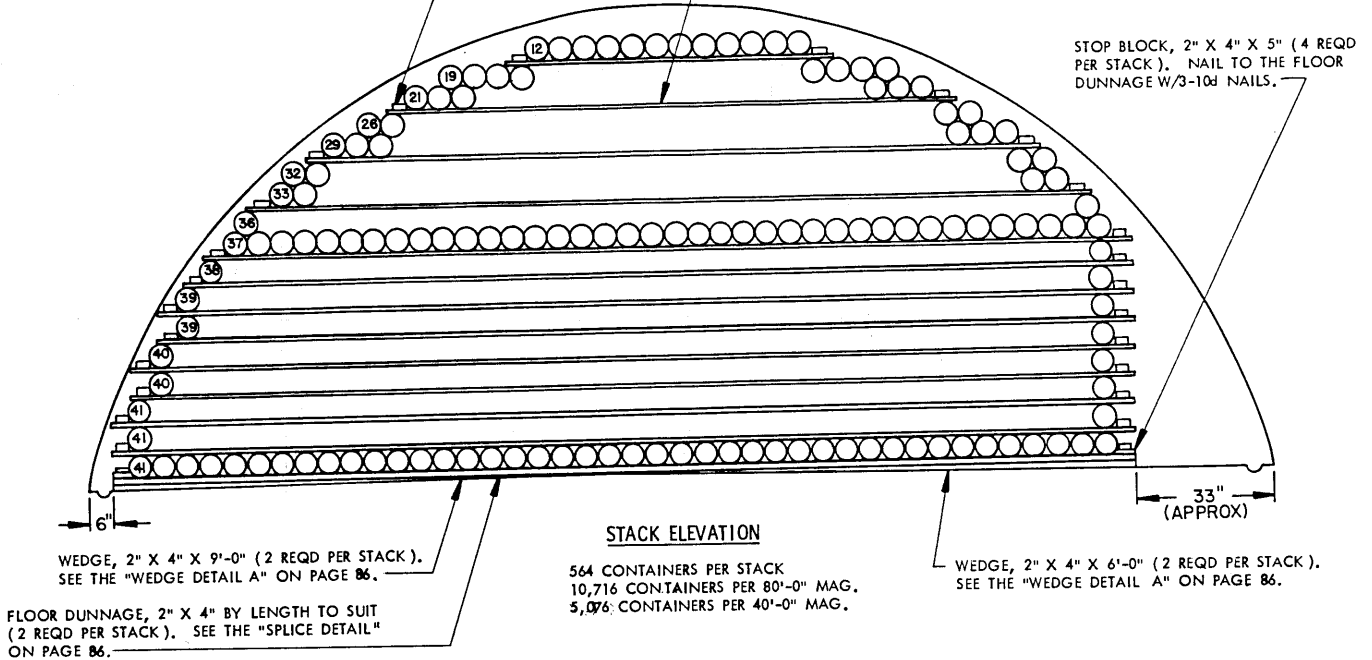
- STORAGE AS SHOWN IS FOR THE M154 SERIES CONTAINER. USE THIS SAME STORAGE FORMAT FOR ALL M154 SERIES CONTAINERS.  
CONTAINER DIMENSIONS -- 31-7/8" LONG BY 4-1/2" DIAMETER.
- THE NUMBERS SHOWN IN THE STACK ELEVATION INDICATE THE QUANTITY OF CONTAINERS PER LAYER IN A STACK.
- SEE THE "TYPICAL PLAN VIEW(A)" ON PAGE 84.
- 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" LONG MAGAZINE. THERE WILL BE APPROXIMATELY 52" OF SPACE AT THE FRONT OF A 40'-0" LONG MAGAZINE.



TIE PIECE, 2" X 4" X 29" (26 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 (24 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**

564 CONTAINERS PER STACK  
 10,716 CONTAINERS PER 80'-0" MAG.  
 5,076 CONTAINERS PER 40'-0" MAG.

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.

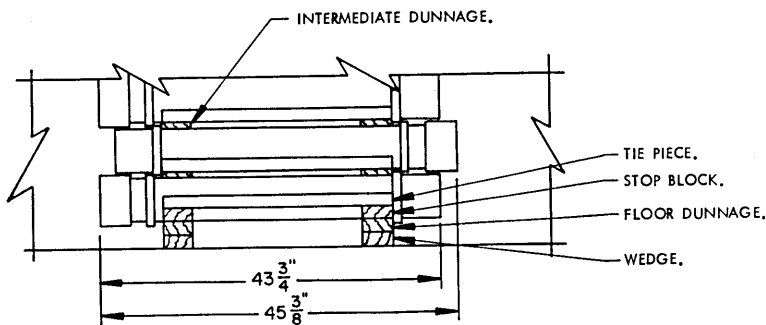
WEDGE, 2" X 4" X 6'-0" (2 REQD PER STACK). SEE THE "WEDGE DETAIL A" ON PAGE 86.

**BILL OF MATERIAL ( PER STACK )**

LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	479	160
2" X 4"	112	75
NAILS	NO. REQD	POUNDS
6d (12")	144	1
10d (13")	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 ON 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" LONG MAGAZINE. THERE WILL BE APPROXIMATELY 58" OF SPACE AT THE FRONT OF A 40'-0" LONG MAGAZINE.

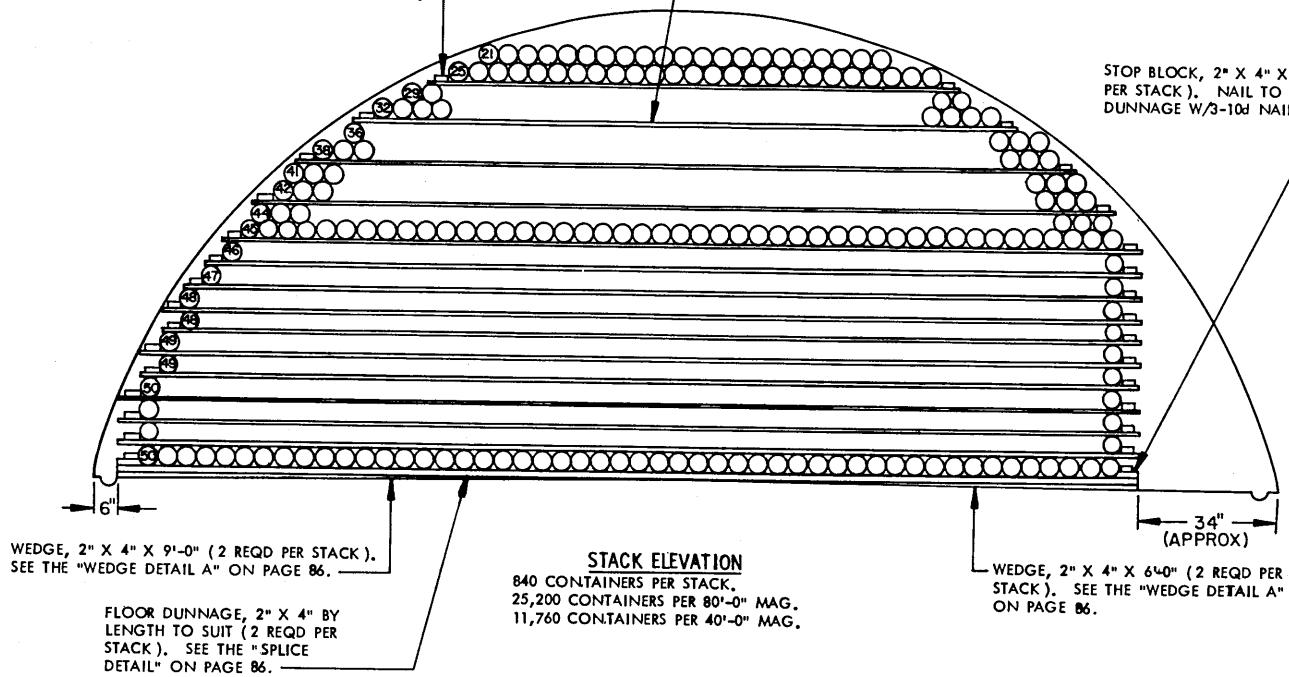


**PARTIAL END VIEW OF STACK**

TIE PIECE, 2" X 4" X 29" (30 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 (28 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**

840 CONTAINERS PER STACK.  
25,200 CONTAINERS PER 80'-0" MAG.  
11,760 CONTAINERS PER 40'-0" MAG.

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.

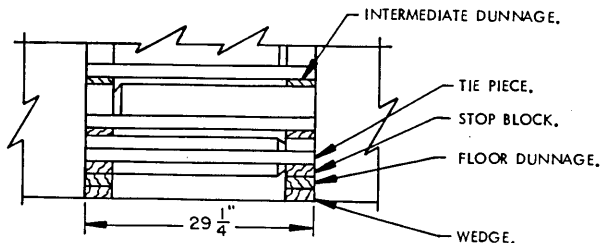
WEDGE, 2" X 4" X 6'-0" (2 REQD PER STACK). SEE THE "WEDGE DETAIL A" ON PAGE 86.

**BILL OF MATERIAL ( PER STACK )**

LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	586	196
2" X 4"	121	81
NAILS	NO. REQD	POUNDS
6d (2")	168	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:**

1. STORAGE AS SHOWN IS FOR THE M173 SERIES CONTAINER. USE THIS SAME STORAGE FORMAT FOR ALL M173 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 THE 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" LONG MAGAZINE. THERE WILL BE APPROXIMATELY 57" OF SPACE AT THE FRONT OF A 40'-0" LONG MAGAZINE.



**PARTIAL END VIEW OF STACK**

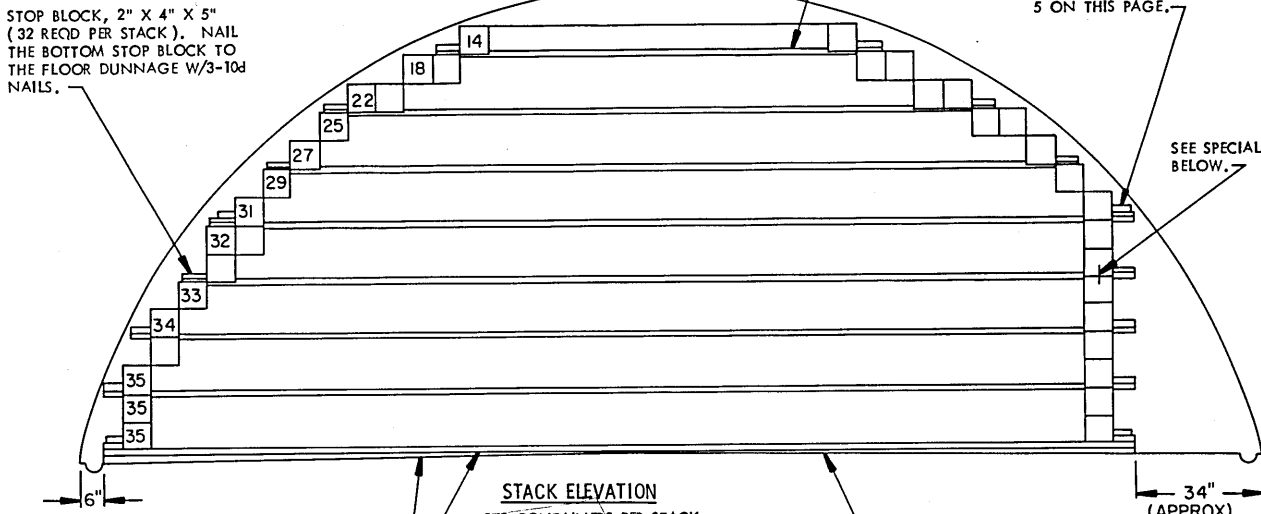


INTERMEDIATE DUNNAGE, 1" X 4" BY LENGTH TO SUIT (22 REQD PER STACK). NAIL TO THE STOP BLOCKS W/3-6d NAILS AT EACH END. SEE THE "SPLICE DETAIL ON PAGE 86."

TIE PIECE, 2" X 4" X 7'-3-1/4" FOR THE PA98 CONTAINER, 7'-7-1/4" FOR THE PA104 CONTAINER (4 REQD PER DOUBLE 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" (32 REQD PER STACK). NAIL THE BOTTOM STOP BLOCK TO THE FLOOR DUNNAGE W/3-10d NAILS.

SEE SPECIAL NOTE 7 BELOW.



**STACK ELEVATION**

370 CONTAINERS PER STACK.  
 7,400 PA98 CONTAINERS PER 80'-0" MAG  
 2,960 PA98 CONTAINERS PER 40'-0" MAG  
 6,660 PA104 CONTAINERS PER 80'-0" MAG  
 2,960 PA104 CONTAINERS PER 40'-0" MAG

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.

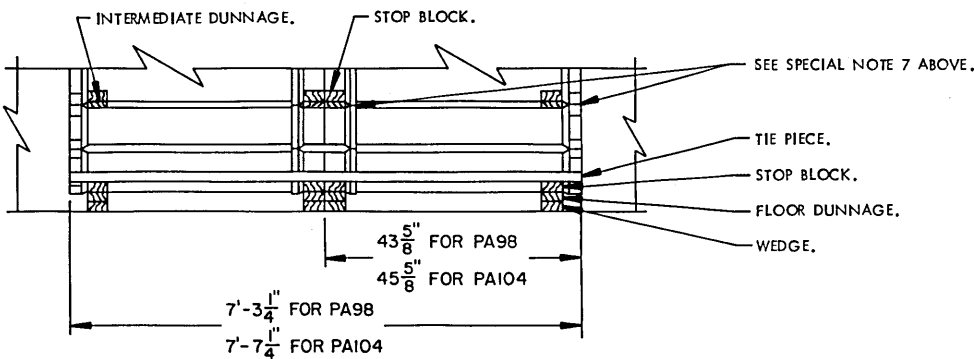
FLOOR DUNNAGE, 2" X 4" BY LENGTH TO SUIT (2 REQD PER STACK). SEE THE "SPLICE DETAIL" ON PAGE 86.

**SPECIAL NOTES:**

- STORAGE AS SHOWN IS FOR THE PA98 AND PA104 CONTAINERS. USE THIS SAME STORAGE FORMAT FOR ALL PA98 AND PA104 SERIES 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 NUMBER 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.
- 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.

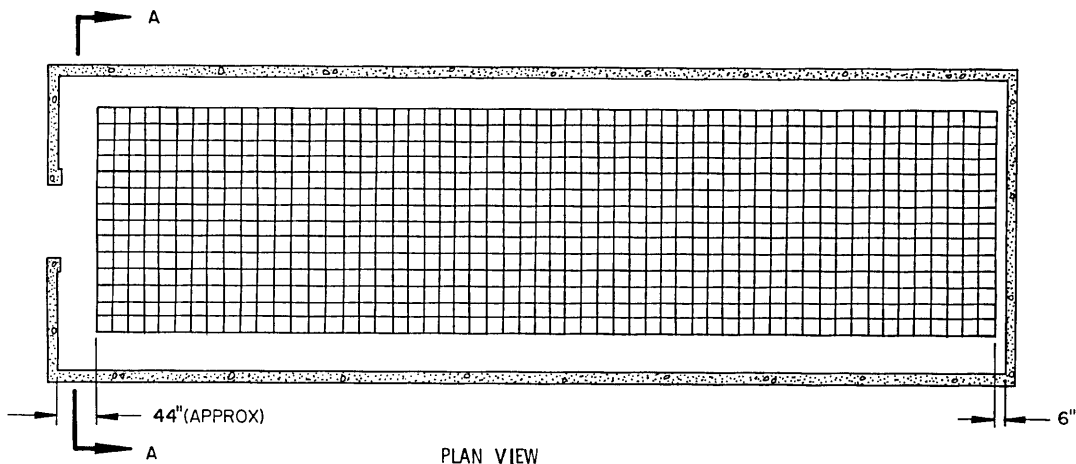
**BILL OF MATERIAL (PER STACK)**

LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	266	89
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

COMPLETE ROUND, IN PA98 & PA104 SERIES CONTAINERS



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

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

ITEM	QUANTITY	EXPLOSIVE WEIGHT
FIBERBOARD BOX	8,456	338,240 LBS

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

ITEM	QUANTITY	EXPLOSIVE WEIGHT
FIBERBOARD BOX	4,077	163,080 LBS.

\* 27 STACKS WITH 35" (APPROX) SPACE REMAINING AT FRONT. SEE GENERAL NOTE "E" ON PAGE 2. SEE SPECIAL NOTES 2 AND 8, AND "TABLE 1" ON PAGE 43.

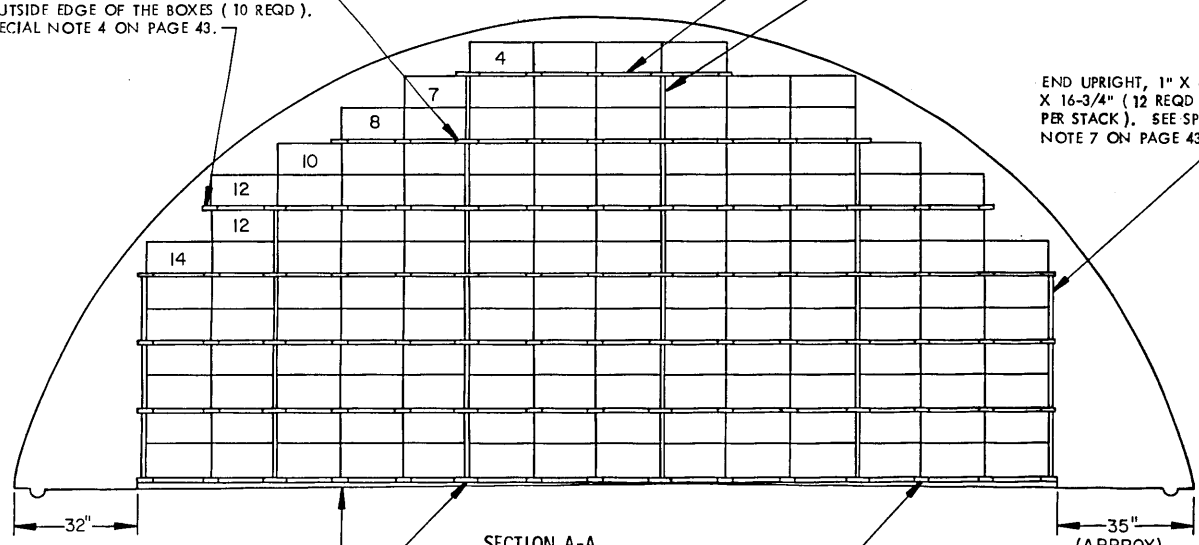
INTERMEDIATE DUNNAGE, 1" X 6" BY RANDOM LENGTHS. CENTER ON THE INTERMEDIATE UPRIGHTS AS SHOWN (21 REQD). SEE SPECIAL NOTE 4 ON PAGE 43.

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 (10 REQD). SEE SPECIAL NOTE 4 ON PAGE 43.

INTERMEDIATE DUNNAGE, 1" X 4" BY RANDOM LENGTHS. CENTER ON THE JOINTS OF THE BOXES AS SHOWN (41 REQD). SEE SPECIAL NOTE 4 ON PAGE 43.

INTERMEDIATE UPRIGHT, 1" X 4" X 16-1/4" (42 REQD PER STACK). SEE SPECIAL NOTE 7 ON PAGE 43.

END UPRIGHT, 1" X 4" X 16-3/4" (12 REQD PER STACK). SEE SPECIAL NOTE 7 ON PAGE 43.



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

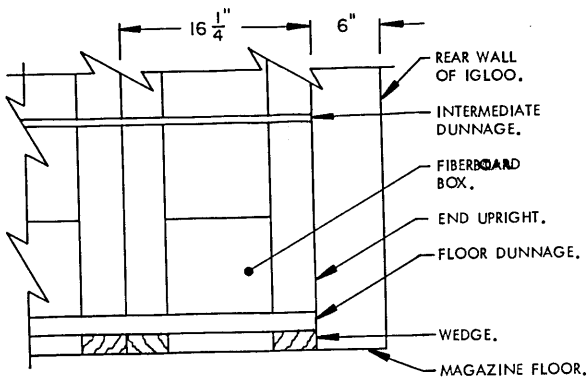
**SECTION A-A**  
151 BOXES PER STACK.

FLOOR DUNNAGE, 2" X 6" BY RANDOM LENGTHS. POSITION SO AS TO BE CENTERED UNDER THE INTERMEDIATE UPRIGHTS AS SHOWN (4 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 2B (PACKED IN FIBERBOARD BOX)



**PARTIAL END VIEW OF STACKS**

(SPECIAL NOTES CONTINUED)

- 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.

**SPECIAL NOTES:**

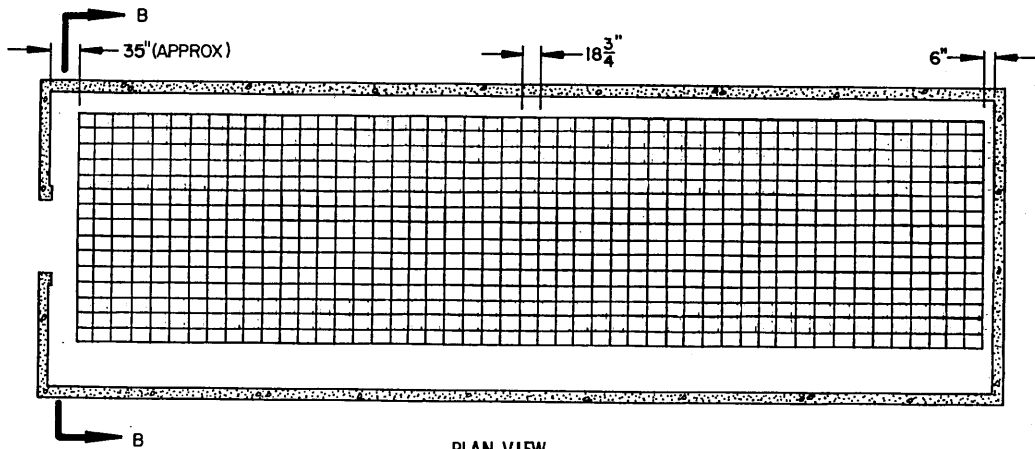
- 1. STORAGE AS SHOWN IS FOR TNC AND SIMILAR BULK EXPLOSIVES PACKED IN FIBERBOARD BOX NO. 2. FOR DETAILS OF THE BOX SEE DRAWING NO. 7548645. SEE SPECIAL NOTE B.  
DIMENSIONS -----16-1/4" LONG BY 16-1/4" WIDE BY 8-1/8" HIGH.  
EXPLOSIVE WEIGHT -----40 POUNDS.
- 2. STORAGE AS SHOWN IS FOR FIBERBOARD BOXES CONTAINING TNC. THE PROCEDURES ARE APPLICABLE FOR ALL THE ITEMS LISTED IN TABLE 1. 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 EITHER 80'-0" OR 40'-0" MAGAZINES, 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 THIRTEEN (13) 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.

(CONTINUED AT LEFT)

TABLE 1					
ITEM	EXPL WT/BOX	80'-0" MAGAZINE		40'-0" MAGAZINE	
		MAX. QUANTITY	MAX EXPLOSIVE	MAX QUANTITY	MAX EXPLOSIVE
PENTOLITE	36 LBS	8,456	295,960 LBS	4,077	142,695 LBS
POTASSIUM PICRATE	35 LBS	8,456	295,960 LBS	4,077	142,695 LBS
COMPOSITION D-2	80 LBS	8,456	253,680 LBS	4,077	122,310 LBS
MAX 2	50 LBS	8,456	422,800 LBS	4,077	203,850 LBS
MOX 2B	50 LBS	8,456	422,800 LBS	4,077	203,850 LBS

BILL OF MATERIAL ( PER STACK )		
LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	143	48
1" X 6"	29	15
2" X 4"	15	10
2" X 6"	6	3
WEDGES PER STACK		
LUMBER	LENGTH	NO. 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)

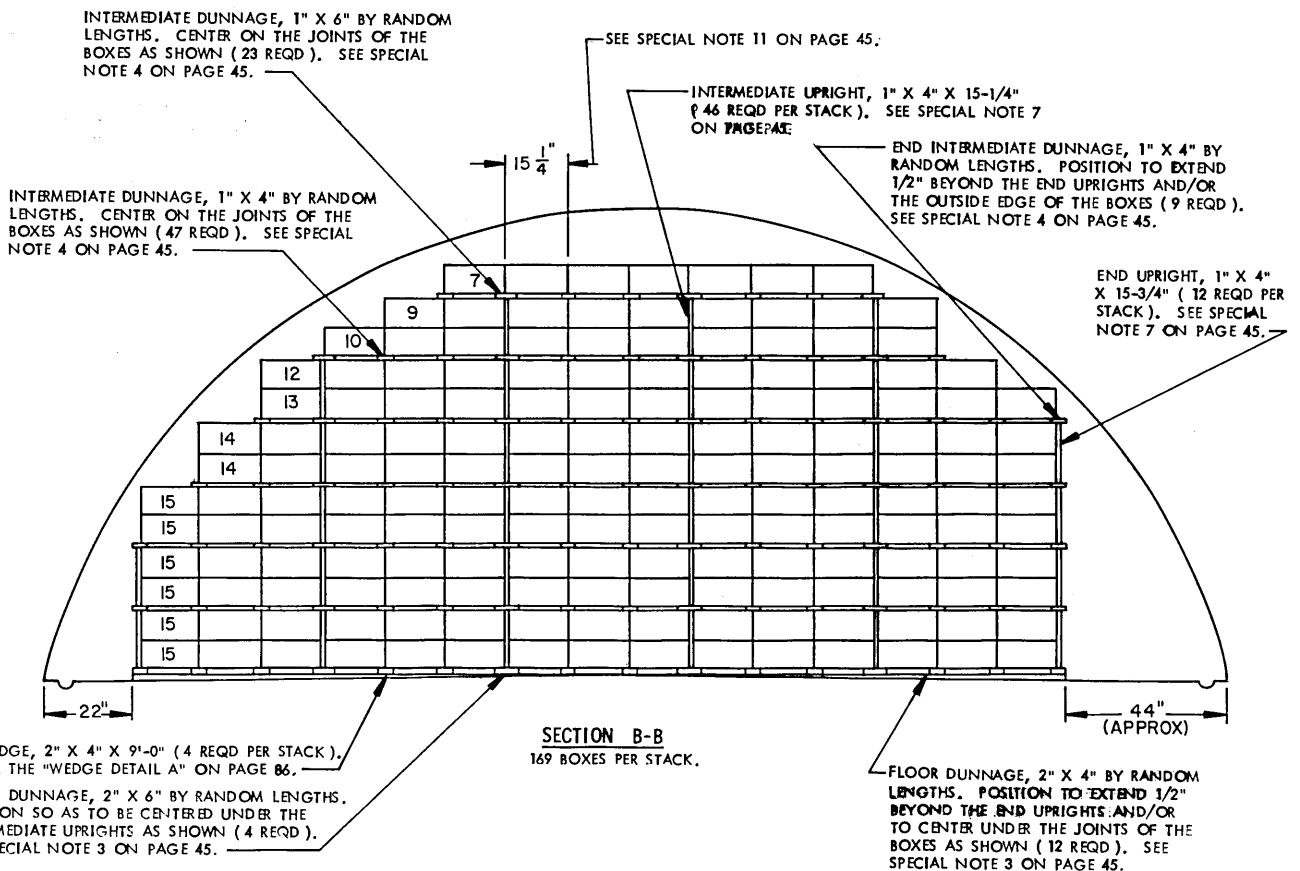
**STORAGE IN 80'-0" MAGAZINE**

ITEM	QUANTITY	EXPLOSIVE WEIGHT
FIBERBOARD BOX	8,281	414,050 LBS

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

ITEM	QUANTITY	EXPLOSIVE WEIGHT
FIBERBOARD BOX	3,887	194,350 LBS

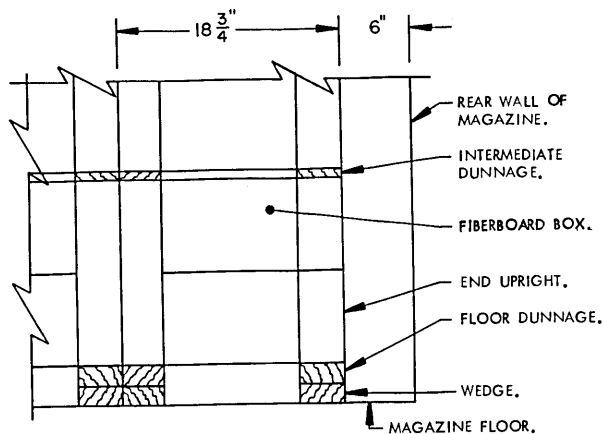
\*23 BEACKS WITH 42" (APPROX) SPACE REMAINING AT FRONT. SEE GENERAL NOTE "E" ON PAGE 2. SEE SPECIAL NOTES 2 AND 9, AND TABLE 2, ON PAGE 45.



**SECTION B-B**  
169 BOXES PER STACK.

**STORAGE METHOD A**

TNT, ALL COMP A, ALL COMP B, COMP C-3 AND C-4, EXPLOSIVE D, CYCLOTOL, OCTOL, PBX, TETRYL, TOVEX AND PBXN 6 (PACKED IN FIBERBOARD BOX)



**PARTIAL END VIEW OF STACKS**

(SPECIAL NOTES CONTINUED)

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.
2. SIMILAR BULK EXPLOSIVES INCLUDE:
  - (a) ALL COMPOSITION A.
  - (b) ALL COMPOSITION B.
  - (c) COMPOSITION C-3 AND C-4.
  - (d) EXPLOSIVE D.
  - (e) CYCLOTOL
  - (f) OCTOL
  - (g) PBX
  - (h) TETRYL.
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 ON 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 THIRTEEN (13) BOXES HIGH.
6. THE NUMBERS SHOWN IN SECTION B-8 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. 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. THE EXPLOSIVE WEIGHT FOR 55-POUND BOXES OF TNT IN 80"-0" MAGAZINES IS 455,455 POUNDS, AND 213,785 POUNDS IN 40"-0" MAGAZINES.

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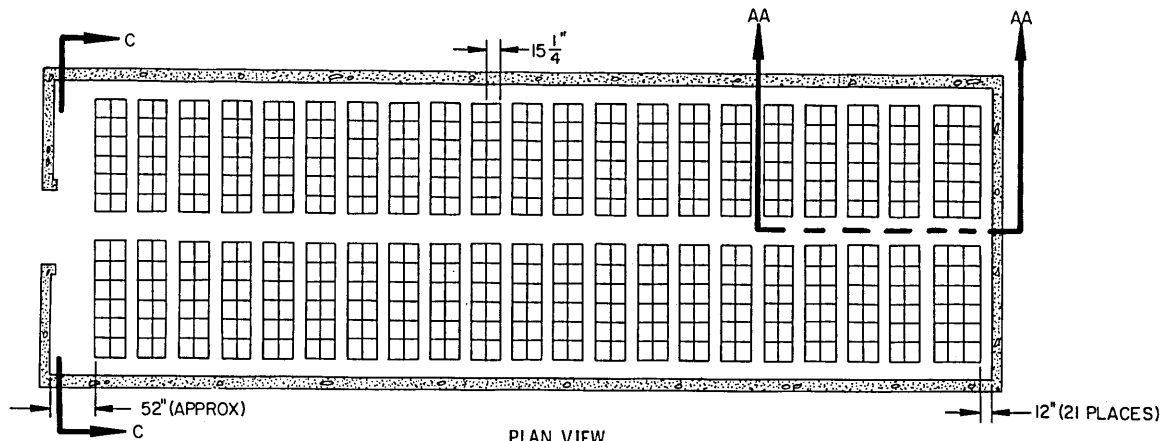
**TABLE 2**

ITEM	EXPL. WT./BOX	80"-0" MAGAZINE		40"-0" MAGAZINE	
		MAX QUANTITY	MAX EXPLOSIVE	MAX QUANTITY	MAX EXPLOSIVE
TNT	50 LBS	8,281	414,050 LBS	3,887	194,350 LBS
TNT	55 LBS	8,281	455,455 LBS	3,887	213,785 LBS
ALL COMPOSITION A.	60 LBS	8,281	496,860 LBS	3,887	233,220 LBS
ALL COMPOSITION B.	60 LBS	8,281	496,860 LBS	3,887	233,220 LBS
COMPOSITION C-3 AND C-4.	60 LBS	8,281	496,860 LBS	3,887	233,220 LBS
EXPLOSIVE D.	50 LBS	8,281	414,050 LBS	3,887	194,350 LBS
CYCLOTOL.	60 LBS	8,281	496,860 LBS	3,887	233,220 LBS
OCTOL.	60 LBS	8,281	496,860 LBS	3,887	233,220 LBS
PBX.	60 LBS (MAX)	8,281	496,860 LBS	3,887	233,220 LBS
TETRYL.	60 LBS	8,281	496,860 LBS	3,887	233,220 LBS
TOVEX.	60 LBS	8,281	414,050 LBS	3,887	194,350 LBS
PBXN 6.	50 LBS	8,281	414,050 LBS	3,887	194,350 LBS

**BILL OF MATERIAL (PER STACK)**

LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	162	54
1" X 6"	36	18
2" X 4"	19	13
2" X 6"	7	7
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 AND C-4, EXPLOSIVE D,  
 CYCLOTOL, OCTOL, PBX, TETRYL, TOVEX AND PBXN 6 (PACKED IN FIBERBOARD BOX)



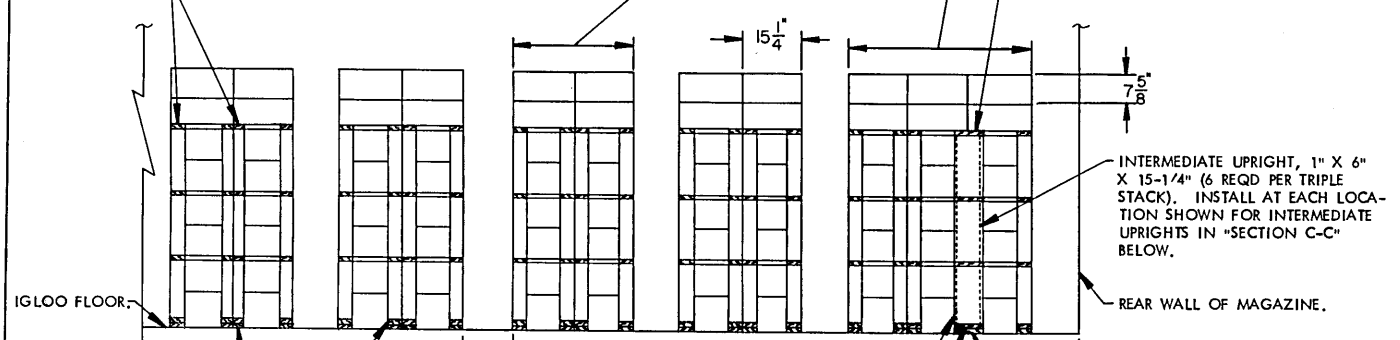
**PLAN VIEW**  
( 80' - 0" MAGAZINE )

INTERMEDIATE DUNNAGE, 1" X 4" BY A LENGTH TO SUIT. POSITION TO EXTEND 1/2" BEYOND THE END UPRIGHTS. (24 REQD 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 REQD PER TRIPLE STACK).



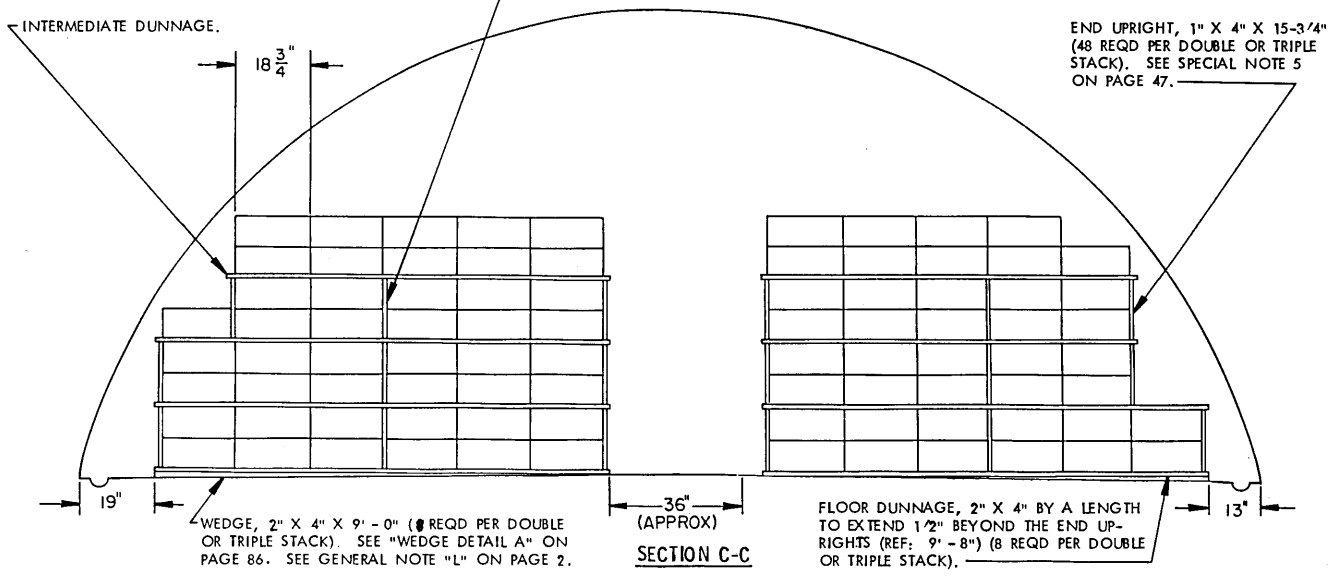
**VIEW AA-AA**

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

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

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

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



**SECTION C-C**

WEDGE, 2" X 4" X 9' - 0" (8 REQD PER DOUBLE OR TRIPLE STACK). SEE "WEDGE DETAIL A" ON PAGE 86. SEE GENERAL NOTE "L" ON PAGE 2.

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

END UPRIGHT, 1" X 4" X 15-3/4" (48 REQD PER DOUBLE OR TRIPLE STACK). SEE SPECIAL NOTE 5 ON PAGE 47.

SPECIAL NOTES:

- 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.

- SIMILAR BULK EXPLOSIVES INCLUDE:

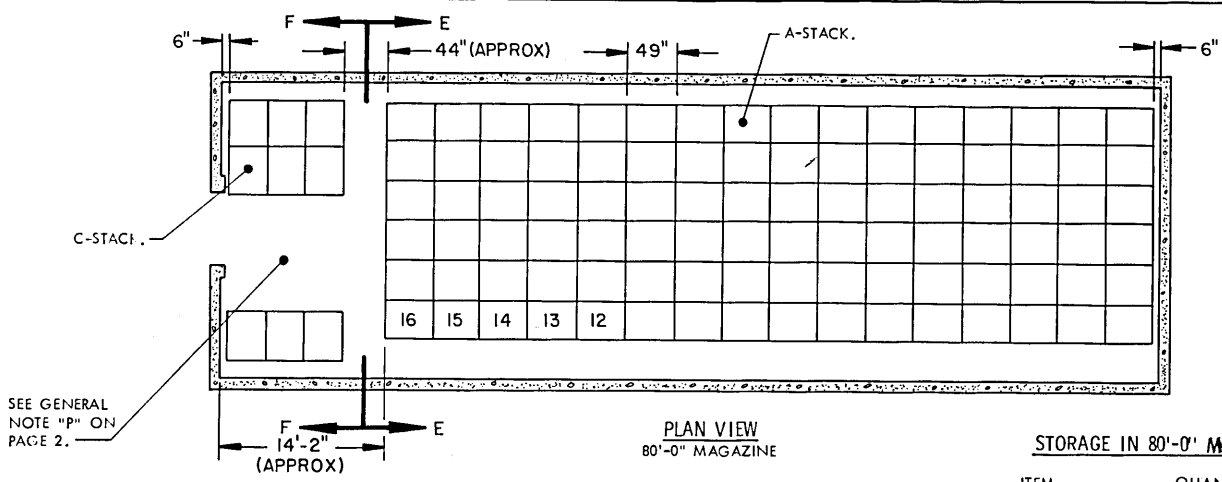
ITEM

- |                             |             |
|-----------------------------|-------------|
| (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) PBXN6.  |
|                             | (l) TNC.    |

- 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
- 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.
- 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:
  - INTERMEDIATE UPRIGHT PIECES MUST BE OF A LENGTH EQUAL TO THE HEIGHT OF TWO BOXES.
  - END UPRIGHT PIECES MUST BE 1/2" LONGER THAN INTERMEDIATE UPRIGHT PIECES.
- 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.
- 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.
- 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"	307	103
1" X 6"	77	39
2" X 4"	78	52
2" X 6"	20	20
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"	307	103
2" X 4"	78	52
WEDGES		
LUMBER	LENGTH	NO. REQD
2" X 4"	9' - 0"	8

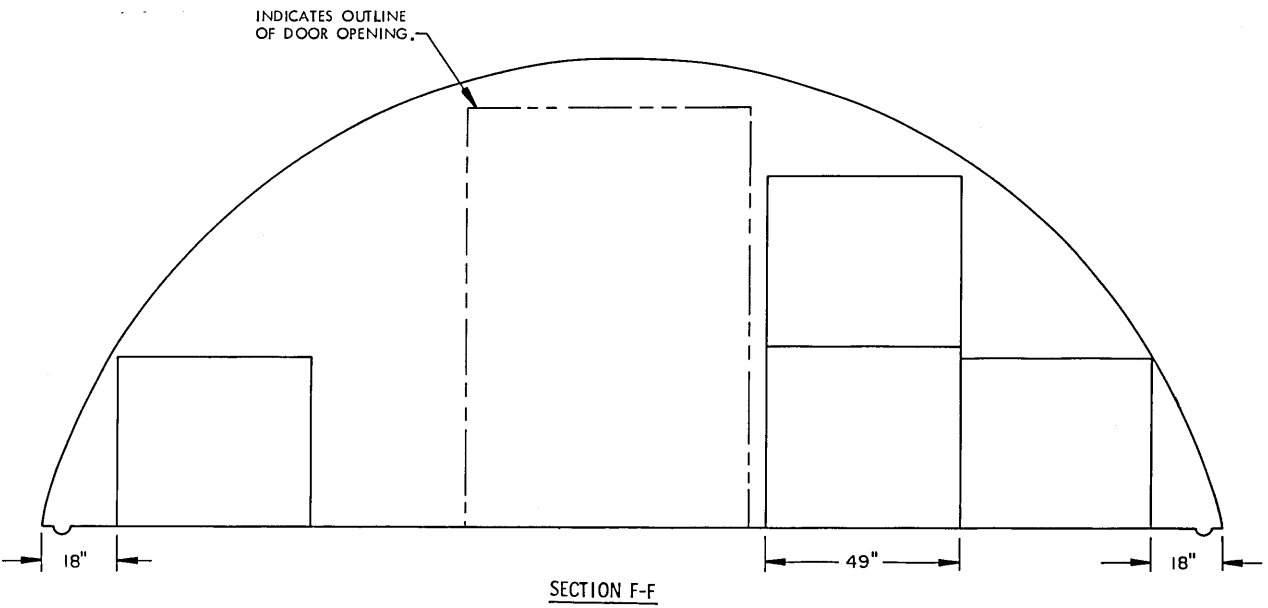
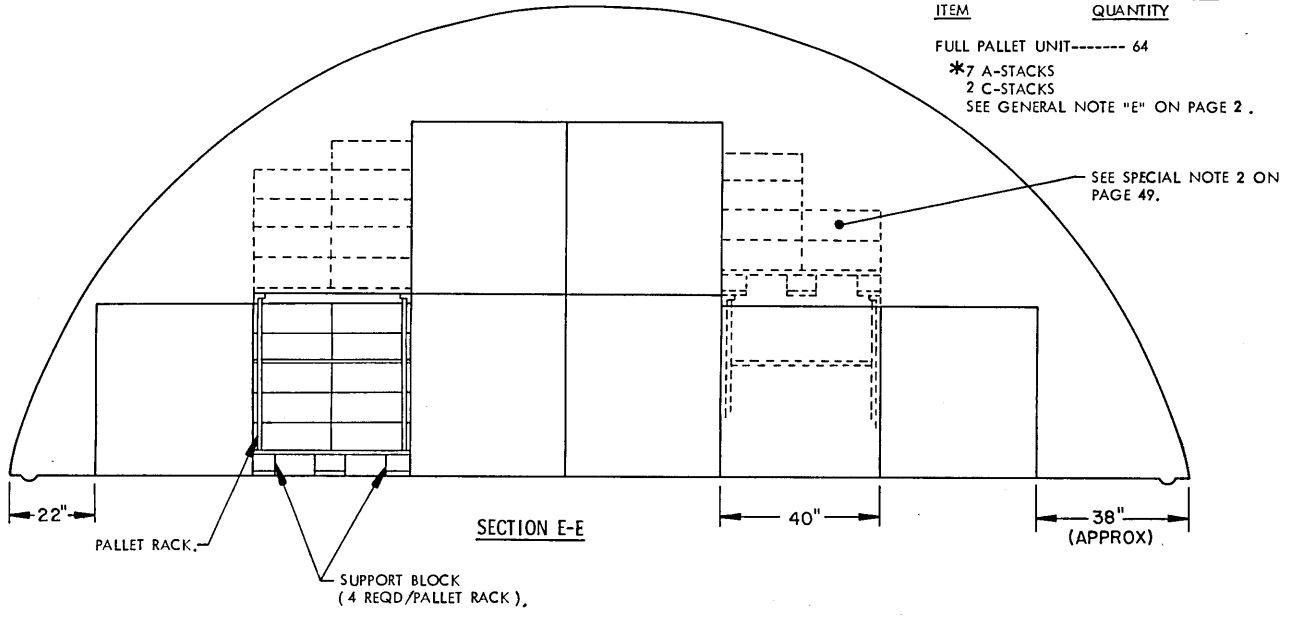


STORAGE IN 80'-0" MAGAZINE

ITEM	QUANTITY
FULL PALLET UNIT-----	140

\* STORAGE IN 40'-0" MAGAZINE

ITEM	QUANTITY
FULL PALLET UNIT-----	64
*7 A-STACKS	
2 C-STACKS	
SEE GENERAL NOTE "E" ON PAGE 2.	



PALLETT RACK STORAGE PROCEDURES FOR FIBERBOARD BOXES AND / OR DRUMS



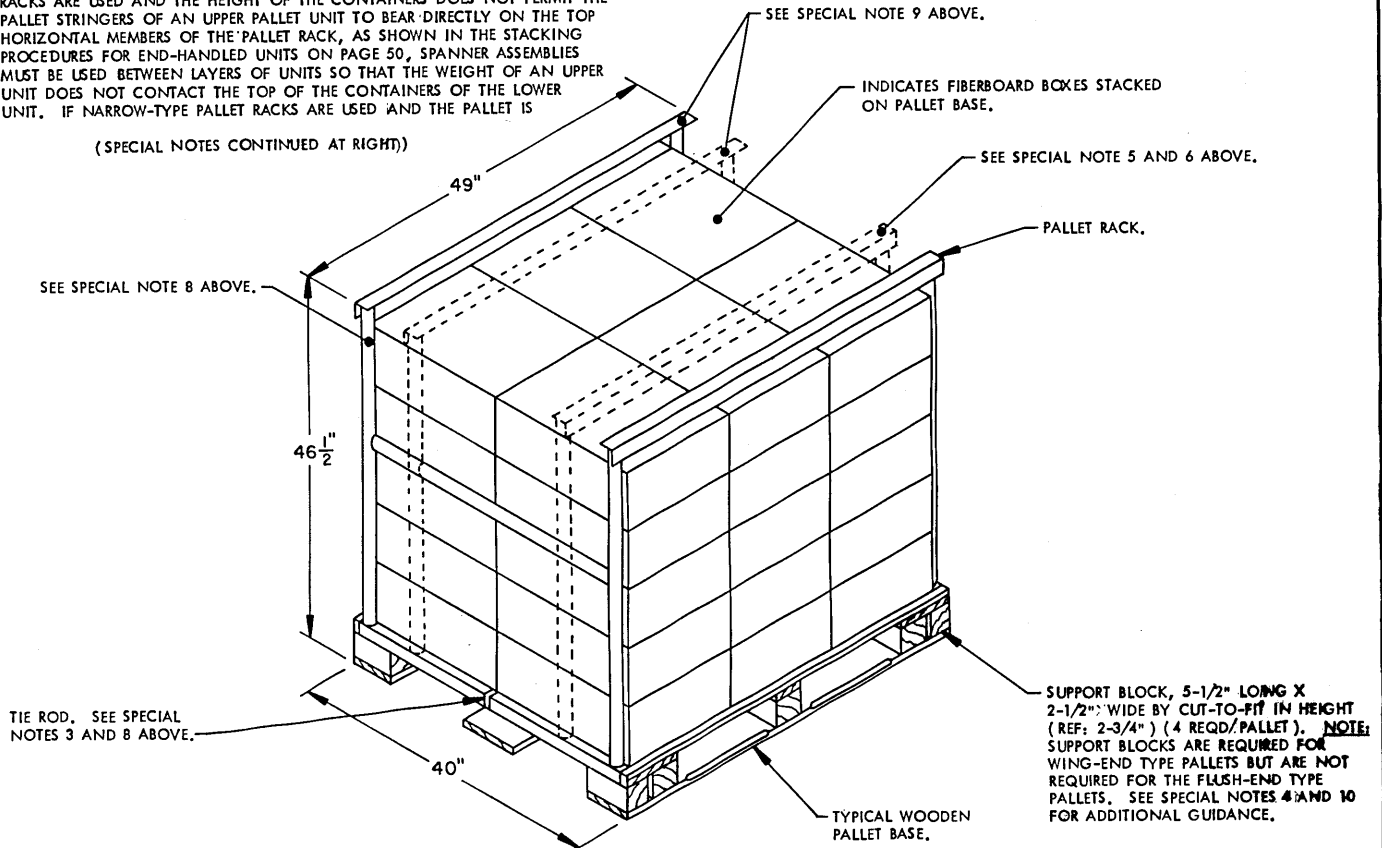
**SPECIAL NOTES:**

1. EACH UPPER PALLET WITHIN A ROW OR STACK DOES NOT REQUIRE A PALLET RACK. HOWEVER, EACH PALLET WHICH VERTICALLY SUPPORTS ANOTHER PALLET DOES REQUIRE 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 FOUR 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 TM 743-200-1 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 BOX, 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

**(SPECIAL NOTES CONTINUED)**

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 OR DRUMS IS SOLELY FOR THE CONVENIENCE OF STORAGE AND WILL NOT BE USED FOR SHIPPING PURPOSES.

(SPECIAL NOTES CONTINUED AT RIGHT)



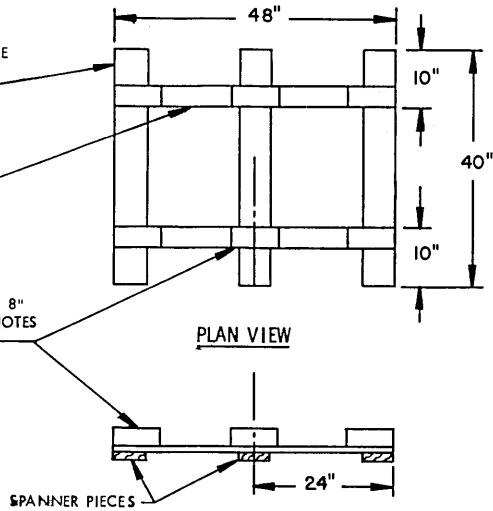
**RACK INSTALLATION**

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.

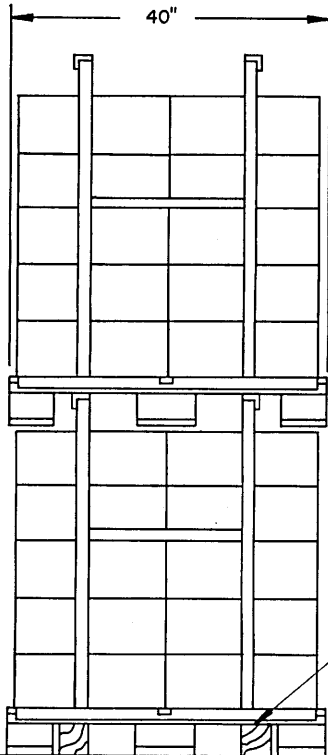
SPANNER PIECE, 2" X 6" X 40"  
(3 REQD). NAIL THROUGH THE TIE  
PIECES TO EACH SUPPORT BLOCK  
W/2-12d NAILS.

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.



END VIEW  
SPANNER ASSEMBLY



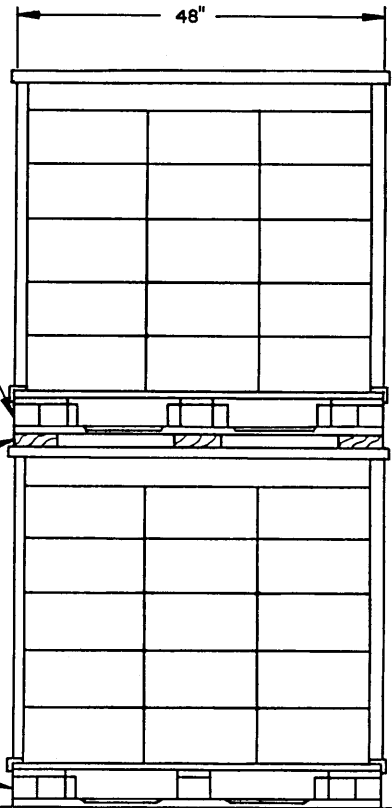
STACKING PROCEDURES FOR END-HANDLED  
PALLET UNITS

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

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

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

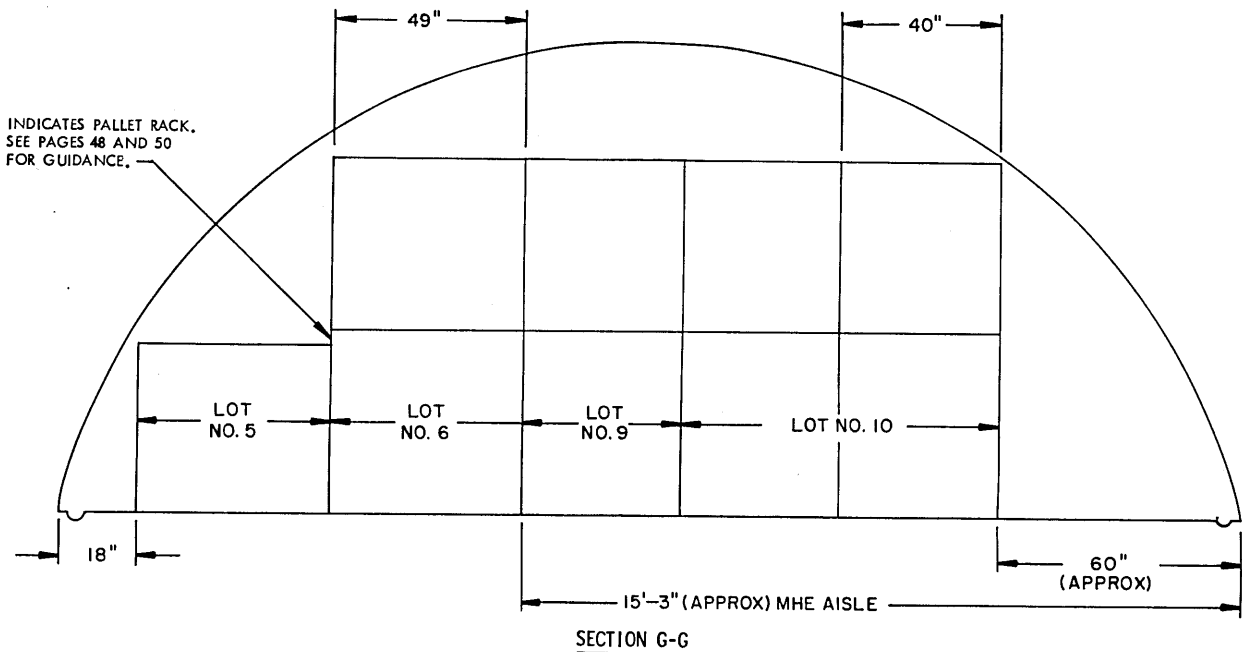
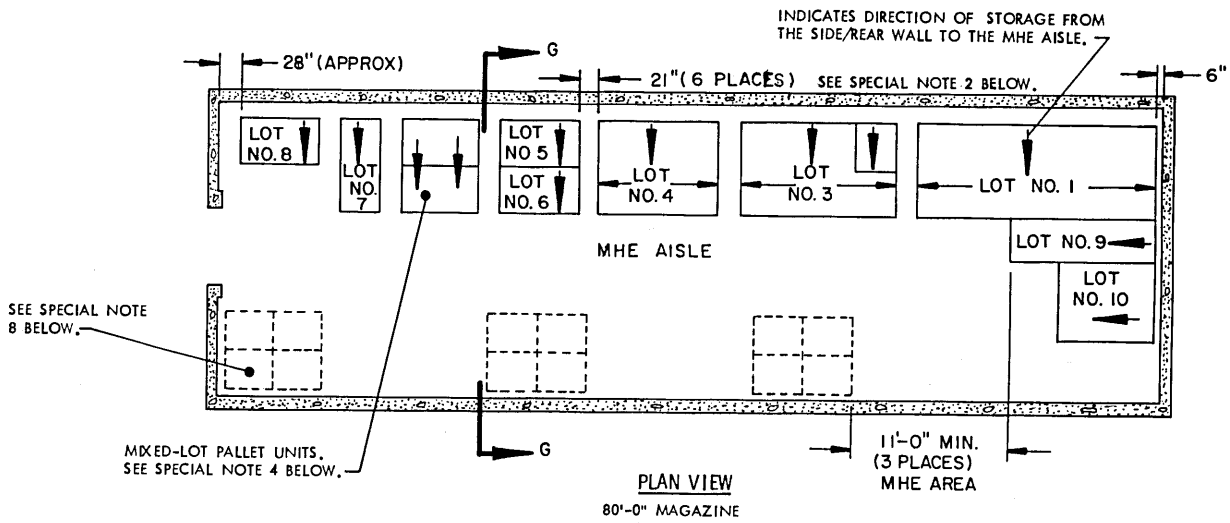
4" X 4" X 8" SUPPORT BLOCK  
(4 REQD PER FIRST-LAYER UNIT  
EQUIPPED WITH NARROW-TYPE  
PALLET RACK). POSITION TO BE  
UNDER THE VERTICAL MEMBERS  
OF THE PALLET RACK. SEE SPECIAL  
NOTES 5 AND 10 ON PAGE 49.



STACKING PROCEDURES FOR SIDE-HANDLED  
PALLET UNITS

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

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



(SPECIAL NOTES CONTINUED)

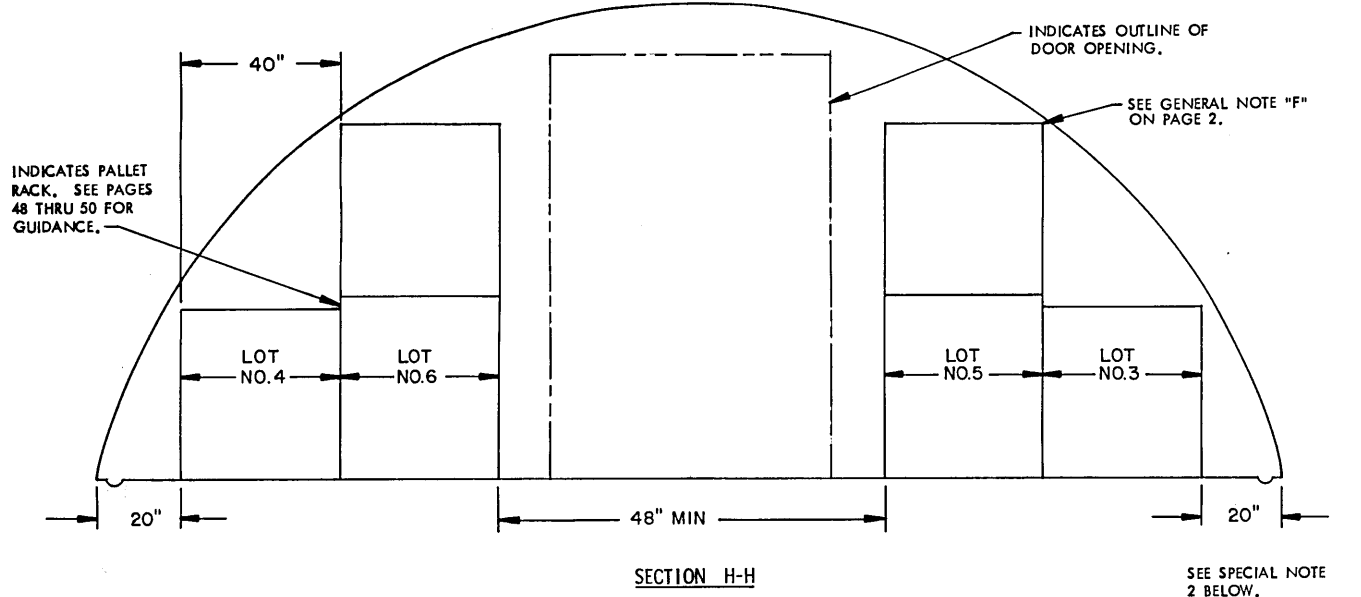
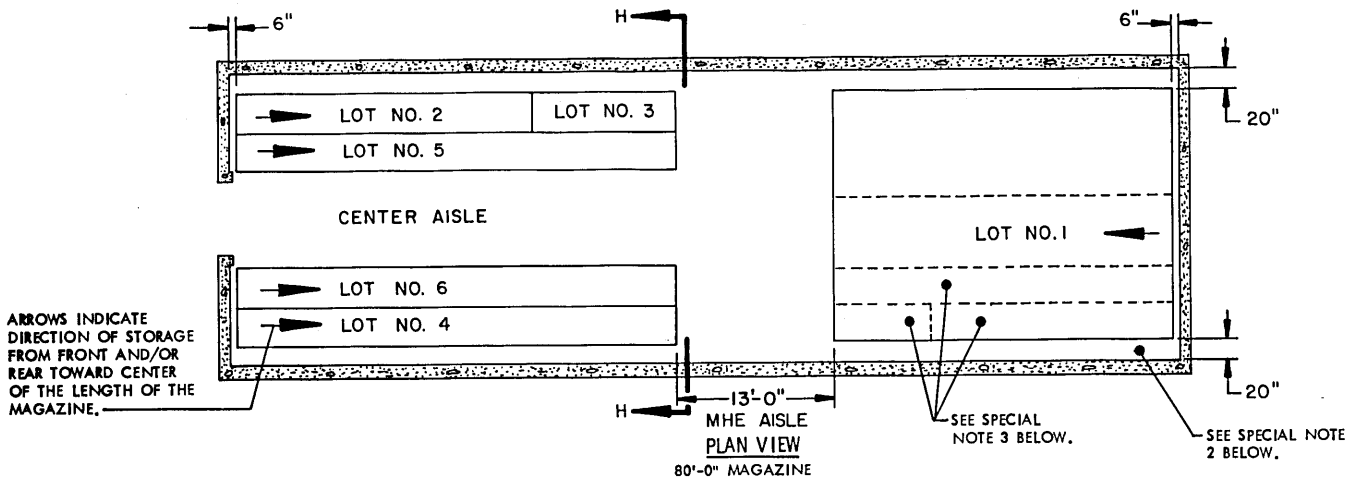
SPECIAL NOTES:

7. WHEN TWO OR MORE LOTS ARE STORED ADJACENT TO EACH OTHER, THEY SHOULD BE SEPARATED BY 1" TO PROVIDE CLEARANCE FOR REMOVAL OF EITHER LOT.
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 OPERATION 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 RACK STORAGE AIDS, THE PRINCIPLES CAN BE APPLIED FOR OTHER PALLET CONFIGURATIONS.

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.

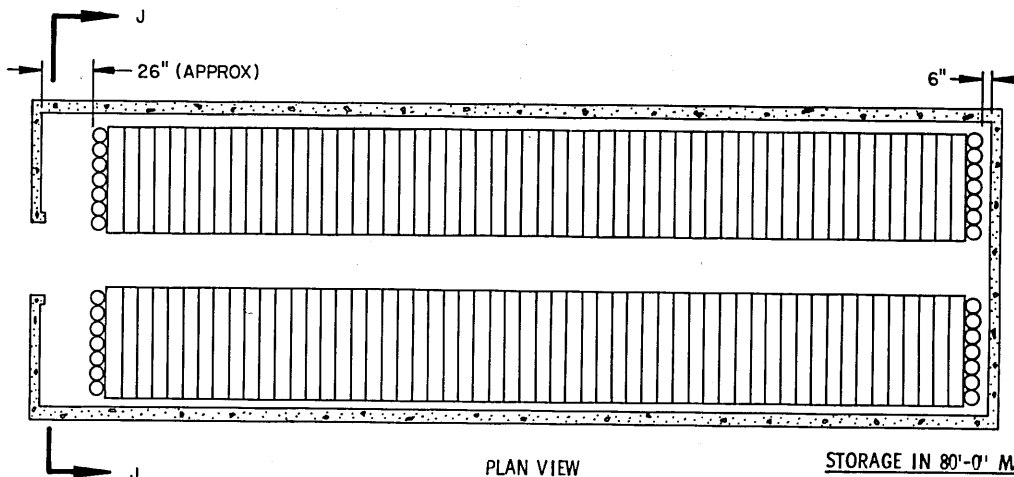
(CONTINUED AT LEFT)

\*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 RACK STORAGE AIDS, 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

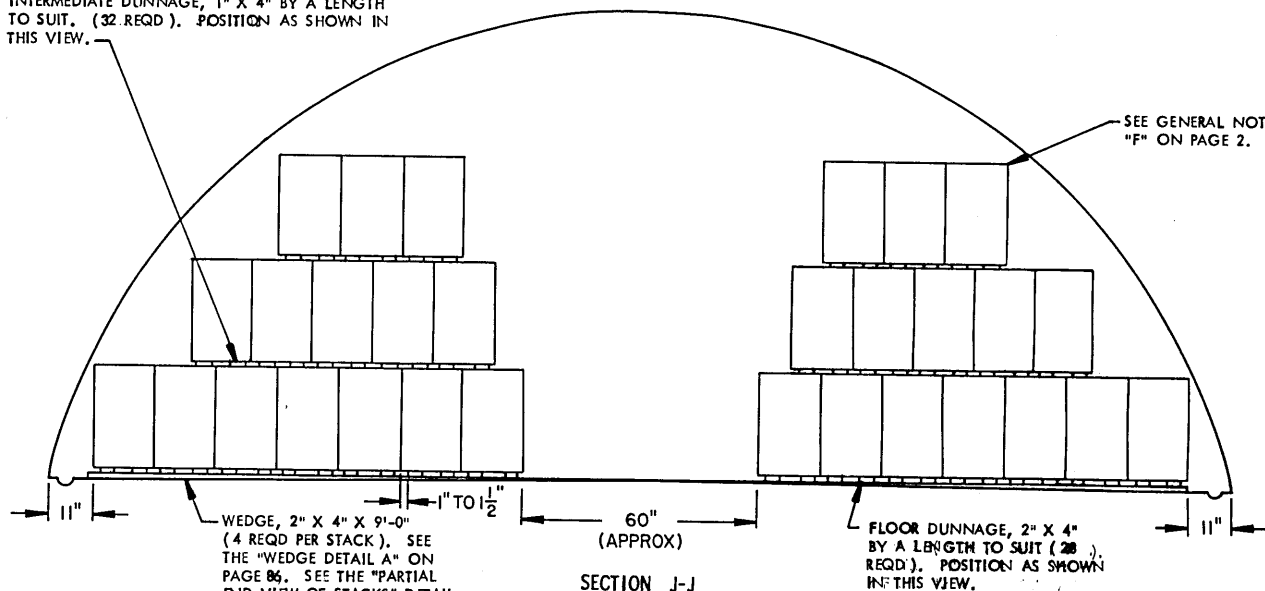
ITEM	QUANTITY	EXPLOSIVE WEIGHT
FIBERBOARD DRUM	1,772	276,080 LBS

\* STORAGE IN 40'-0" MAGAZINE

ITEM	QUANTITY	EXPLOSIVE WEIGHT
FIBERBOARD DRUM	952	133,280 LBS

\* 28 STACKS WITH 32" ( 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. (32 REQD). POSITION AS SHOWN IN THIS VIEW.



SECTION J-J

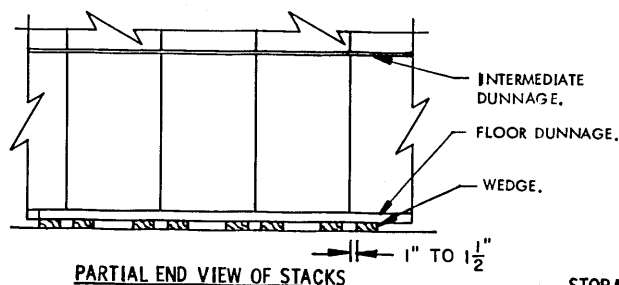
34 DRUMS PER STACK

BILL OF MATERIAL ( PER STACK )

LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	43	15
2" X 4"	38	26
WEDGES PER STACK		
LUMBER	LENGTH	NO. REQD
2" X 4"	9'-0"	4

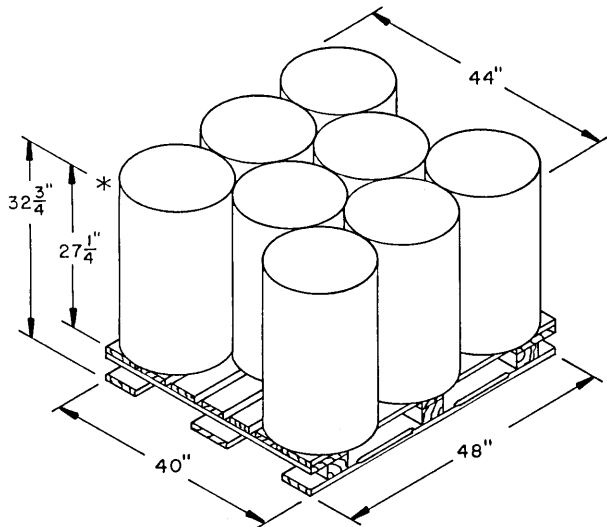
SPECIAL NOTES:

- STORAGE AS SHOWN IS FOR A FIBERBOARD DRUM.  
DRUM DIMENSIONS --- 27" HIGH BY 16" DIAMETER.  
EXPLOSIVE WEIGHT --- 140 POUNDS.
- RANDOM LENGTHS OF LUMBER MAY BE USED FOR THE INTERMEDIATE AND FLOOR DUNNAGE.
- FIBERBOARD DRUMS, INCLUDING NITROGUANIDINE AS SHOWN ON PAGES 67 AND 85 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.



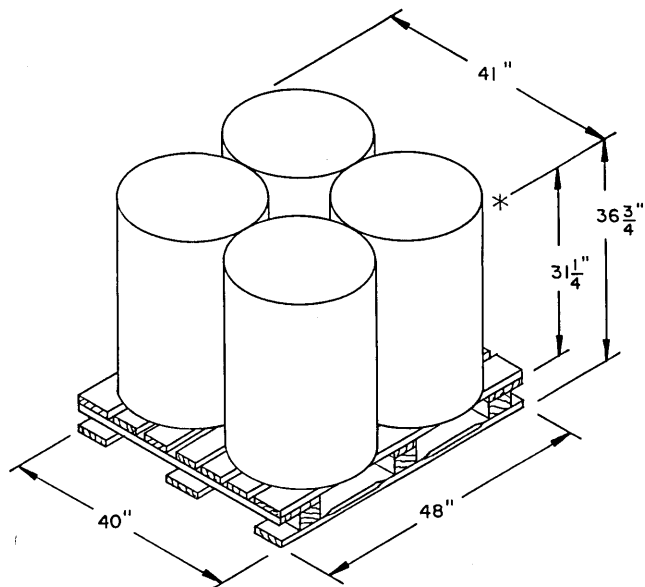
PARTIAL END VIEW OF STACKS

STORAGE METHOD, A  
FIBERBOARD DRUM STORAGE, UNPALLETIZED



**TYPICAL PALLET UNIT A**

DRUM SIZE --- 16" DIA X 27-1/4" HIGH (TYPICAL)



**TYPICAL PALLET UNIT B**

DRUM SIZE --- 20-1/2" DIA X 31-1/4" HIGH (TYPICAL)

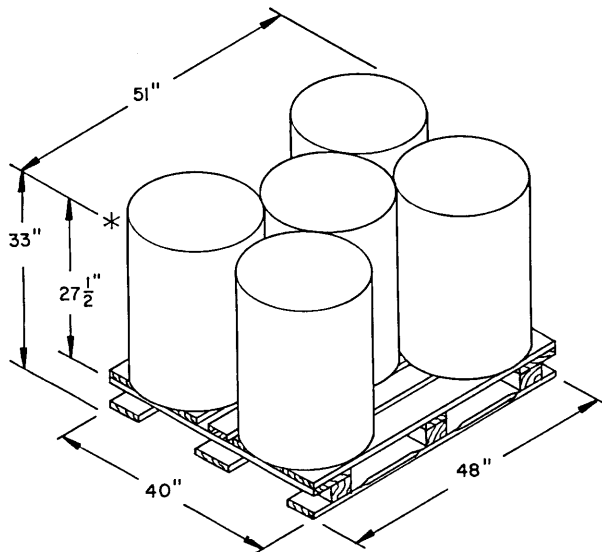
**SPECIAL NOTES:**

1. STORAGE AS SHOWN IS FOR FIBERBOARD DRUMS OF VARIOUS SIZES PLACED ON 40" X 48" PALLET.

**TYPICAL PALLET UNIT DIMENSIONS:**

- UNIT A --- 44" L X 48" W X 32-3/4" H.
- UNIT B --- 41" L X 48" W X 36-3/4" H.
- UNIT C --- 40" L X 51" W X 33" H.

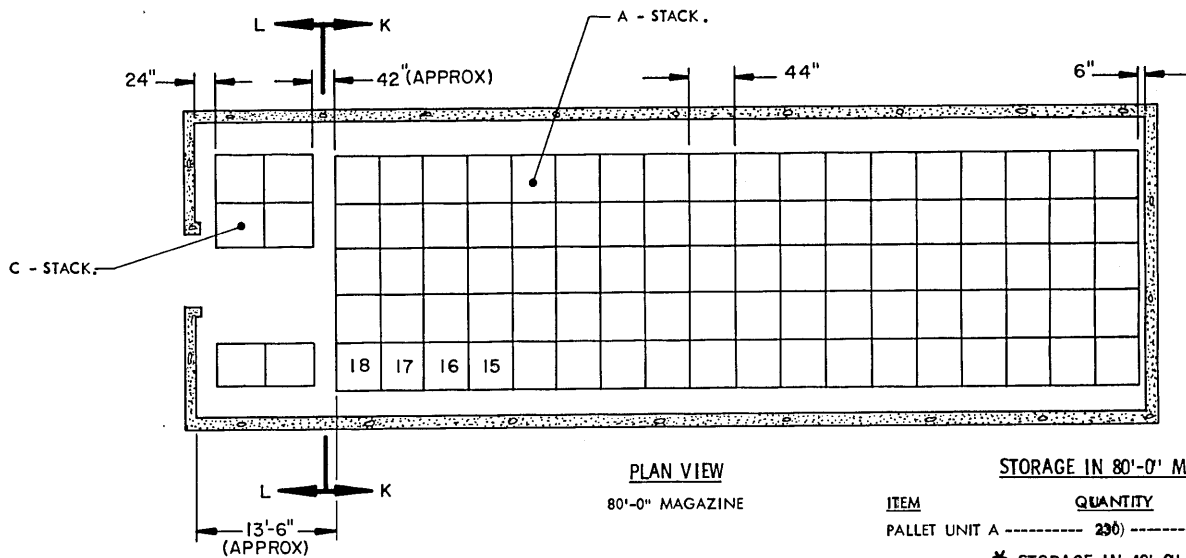
2. THE DRUM SIZES SHOWN ARE TYPICAL; ANY SIZE DRUM MAY BE PLACED ON A PALLET FOR STORAGE PURPOSES. ANY SIZE PALLET MAY BE USED, HOWEVER A SIZE SHOULD BE SELECTED WHICH WILL BE NEARLY FILLED WITH DRUMS IN ORDER TO PROVIDE GOOD STACKABILITY. ALSO, A SIZE SHOULD BE SELECTED THAT WILL PROVIDE FOR FULL OR 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 DRUMS.



**TYPICAL PALLET UNIT C**

DRUM SIZE --- 19" DIA X 27-1/2" HIGH (TYPICAL)

**FIBERBOARD DRUM STORAGE, PALLETIZED**



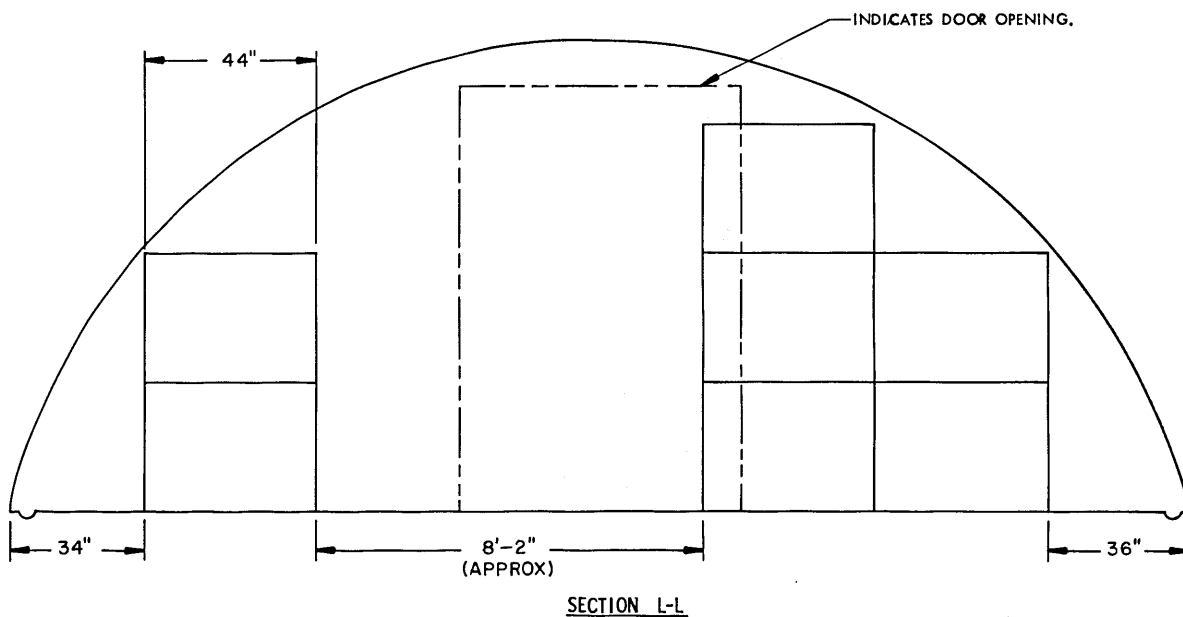
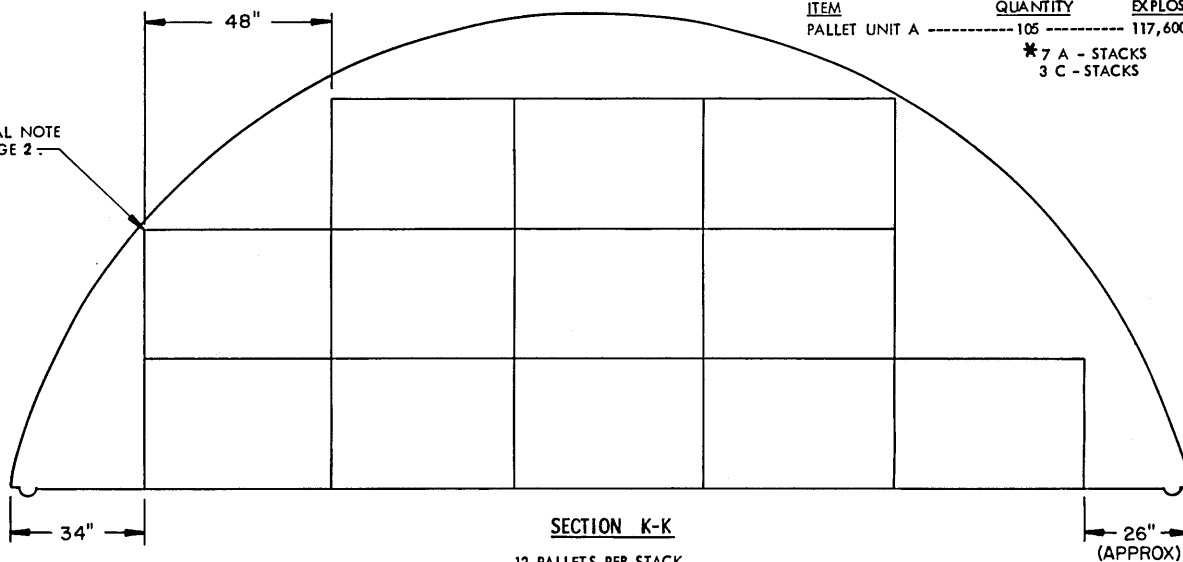
**STORAGE IN 80'-0" MAGAZINE**

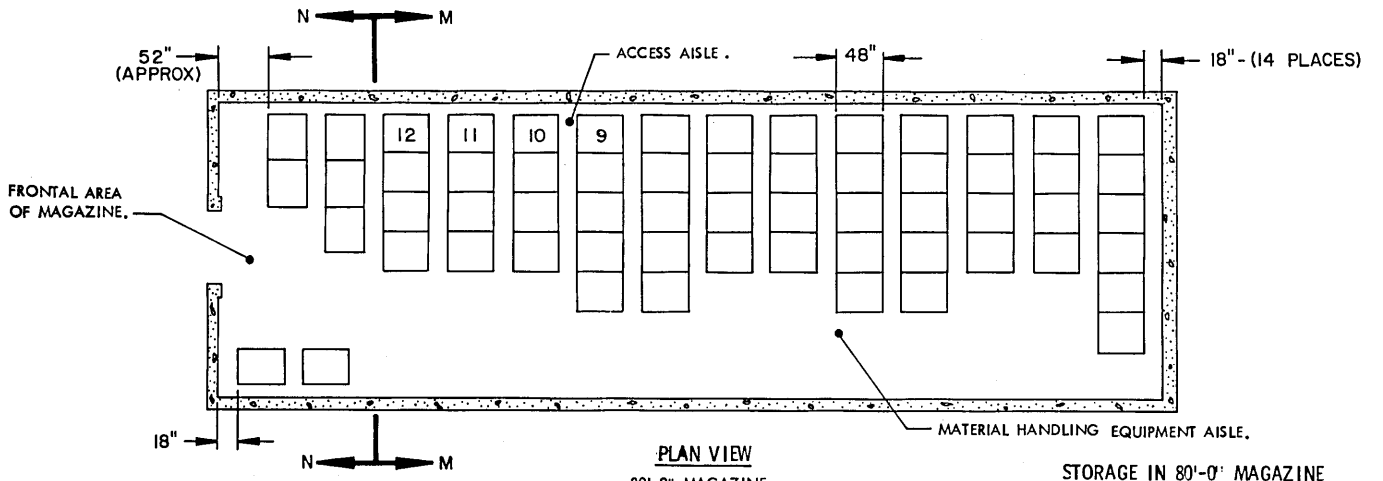
ITEM	QUANTITY	EXPLOSIVE WEIGHT
PALLET UNIT A	230	257,600 LBS

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

ITEM	QUANTITY	EXPLOSIVE WEIGHT
PALLET UNIT A	105	117,600 LBS
* 7 A - STACKS		
3 C - STACKS		

SEE GENERAL NOTE "F" ON PAGE 2





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

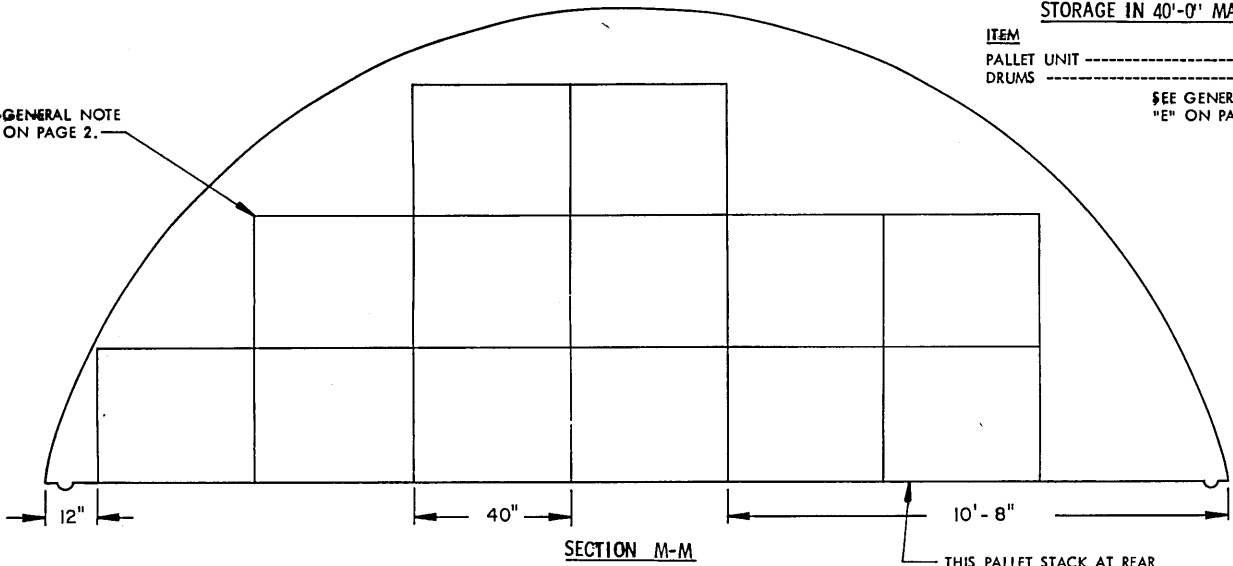
ITEM	QUANTITY
PALLET UNIT	131
DRUMS	524

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

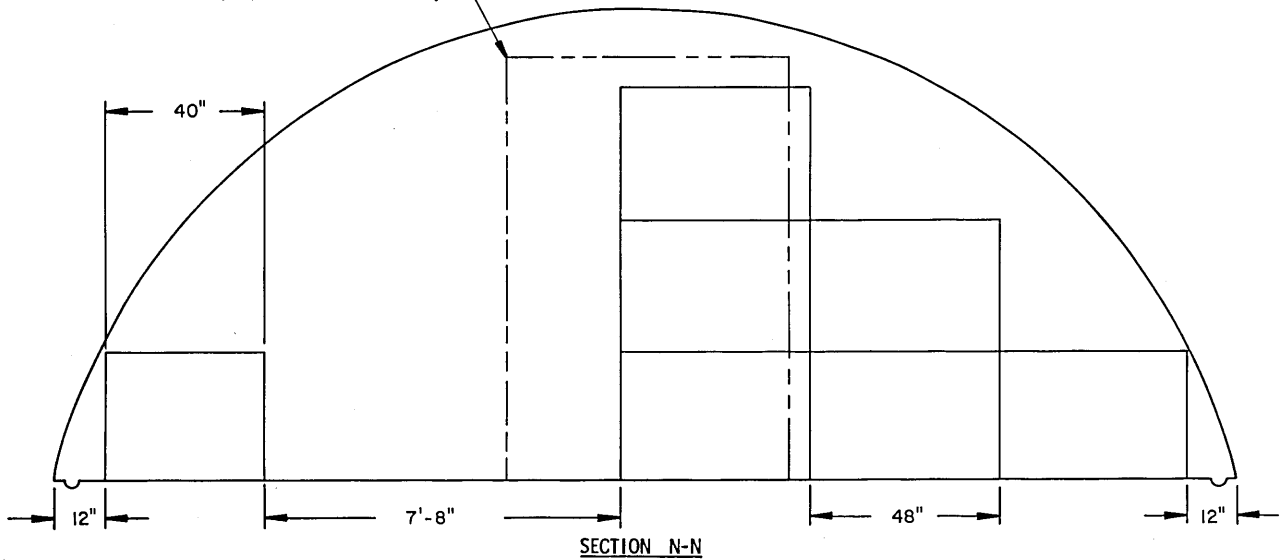
ITEM	QUANTITY
PALLET UNIT	59
DRUMS	236

SEE GENERAL NOTE "E" ON PAGE 2.

SEE GENERAL NOTE "F" ON PAGE 2.



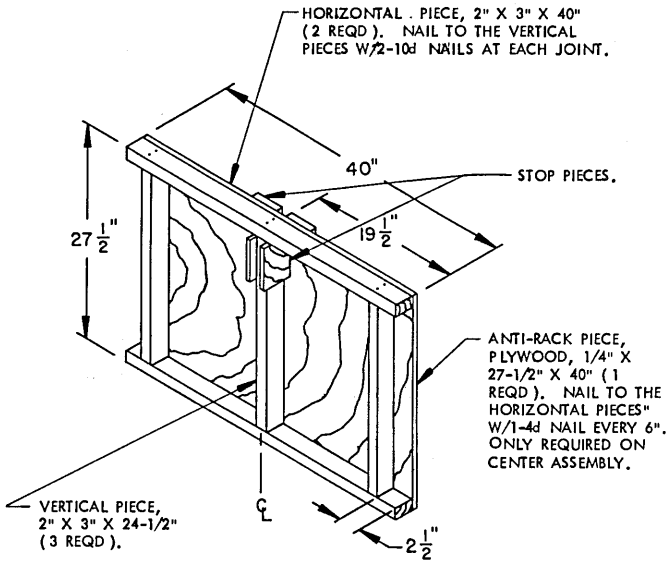
INDICATES DOOR OPENING.





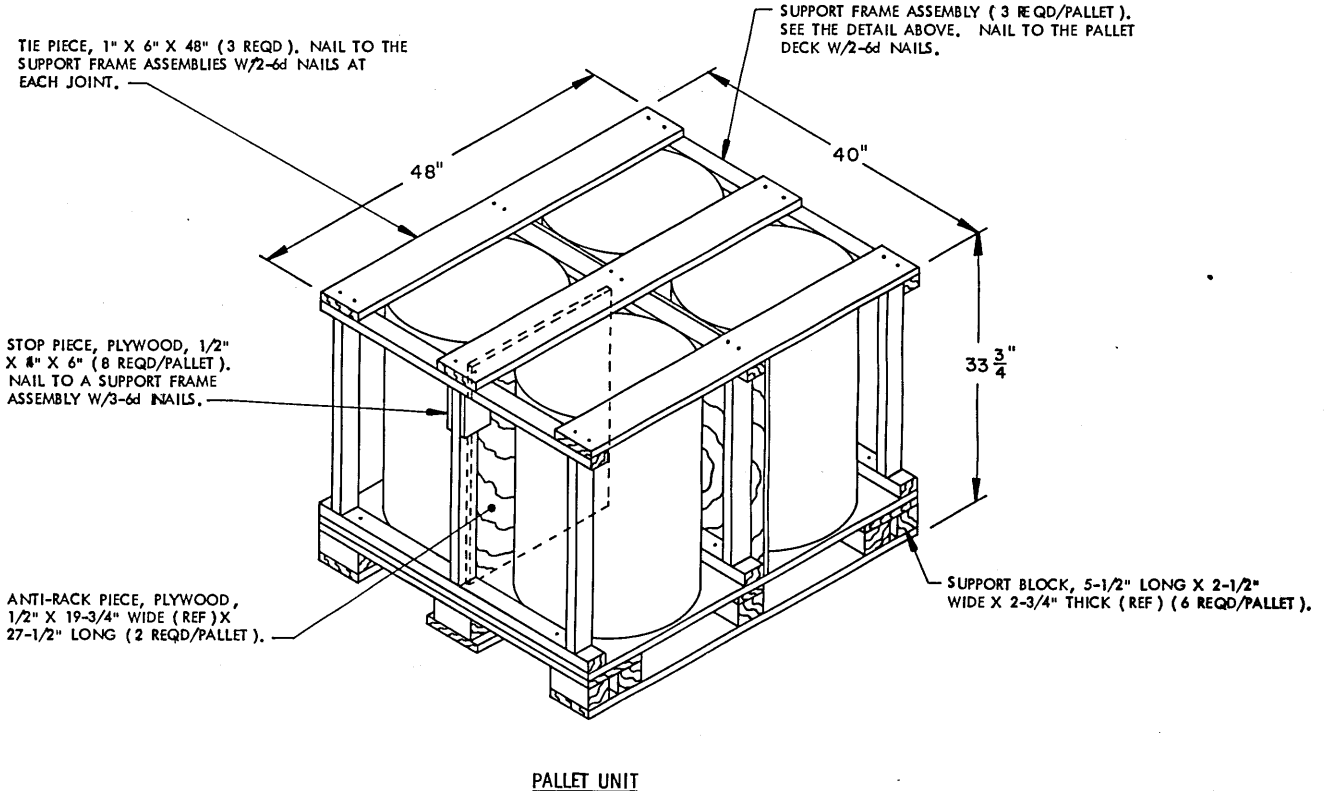
**SPECIAL NOTES:**

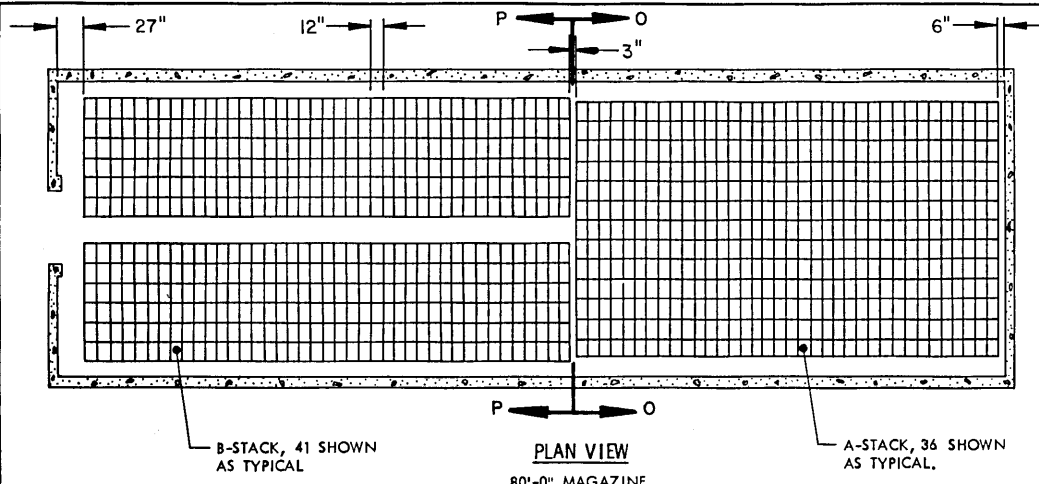
1. STORAGE AS SHOWN IS FOR THE RDX, WET, IN FIBERBOARD DRUMS (PALLETIZED).  
 DRUM DIMENSIONS -- 27-1/4" HIGH BY 19-1/2" DIAMETER.  
 PALLET UNIT DIMENSIONS --- 40" LONG BY 48" WIDE BY 33-3/4" HIGH.  
 EXPLOSIVE WEIGHT PER PALLET UNIT --- 800 LBS.
2. THE METHOD OF STORAGE SHOWN PERMITS INSPECTION OF INDIVIDUAL DRUMS.
3. STORAGE INSTALLATIONS HAVING FRONT/SIDE LOADING FORKLIFTS MAY STORE CONTAINERS OPPOSITE HAND FROM THAT SHOWN IN THESE VIEWS, IE, 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**

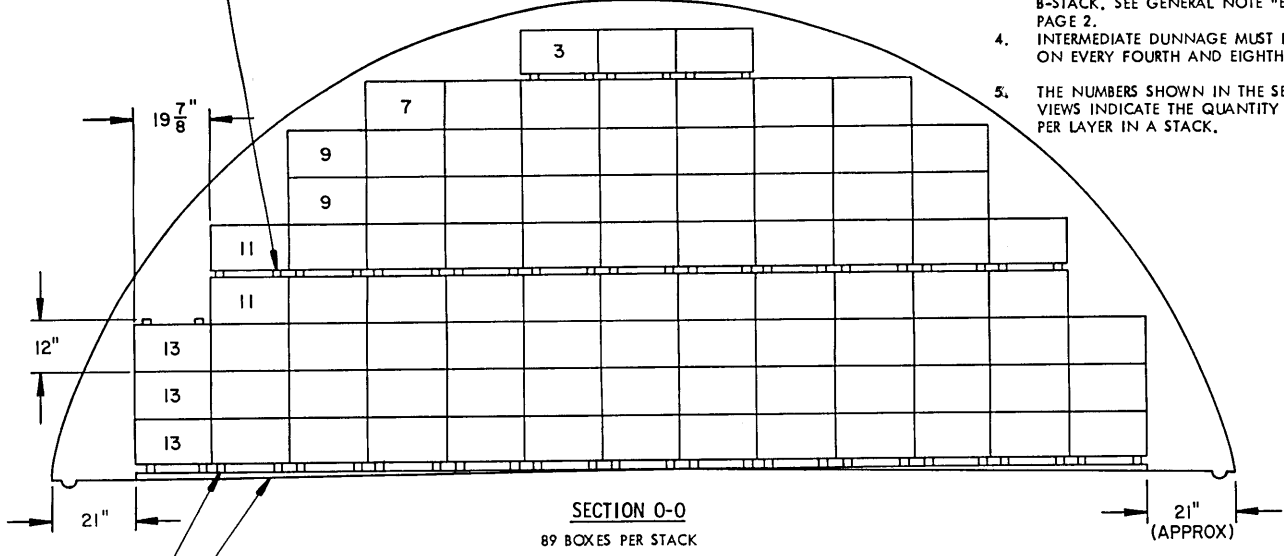
THE DETAIL ABOVE DEPICTS THE CENTER SUPPORT FRAME ASSEMBLY. OMIT THE 1/4" PLYWOOD ANTI-RACK PIECE AND THE TWO STOP PIECES WHICH ARE NAILED THRU IT, FOR THE TWO OUTER ASSEMBLIES.





- 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          | 6,853            | 342,650 LBS      |
| B          | 5,698            | 284,900 LBS      |
- \* QUANTITY INDICATES THE MAXIMUM NUMBER OF BOXES STORED IN A MAGAZINE USING ALL A-STACK OR ALL B-STACK. 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 O-O**  
89 BOXES PER STACK

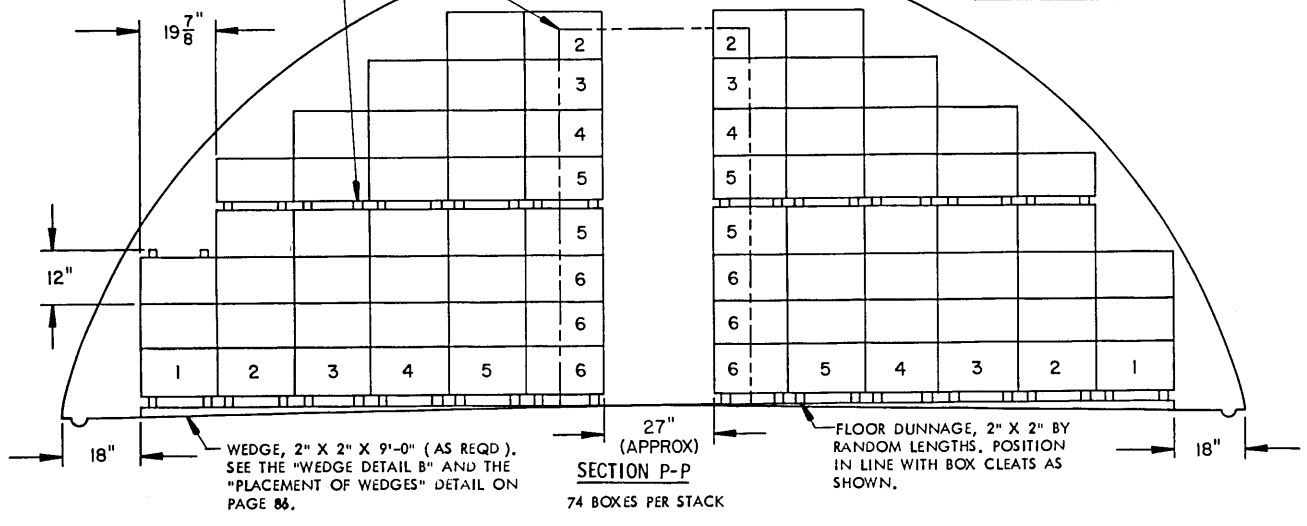
WEDGE, 2" X 2" X 9'-0" (AS REQD). SEE THE "WEDGE DETAIL B" AND THE "PLACEMENT OF WEDGES" DETAIL ON PAGE 86.

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

INDICATES OUTLINE OF DOOR OPENING.

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

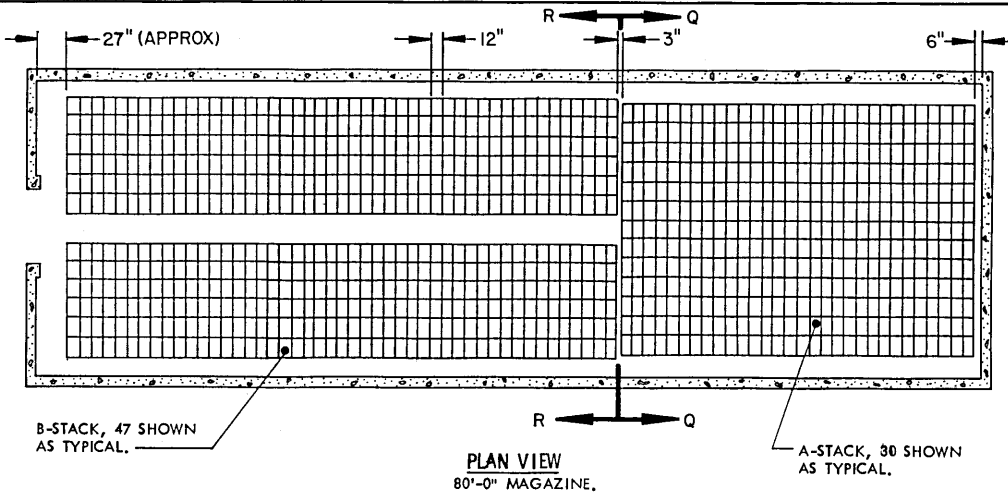
BILL OF MATERIAL ( PER STACK )			
STACK	LUMBER	LINEAR FEET	BOARD FEET
A	1" X 2"	28	5
	2" X 2"	26	9
	2" X 2" X 9'-0" WEDGES -- 2 REQD		
B	1" X 2"	20	4
	2" X 2"	24	8
	2" X 2" X 9'-0" WEDGES -- 2 REQD		



**SECTION P-P**  
74 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.



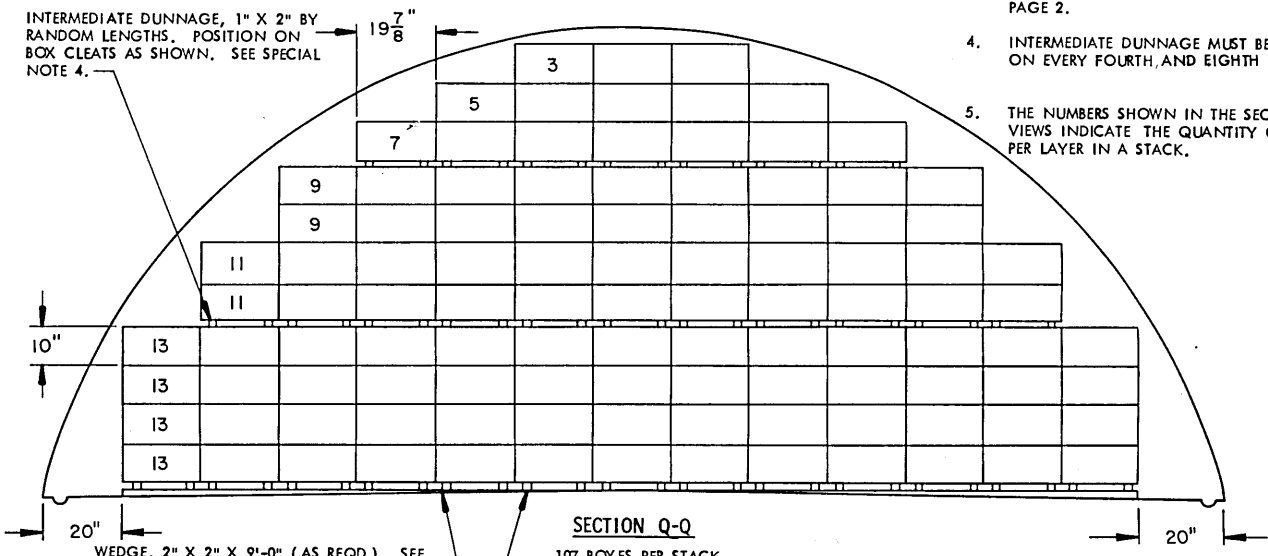
**SPECIAL NOTES:**

1. STORAGE AS SHOWN IS FOR A WOODEN BOX.  
  
BOX DIMENSIONS -- 19-7/8" LONG BY 12" WIDE BY 10" HIGH.  
EXPLOSIVE WEIGHT -- 90 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.

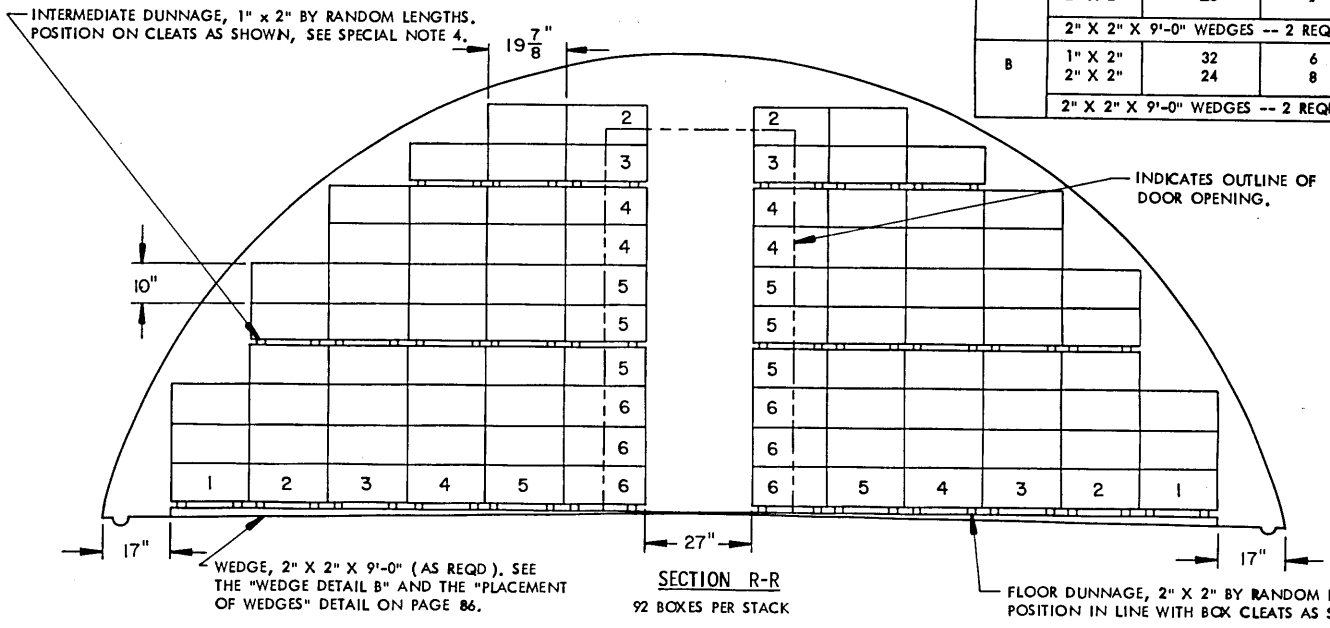
STACK TYPE	MAXIMUM QUANTITY	EXPLOSIVE WEIGHT
A	8,239	411,950 LBS
B	7,084	354,200 LBS

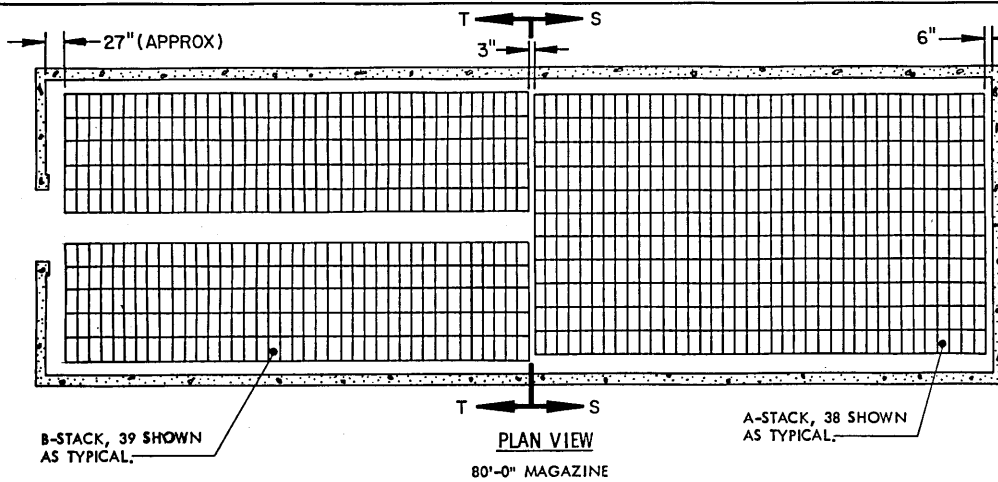
\* QUANTITY INDICATES THE MAXIMUM NUMBER OF BOXES STORED IN A MAGAZINE, USING ALL A-STACKS OR ALL B-STACKS. SEE GENERAL NOTE "E" ON PAGE 2.

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.



BILL OF MATERIAL ( PER STACK )			
STACK	LUMBER	LINEAR FEET	BOARD FEET
A	1" X 2"	36	6
	2" X 2"	26	9
	2" X 2" X 9'-0" WEDGES -- 2 REQD		
B	1" X 2"	32	6
	2" X 2"	24	8
	2" X 2" X 9'-0" WEDGES -- 2 REQD		





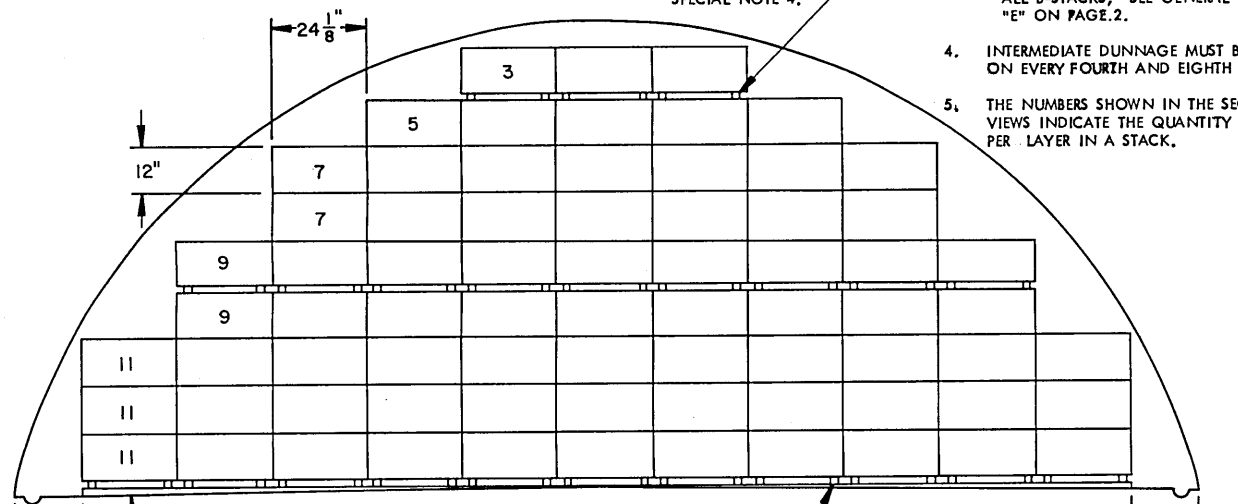
- SPECIAL NOTES:**
- STORAGE AS SHOWN IS FOR A WOODEN BOX.  
BOX DIMENSIONS -- 24-1/8" LONG BY 12" WIDE BY 12" HIGH.  
EXPLOSIVE WEIGHT -- 50 POUNDS.
  - WHENEVER PRACTICABLE THE LARGEST LOT SHOULD BE STORED IN THE REAR OF A MAGAZINE BY USING TYPE "A" STACKS. LOTS WILL NOT BE MIXED WITHIN STACKS. A THREE INCH (.3") SEPARATION WILL BE ALLOWED BETWEEN ADJACENT LOTS. SMALL LOTS AND/OR PARTIAL STACKS MAY BE STORED IN THE FRONT OF THE MAGAZINE.
  - MAXIMUM STORAGE IN AN 80'-0" MAGAZINE.

STACK TYPE	MAXIMUM QUANTITY	EXPLOSIVE WEIGHT
A	5,621	281,050 LBS
B	4,774	238,700 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 MUST BE USED ON EVERY FOURTH AND EIGHTH LAYER.
- 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.



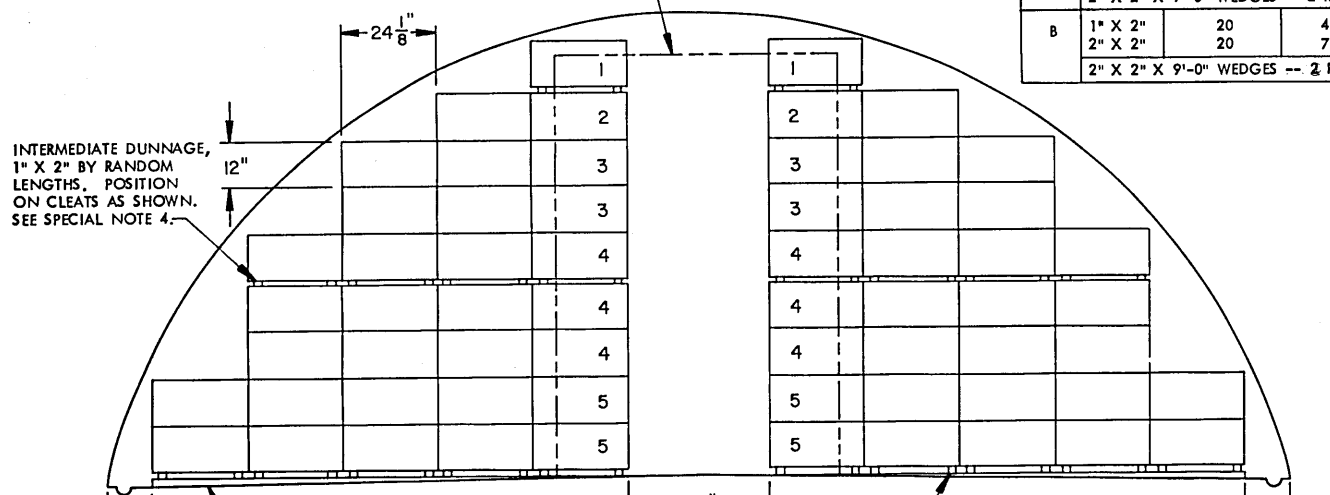
**SECTION S-S**  
73 CONTAINERS PER STACK

WEDGE, 2" X 2" X 9'-0" (AS REQD). SEE "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.

STACK	LUMBER	LINEAR FEET	BOARD FEET
A	1" X 2"	24	4
	2" X 2"	22	8
	2" X 2" X 9'-0" WEDGES -- 2 REQD		
B	1" X 2"	20	4
	2" X 2"	20	7
	2" X 2" X 9'-0" WEDGES -- 2 REQD		

INDICATES OUTLINE OF DOOR OPENING.



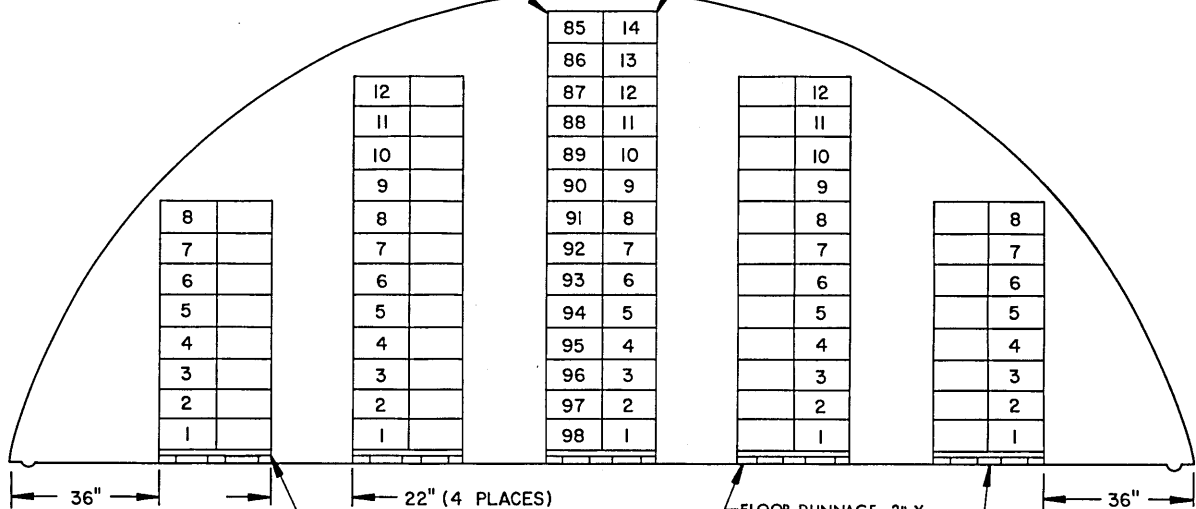
**SECTION T-T**  
(APPROX)  
62 CONTAINERS PER STACK

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.

INDICATES THE QUANTITY OF DRUMS PER LAYER IN A ROW.

INDICATES THE NUMBER OF DRUMS IN HEIGHT.



TIE-PIECE, 2" X 4" X 28" (2 REQD PER DOUBLE ROW). NAIL TO FLOOR DUNNAGE W/3-10d NAILS AT EACH JOINT. SEE SPECIAL NOTE 5.

END VIEW OF ROWS

FLOOR DUNNAGE, 2" X 4" BY RANDOM LENGTHS (77'-0" APPROX) (2 REQD PER DOUBLE ROW).

FLOOR DUNNAGE, 2" X 6" BY RANDOM LENGTHS (77'-0" APPROX) (1 REQD PER DOUBLE ROW).

BILL OF MATERIAL ( PER STACK )		
LUMBER	LINEAR FEET	BOARD FEET
2" X 4"	159	106
2" X 6"	77	77
NAILS	NO. REQD	POUNDS
10d (-3")	18	1/2

STORAGE IN A 80'-0" MAGAZINE

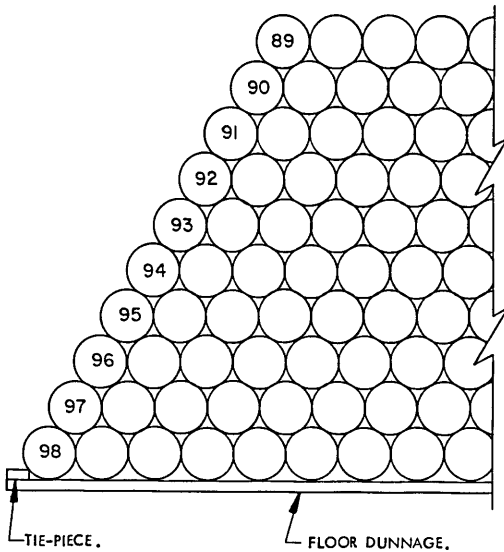
ITEM	QUANTITY	EXPLOSIVE WEIGHT
DRUM	9,954	248,850 LBS

STORAGE IN A 40'-0" MAGAZINE

ITEM	QUANTITY	EXPLOSIVE WEIGHT
DRUM	4,898	122,450 LBS

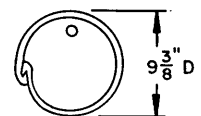
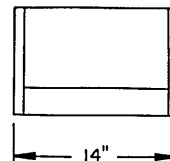
SPECIAL NOTES:

- STORAGE AS SHOWN IS FOR A METAL CONTAINER.  
DRUM DIMENSIONS --- 14" HIGH BY 9-3/8" DIAMETER, EXPLOSIVE WEIGHT --- 25 POUNDS.
- SEE "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 425 DRUMS AND SIX (6) ROWS OF 531 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.



PARTIAL SIDE VIEW OF A ROW

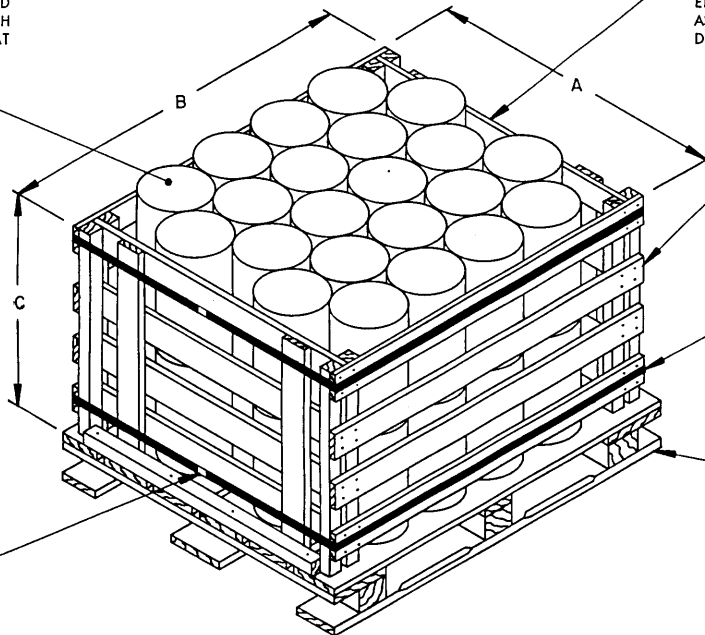
THE ABOVE VIEW DEPICTS THE NESTING OF DRUMS. THE NUMBERS INDICATE THE QUANTITY OF DRUMS PER LAYER IN A ROW.



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.



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

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

PALLET 40" BY 48" (1 REQD).

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

**BOX PALLET UNIT**

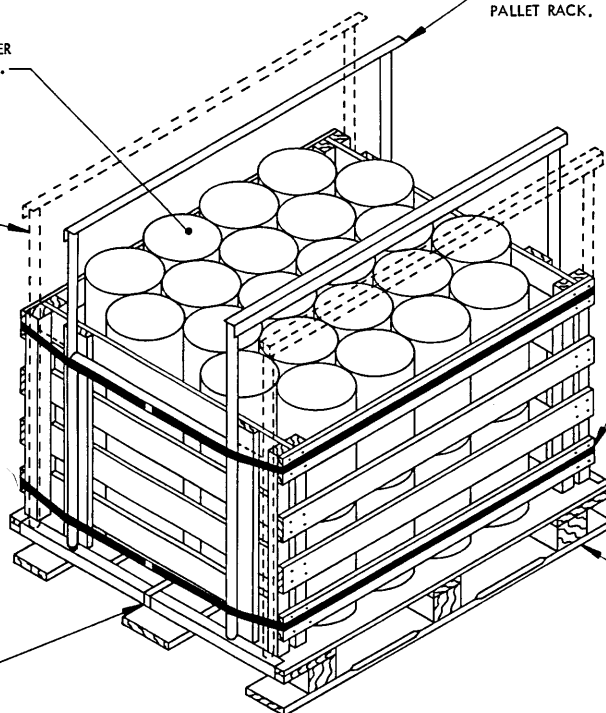
44 DRUMS 8-1/4" D X 13-3/4" H (2 LAYER)

BOX PALLET UNIT OF METAL DRUMS DIMENSIONAL CHART			
DRUM SIZE	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.

INDICATES NARROW PALLET RACK.

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



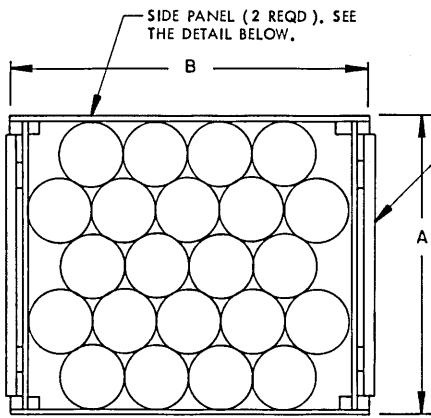
STRAP, STEEL, 3/4" X .031" BY LENGTH TO ENCIRCLE THE BOX PALLET UNIT AND PALLET RACK (2 REQD).

PALLET, 40" X 48" (1 REQD). SEE GENERAL NOTE "R" ON PAGE 2.

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

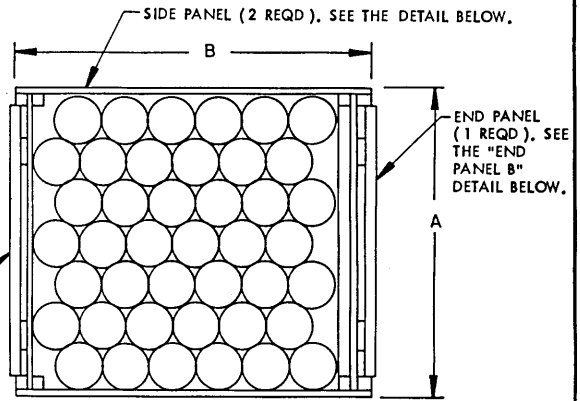
**APPLICATION OF PALLET RACK**

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)

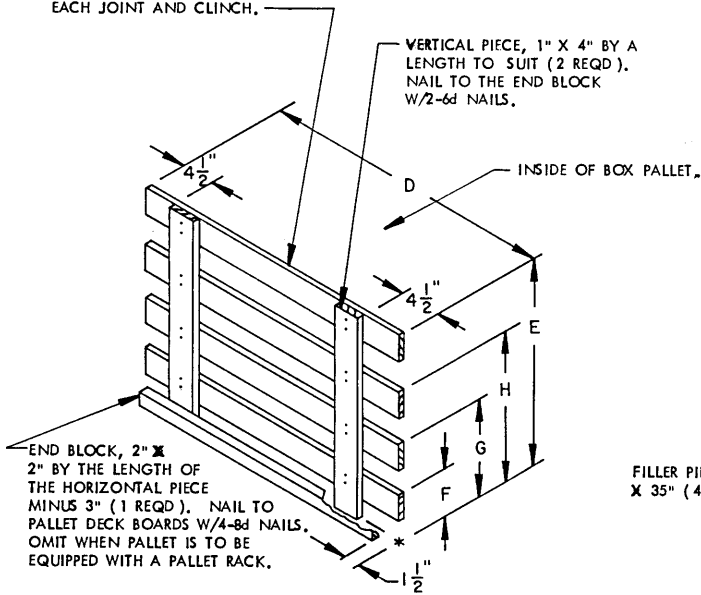


**PLAN VIEW B**

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

HORIZONTAL PIECE, 1" X 4" BY A LENGTH TO SUIT (4 REQD.). NAIL TO THE VERTICAL PIECES W/2-6d NAILS AT EACH JOINT AND CLINCH.

VERTICAL PIECE, 1" X 4" BY A LENGTH TO SUIT (2 REQD.). NAIL TO THE END BLOCK W/2-6d NAILS.



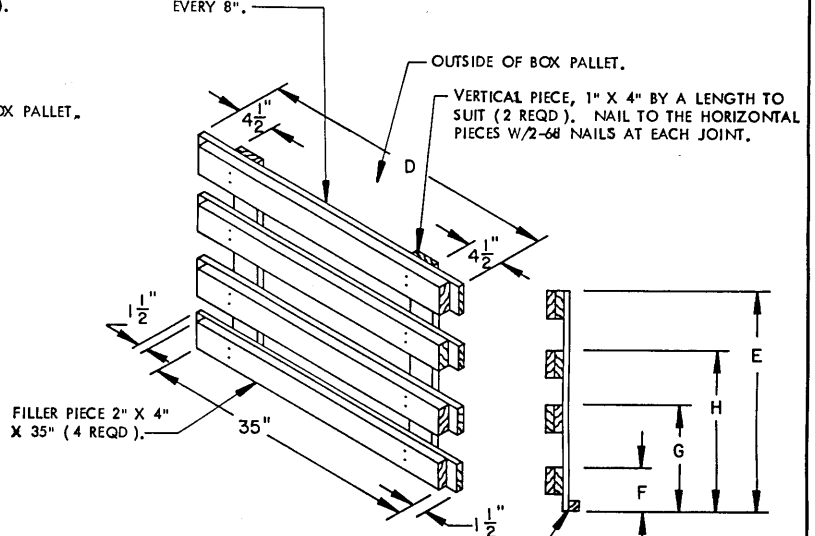
**END PANEL A**

END BLOCK, 2" X 2" BY THE LENGTH OF THE HORIZONTAL PIECE MINUS 3" (1 REQD.). NAIL TO PALLET DECK BOARDS W/4-8d NAILS. OMIT WHEN PALLET IS TO BE EQUIPPED WITH A PALLET RACK.

HORIZONTAL PIECE, 1" X 4" BY A LENGTH TO SUIT (4 REQD.). NAIL TO THE FILLER PIECES W/1-6d NAIL EVERY 8".

OUTSIDE OF BOX PALLET.

VERTICAL PIECE, 1" X 4" BY A LENGTH TO SUIT (2 REQD.). NAIL TO THE HORIZONTAL PIECES W/2-6d NAILS AT EACH JOINT.



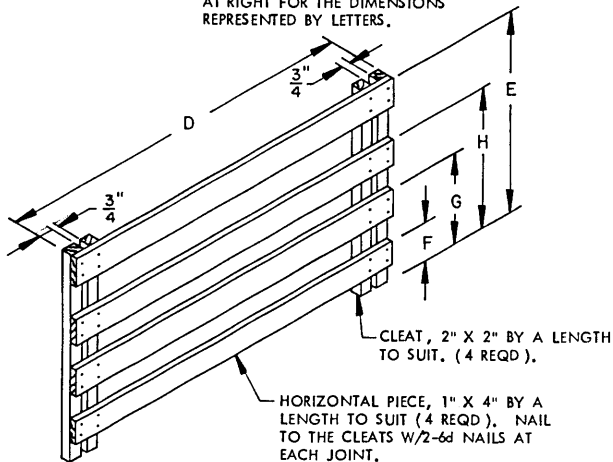
**END PANEL B**

ONLY 1 REQUIRED FOR THE BOX PALLET UNIT IN PLAN VIEW B.

**END VIEW**

END BLOCK, 2" X 2" BY THE LENGTH OF THE HORIZONTAL PIECE MINUS 3" (1 REQD.). NAIL TO PALLET DECK BOARDS W/4-8d NAILS. OMIT WHEN PALLET IS TO BE EQUIPPED WITH A PALLET RACK.

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



**SIDE PANEL**

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

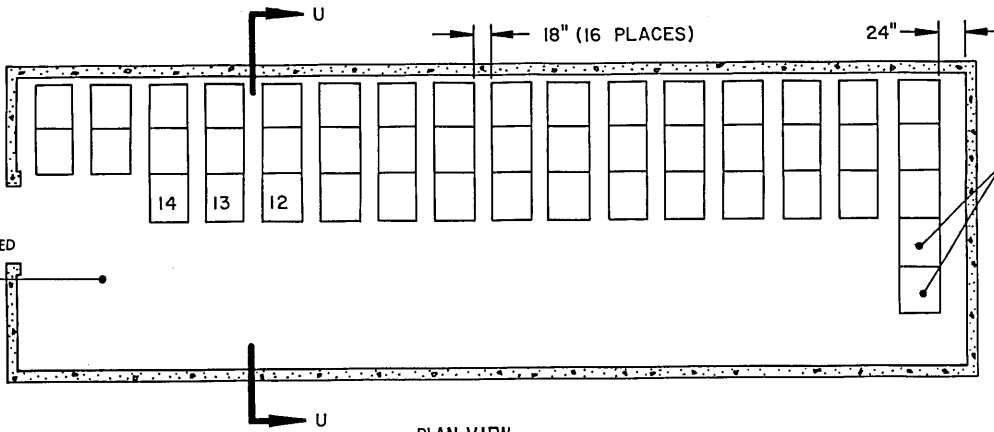
CLEAT, 2" X 2" BY A LENGTH TO SUIT, (4 REQD.).

HORIZONTAL PIECE, 1" X 4" BY A LENGTH TO SUIT (4 REQD.). NAIL TO THE CLEATS W/2-6d NAILS AT EACH JOINT.

**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"

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 & 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.

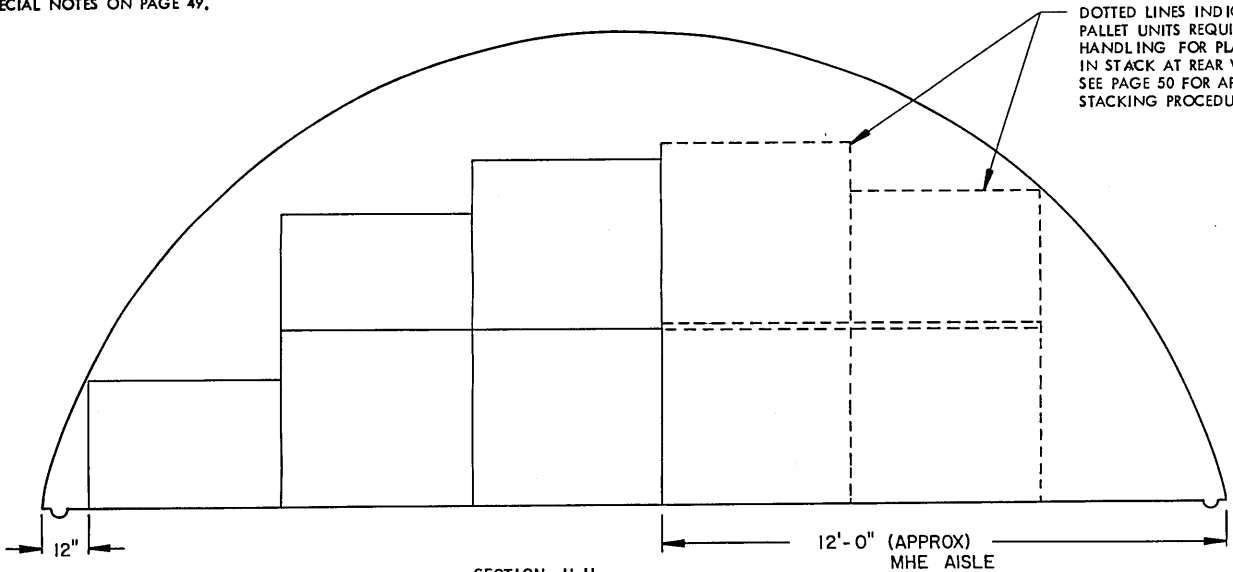


THESE 4 PALLET UNITS MUST BE SIDE-HANDLED FOR PLACEMENT IN THE STACK. SEE THE STACKING DETAIL ON PAGE 50 FOR APPLICABLE STACKING PROCEDURES.

PLAN VIEW

80'-0" MAGAZINE

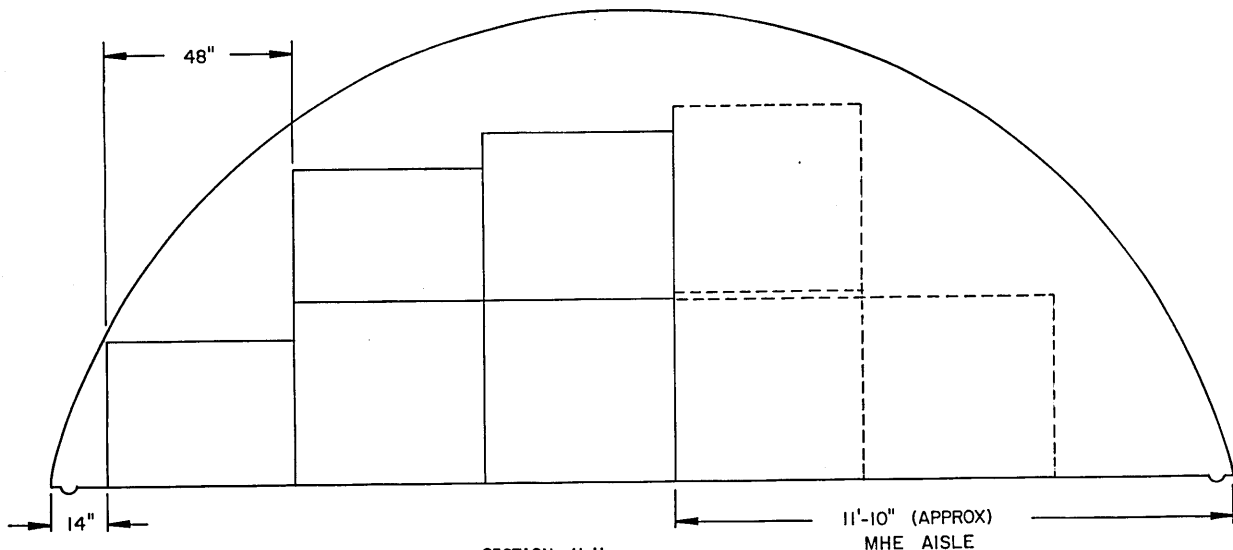
**NOTE:** EXCEPT AS INDICATED, ALL PALLET UNITS WILL BE END-HANDLED AND STACKED AS DEPICTED IN THE APPLICABLE STACKING PROCEDURES ON PAGE 50. SEE THE SPECIAL NOTES ON PAGE 49.



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

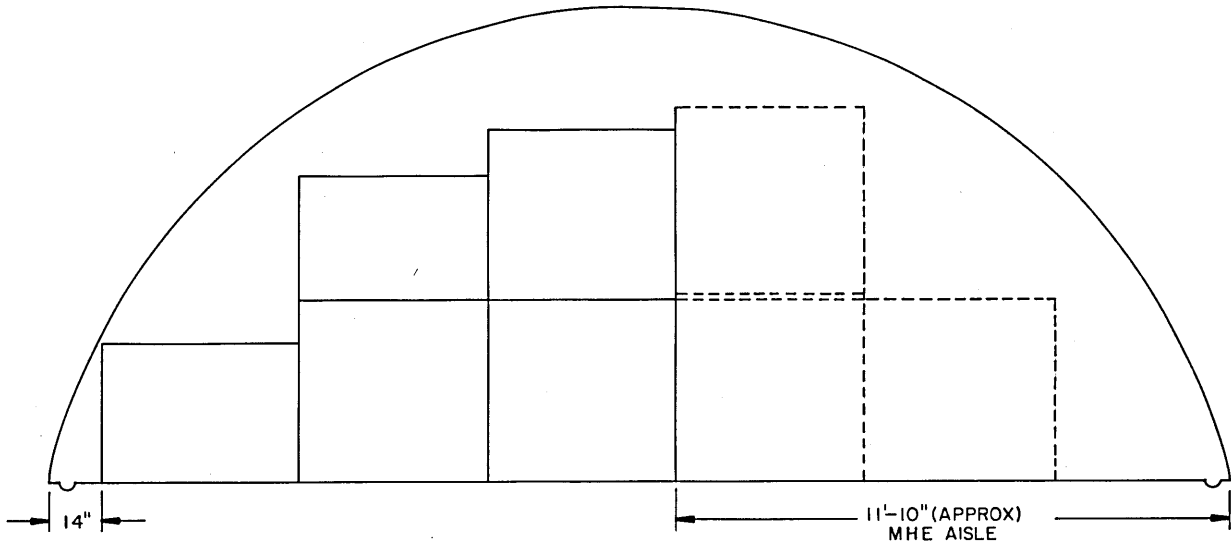
BOX PALLET UNIT CONTAINS 8-1/4" D X 13-3/4" H DRUMS



SECTION U-U

BOX PALLET UNIT CONTAINS 8" D X 16" H DRUMS

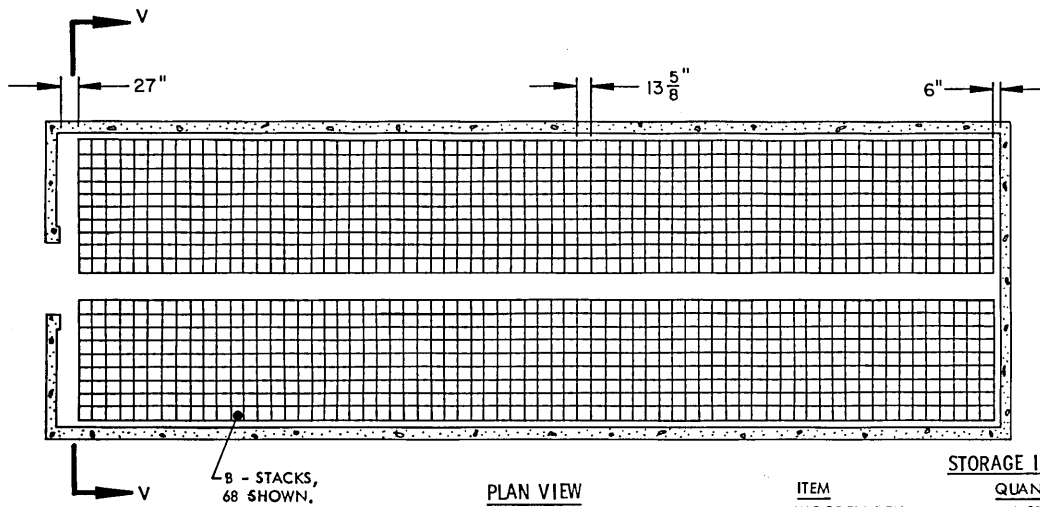




**SECTION U-U**  
 BOX PALLET UNIT CONTAINS 6" D X 7-1/2" H DRUMS

**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 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.



PLAN VIEW  
80'-0" MAGAZINE

8 - STACKS,  
68 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 DRUMS PER LAYER IN A STACK.
3. INTERMEDIATE DUNNAGE MUST BE USED ON EVERY SECOND, FOURTH AND SIXTH LAYER.

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

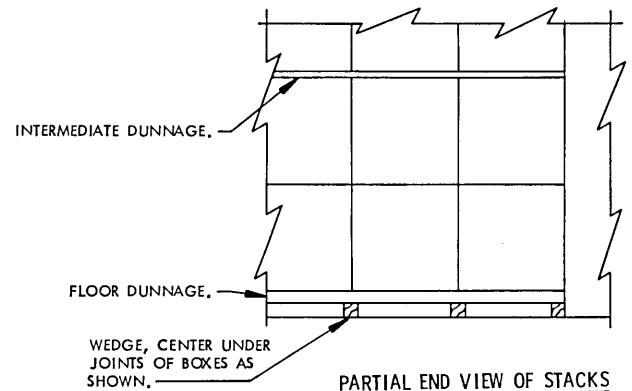
ITEM	QUANTITY	EXPLOSIVE WEIGHT
WOODEN BOX	6,936	346,800 LBS

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

ITEM	QUANTITY	EXPLOSIVE WEIGHT
WOODEN BOX	3,366	168,300 LBS

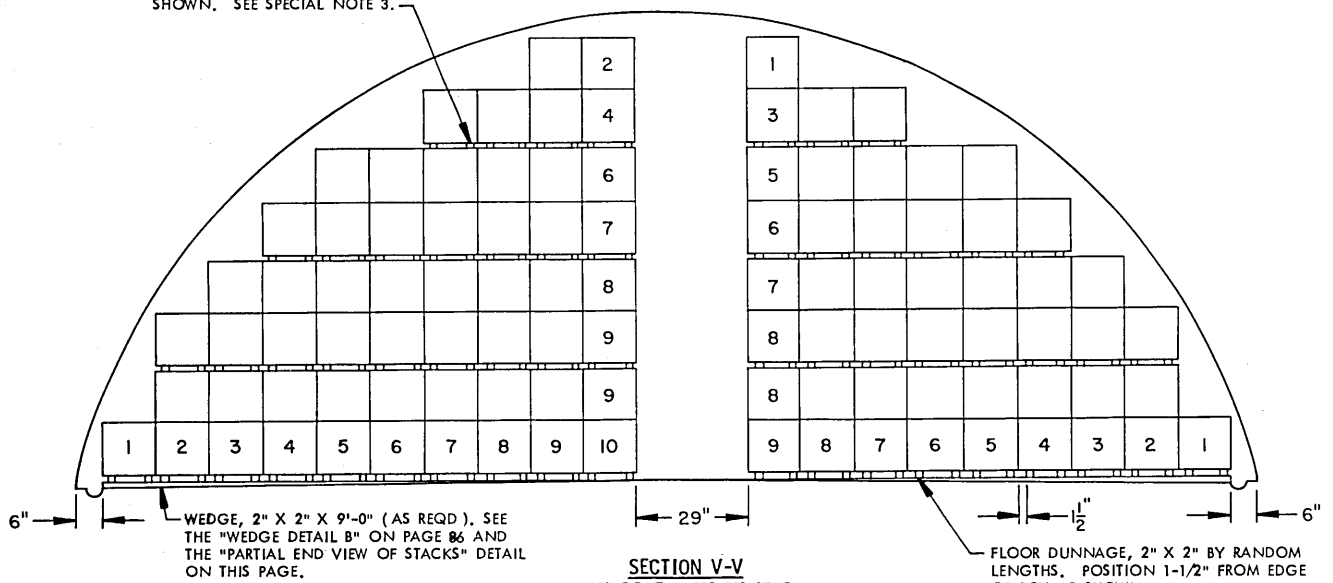
\* 33 STACKS  
SEE GENERAL NOTE "E" ON PAGE 2.

BILL OF MATERIAL ( PER STACK )		
LUMBER	LINEAR FEET	BOARD FEET
1" X 2"	119	20
2" X 2"	44	15
WEDGES PER STACK		
LUMBER	LENGTH	NO. REQD
2" X 2"	9'-0"	2



PARTIAL END VIEW OF STACKS

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

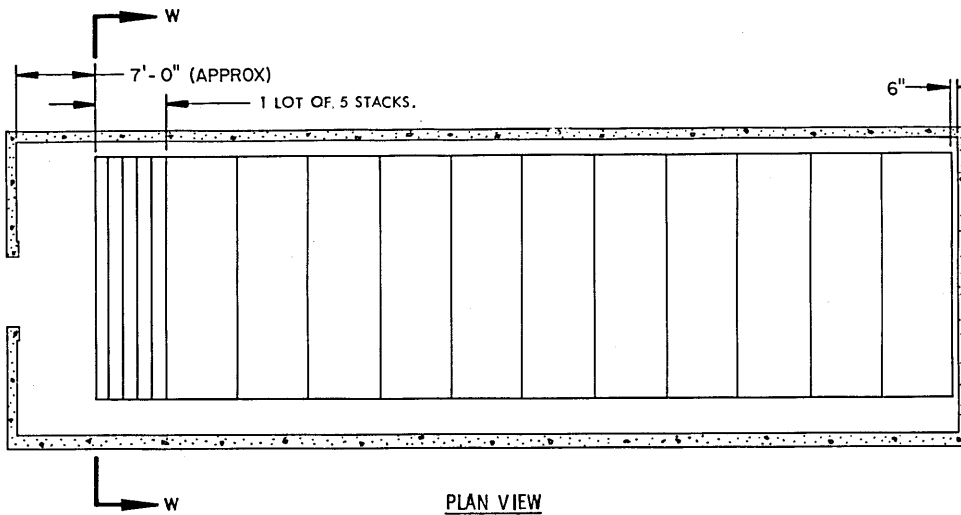


SECTION V-V  
102 CONTAINERS PER STACK

WEDGE, 2" X 2" X 9'-0" (AS REQD). SEE THE "WEDGE DETAIL B" ON PAGE 86 AND THE "PARTIAL END VIEW OF STACKS" DETAIL ON THIS PAGE.

FLOOR DUNNAGE, 2" X 2" BY RANDOM LENGTHS. POSITION 1-1/2" FROM EDGE OF BOX AS SHOWN.

BLACK POWDER ( PACKED IN WOODEN BOX )



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

BILL OF MATERIAL ( PER LOT )		
LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	294	98
2" X 4"	196	131
WEDGES PER LOT		
LUMBER	LENGTH	NO. REQD
2" X 4"	6'-0"	10
2" X 4"	9'-0"	10

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

ITEM	QUANTITY	EXPLOSIVE WEIGHT
FIBERBOARD DRUMS	2,400	120,000 LBS

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

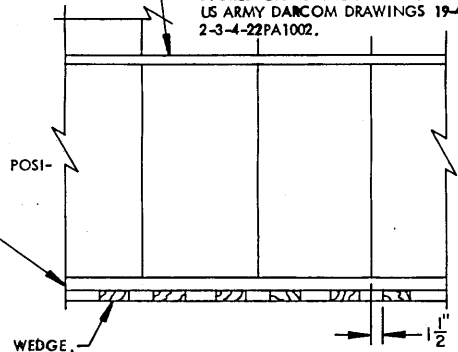
ITEM	QUANTITY	EXPLOSIVE WEIGHT
FIBERBOARD DRUMS	1,200	60,000 LBS

\* 30 STACKS. SEE GENERAL NOTE "E" ON PAGE 2 AND SPECIAL NOTE 3. 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 W-W INDICATE THE QUANTITY OF DRUMS PER LAYER IN A STACK.
- 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.
- EACH LOT CONSISTS OF 10,000 LBS ( 200 DRUMS ), 5 STACKS OF 40 DRUMS.
- NITROGUANIDINE PACKED IN 14.5" DIAMETER BY 17.04" HIGH DRUM AND PALLETIZED IN ACCORDANCE WITH NAVAL SEA SYSTEMS COMMAND DRAWING WR-53/827 WILL BE STORED USING THE PROCEDURES SHOWN IN US ARMY DARCOW DRAWINGS 19-48-4118-1-2-3-4-22PA1002.

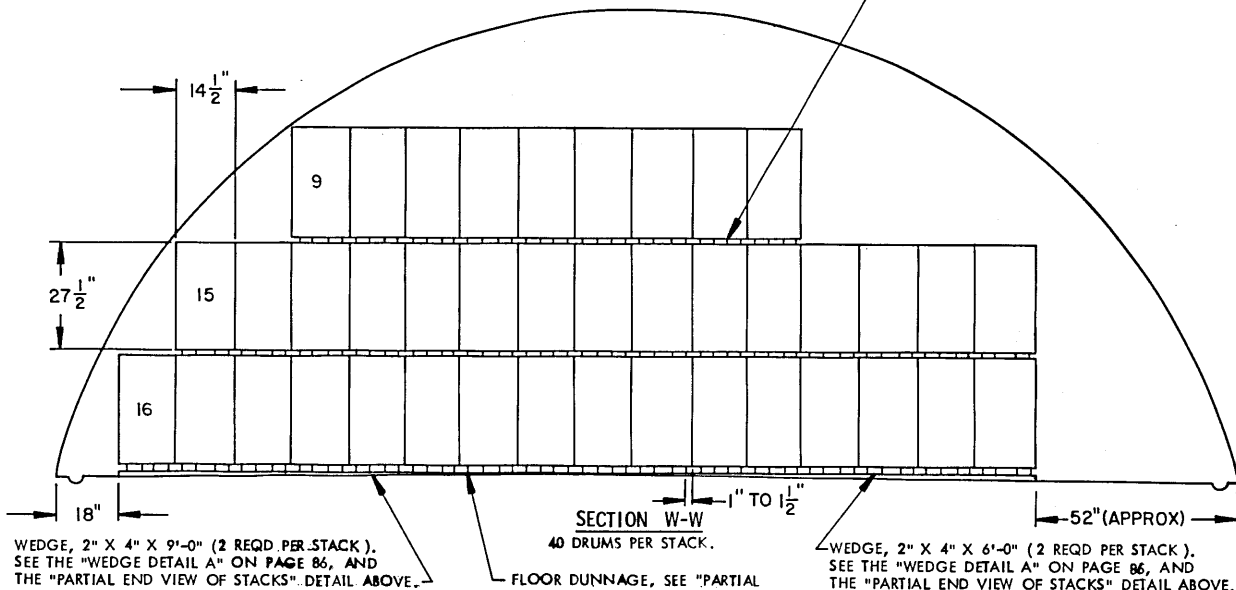
INTERMEDIATE DUNNAGE.

FLOOR DUNNAGE, 2" X 4" X 6'-0-1/2" ( 32 REQD PER LOT ). POSITION AS SHOWN IN THE SECTION W-W VIEW.



PARTIAL END VIEW OF STACKS

INTERMEDIATE DUNNAGE, 1" X 4" X 6'-0-1/2" ( 48 REQD PER LOT ). POSITION AS SHOWN.



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

SECTION W-W  
40 DRUMS PER STACK.

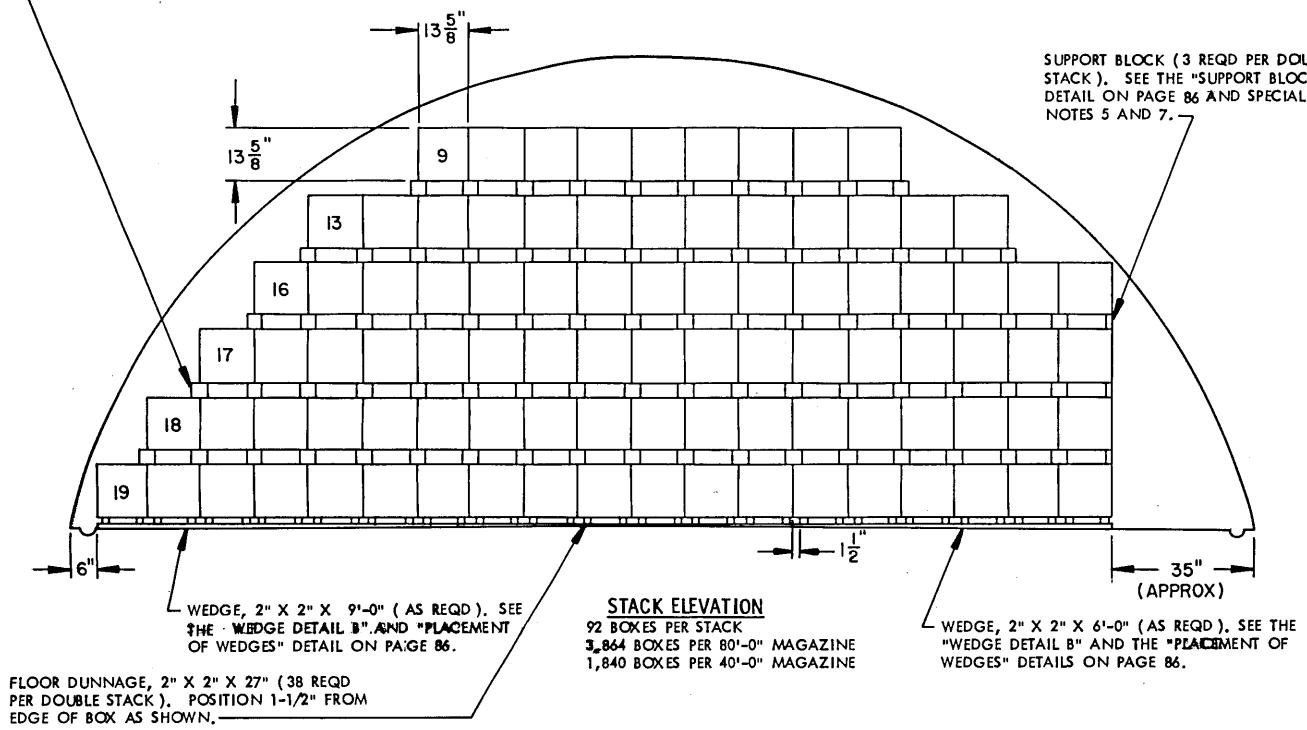
FLOOR DUNNAGE, SEE "PARTIAL END VIEW OF STACKS" ABOVE.  
STORAGE METHOD A

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

**NITROGUANIDINE ( PACKED IN FIBERBOARD DRUMS )**

SUPPORT BLOCK (75 REQD PER DOUBLE STACK). SEE THE "SUPPORT BLOCK A" DETAIL ON PAGE 86 AND SPECIAL NOTES 5 AND 7.

SUPPORT BLOCK (3 REQD PER DOUBLE STACK). SEE THE "SUPPORT BLOCK B" DETAIL ON PAGE 86 AND SPECIAL NOTES 5 AND 7.



**STACK ELEVATION**

92 BOXES PER STACK  
 3,864 BOXES PER 80'-0" MAGAZINE  
 1,840 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 9'-0" (AS REQD). SEE THE "WEDGE DETAIL B" AND "PLACEMENT OF WEDGES" DETAIL ON PAGE 86.

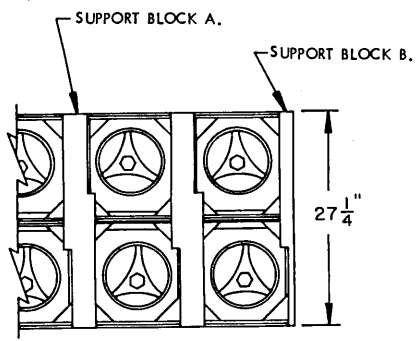
WEDGE, 2" X 2" X 6'-0" (AS REQD). SEE THE "WEDGE DETAIL B" AND THE "PLACEMENT OF WEDGES" DETAILS ON PAGE 86.

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

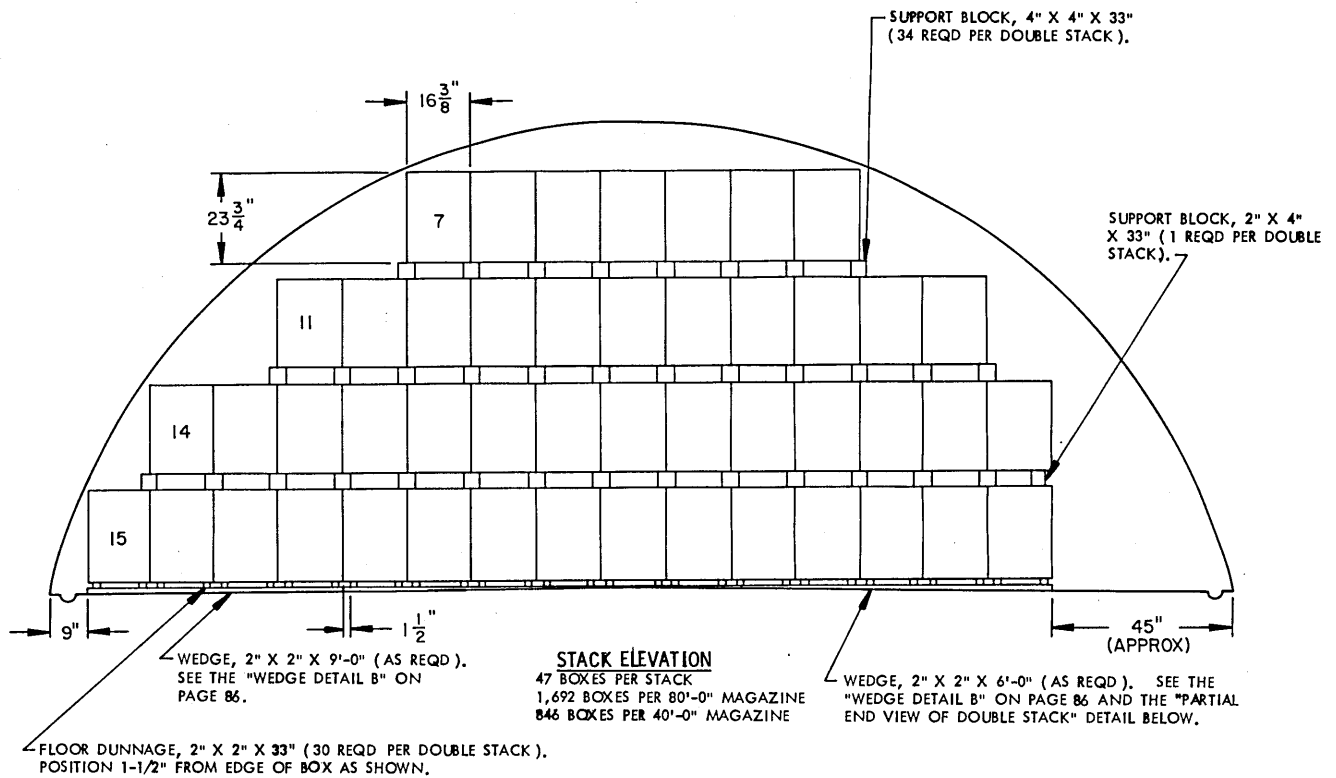
LUMBER	LINEAR FEET	BOARD FEET
2" X 2"	86	29
2" X 4"	7	5
4" X 4"	169	225
WEDGES PER DOUBLE STACK		
LUMBER	LENGTH	NO. REQD
2" X 2"	6'-0"	3
2" X 2"	9'-0"	3

**SPECIAL NOTES:**

- STORAGE AS SHOWN IS FOR THE M18 WOODEN BOX.  
BOX DIMENSIONS --- 13-5/8" LONG BY 13-5/8" WIDE BY 13-5/8" 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 PLAN VIEW OF DOUBLE STACK" ON THIS PAGE.
- SUPPORT BLOCK A AND SUPPORT BLOCK B MAY BE FABRICATED FROM 1" X 4" AND 2" X 4" MATERIAL.
- THE BOXES MUST BE POSITIONED WITH THE LIDS NEAREST TO THE LATERAL AISLES.
- SUPPORT BLOCK A AND SUPPORT BLOCK B MUST BE POSITIONED AS SHOWN IN "PLAN VIEW OF PARTIAL STACK" TO PERMIT REMOVAL OF LID.
- THE METHOD OF STORAGE SHOWN PERMITS INSPECTION OF INDIVIDUAL BOXES.
- THE EXPLOSIVE WEIGHT FOR M18 WOODEN BOX IS 50 POUNDS. THE EXPLOSIVE WEIGHT FOR THE STACK ELEVATION SHOWN ABOVE WILL BE 4,600 POUNDS. THE EXPLOSIVE WEIGHT FOR AN 80'-0" MAGAZINE WILL BE 193,200 POUNDS. THERE WILL BE APPROXIMATELY 10" OF SPACE AT THE FRONT OF THE MAGAZINE. THE EXPLOSIVE WEIGHT FOR A 40'-0" MAGAZINE WILL BE 92,000 POUNDS. THERE WILL BE APPROXIMATELY 28" OF SPACE AT THE FRONT OF THIS MAGAZINE. SEE GENERAL NOTE "E" ON PAGE 2.



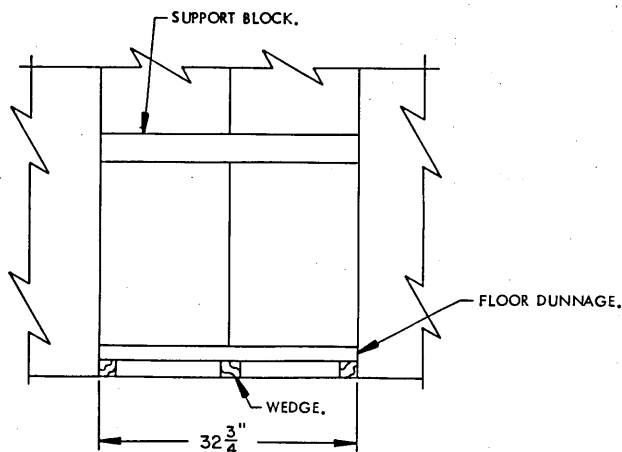
**PARTIAL PLAN VIEW OF DOUBLE STACK**



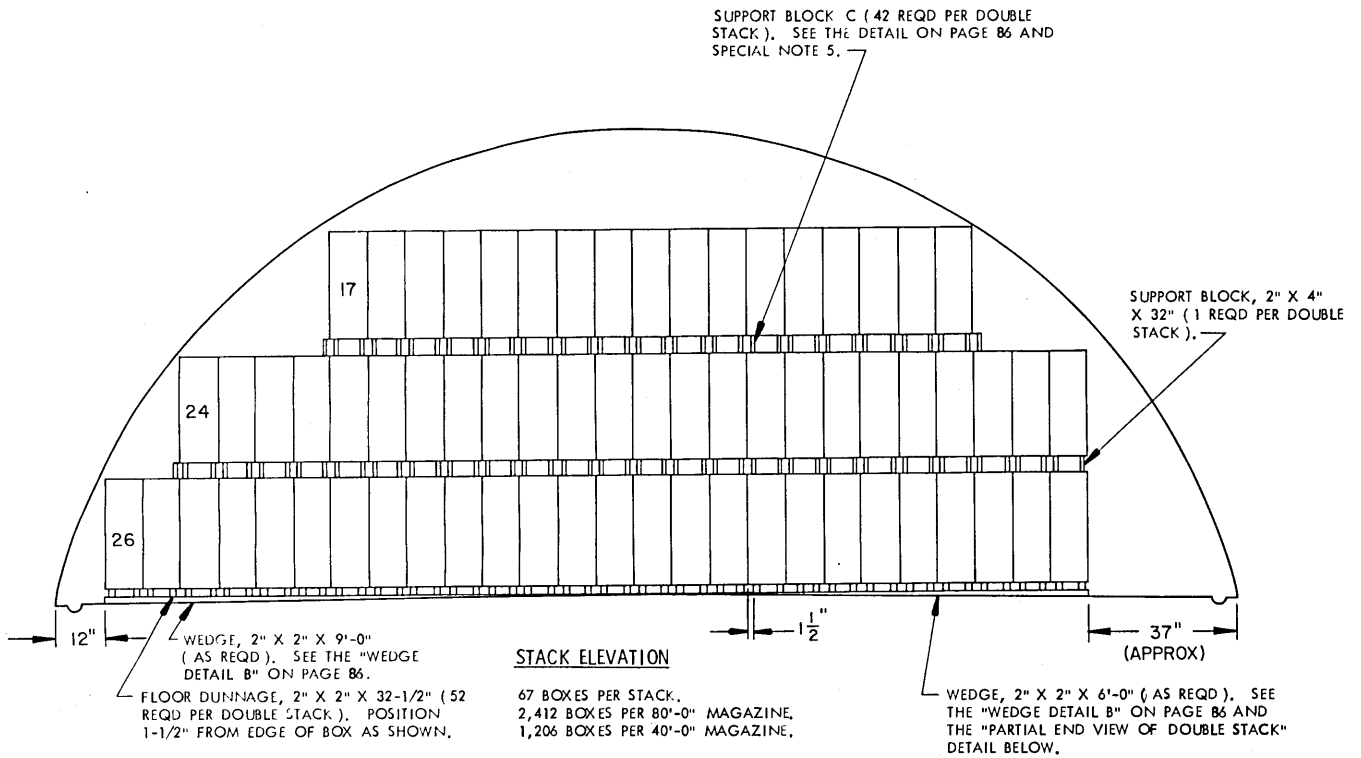
BILL OF MATERIAL ( PER DOUBLE STACK )		
LUMBER	LINEAR FEET	BOARD FEET
2" X 2"	83	28
2" X 4"	3	2
4" X 4"	94	125
WEDGES PER DOUBLE STACK		
LUMBER	LENGTH	NO. REQD
2" X 2"	6'-0"	1
2" X 2"	9'-0"	1

**SPECIAL NOTES:**

- 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.
- SEE THE "TYPICAL PLAN VIEW B" ON PAGE 4.
- THE NUMBERS SHOWN IN THE STACK ELEVATION INDICATE THE QUANTITY OF BOXES 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 AN M17 WOODEN BOX IS 100 POUNDS. THE EXPLOSIVE WEIGHT FOR THE STACK ELEVATION ABOVE WILL BE 4,700 POUNDS. THE EXPLOSIVE WEIGHT FOR AN 80'-0" MAGAZINE WILL BE 169,200 POUNDS. THERE WILL BE APPROXIMATELY 56" OF SPACE AT THE FRONT OF THIS MAGAZINE. THE EXPLOSIVE WEIGHT FOR A 40'-0" MAGAZINE WILL BE 84,600 POUNDS. THERE WILL BE APPROXIMATELY 28" OF SPACE AT THE FRONT OF THIS MAGAZINE. SEE GENERAL NOTE "E" ON PAGE 2.



**PARTIAL END VIEW OF DOUBLE STACK**



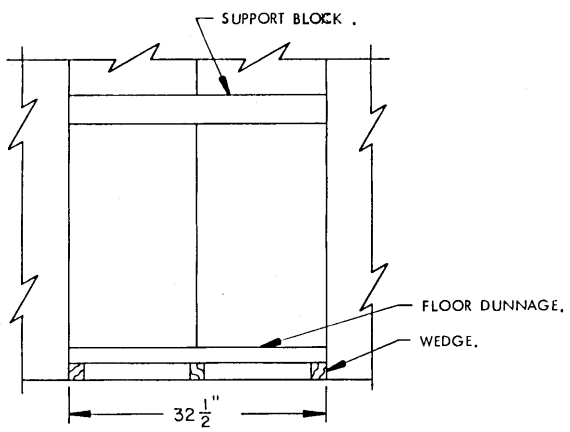
**STACK ELEVATION**

67 BOXES PER STACK,  
 2,412 BOXES PER 80'-0" MAGAZINE,  
 1,206 BOXES PER 40'-0" MAGAZINE.

BILL OF MATERIAL ( PER DOUBLE STACK )		
LUMBER	LINEAR FEET	BOARD FEET
2" X 2"	141	47
2" X 4"	3	2
4" X 4"	114	152
WEDGES PLR DOUBLE STACK		
LUMBER	LENGTH	NO. REQD
2" X 4"	6'-0"	3
2" X 4"	9'-0"	3

**SPECIAL NOTES:**

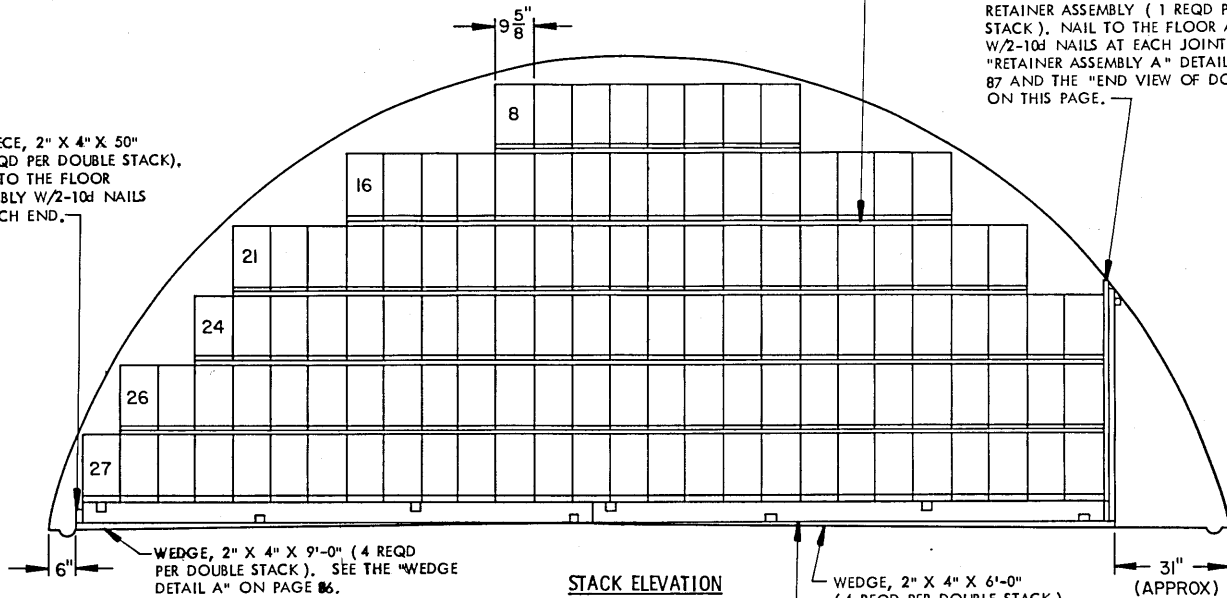
1. STORAGE AS SHOWN IS FOR THE M2 AND MK VII STEEL BOX.  
 BOX DIMENSION --- 16-1/4" LONG BY 9-5/8" WIDE BY 28-3/8" HIGH.
2. SEE THE "TYPICAL PLAN VIEW B" ON PAGE 4.
3. THE NUMBERS SHOWN IN THE STACK ELEVATION INDICATE THE QUANTITY OF BOXES PER LAYER IN A STACK.
4. STORE IN DOUBLE STACKS FOR BETTER STABILITY. 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 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 ABOVE WILL BE 7,370 POUNDS. THE EXPLOSIVE WEIGHT FOR AN 80'-0" MAGAZINE WILL BE 265,320 POUNDS. THERE WILL BE APPROXIMATELY 51" OF SPACE AT THE FRONT OF THIS MAGAZINE. THE EXPLOSIVE WEIGHT FOR A 40'-0" MAGAZINE WILL BE 132,660 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.



**PARTIAL END VIEW OF DOUBLE STACK**

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

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



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

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

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

### STACK ELEVATION

122 BOXES PER STACK.  
2,684 BOXES PER 80'-0" MAG.  
1,220 BOXES PER 40'-0" MAG.

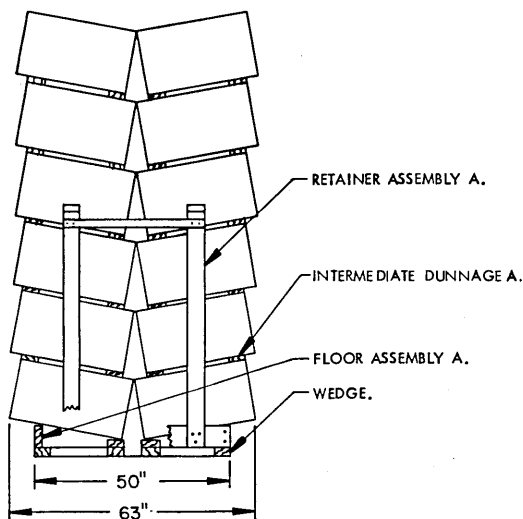
WEDGE, 2" X 4" X 6'-0"  
(4 REQD PER DOUBLE STACK).  
SEE THE "WEDGE DETAIL A" ON  
PAGE 86 AND THE "END VIEW OF  
DOUBLE STACK" DETAIL BELOW.

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

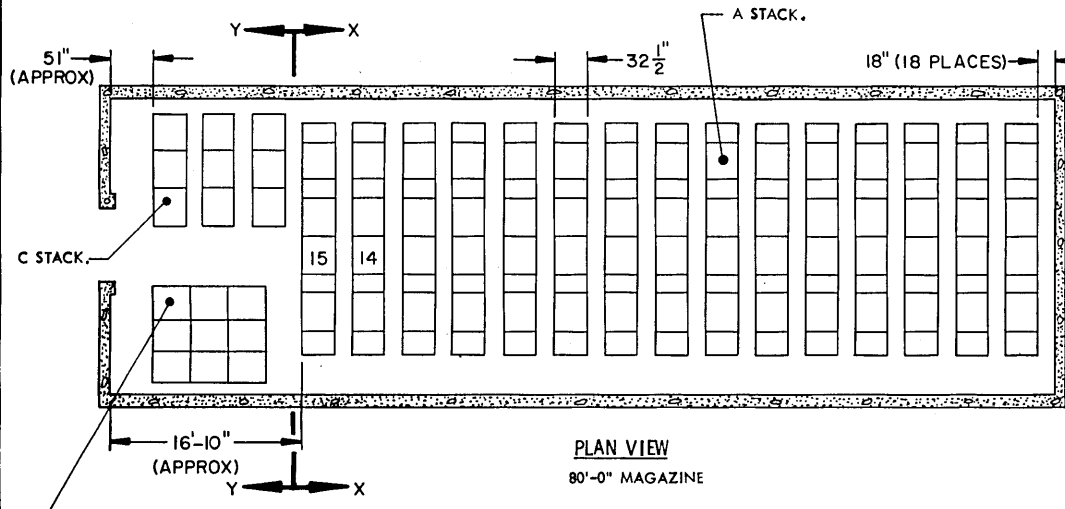
BILL OF MATERIAL (PER DOUBLE STACK)		
LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	339	113
2" X 2"	3	1
2" X 4"	68	46
2" X 6"	77	77
NAILS	NO. REQD	POUNDS
10d (3")	62	1
WEDGES PER DOUBLE STACK		
LUMBER	LENGTH	NO. REQD
2" X 4"	6'-0"	4
2" X 4"	9'-0"	4

### 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 ABOVE WILL BE 13,420 POUNDS. THE EXPLOSIVE WEIGHT FOR AN 80'-0" MAGAZINE WILL BE 295,240 POUNDS. THERE WILL BE APPROXIMATELY 69" OF SPACE AT THE FRONT OF THIS MAGAZINE. THE EXPLOSIVE WEIGHT FOR A 40'-0" MAGAZINE WILL BE 134,200 POUNDS. THERE WILL BE APPROXIMATELY 61'-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 71, OR ON PAGE 89 IS THE OPTION OF THE STORING ACTIVITY.



END VIEW OF DOUBLE STACK



STORAGE IN 80'-0' MAGAZINE

ITEM	QUANTITY	EXPLOSIVE WEIGHT
PALLET UNIT	222	195,360 LBS
BOXES	1,776	

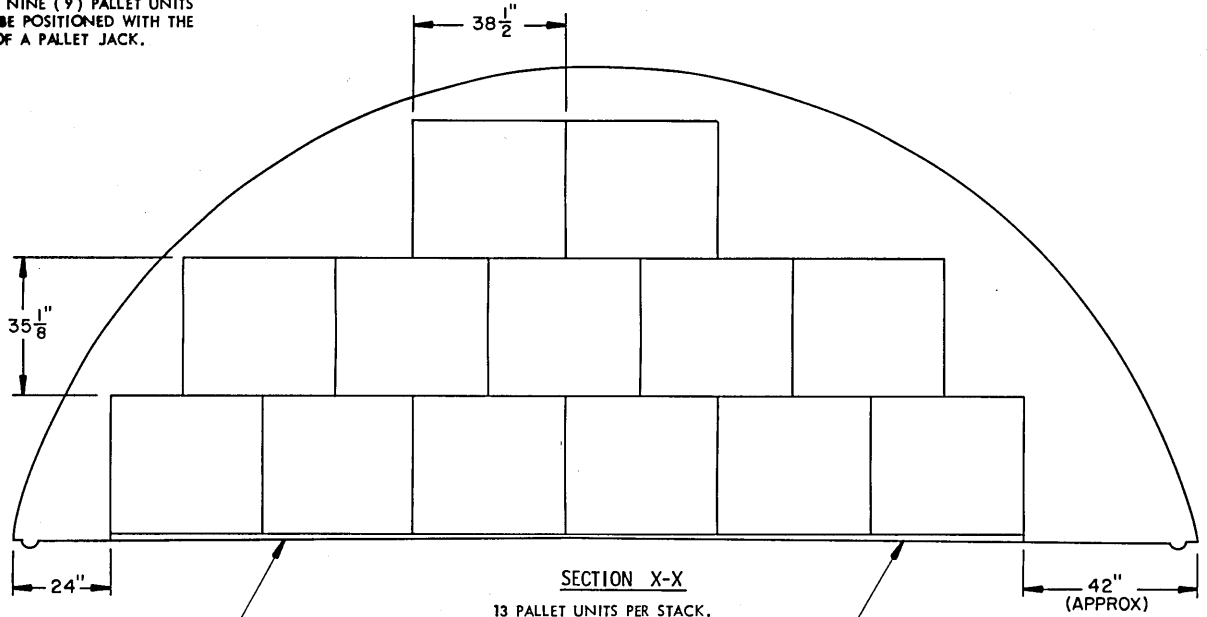
\* STORAGE IN 40'-0' MAGAZINE

ITEM	QUANTITY	EXPLOSIVE WEIGHT
PALLET UNIT	105	92,400 LBS
BOXES	840	

\* 6 A STACKS  
3 C STACKS

SEE GENERAL NOTE "E" ON PAGE 2.

THESE NINE (9) PALLET UNITS MAY BE POSITIONED WITH THE USE OF A PALLET JACK.

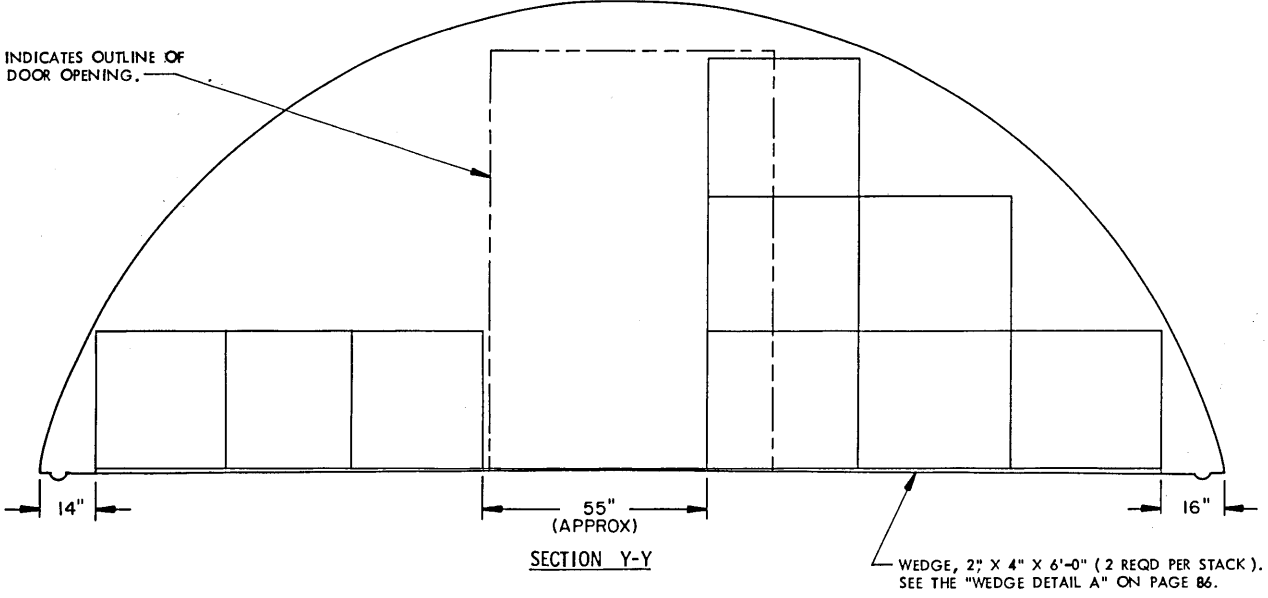


WEDGE, 2" X 4" X 9'-0" (2 REQD PER STACK). SEE THE "WEDGE DETAIL A" ON PAGE 86.

13 PALLET UNITS PER STACK.  
104 BOXES PER STACK.

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

INDICATES OUTLINE OF DOOR OPENING.

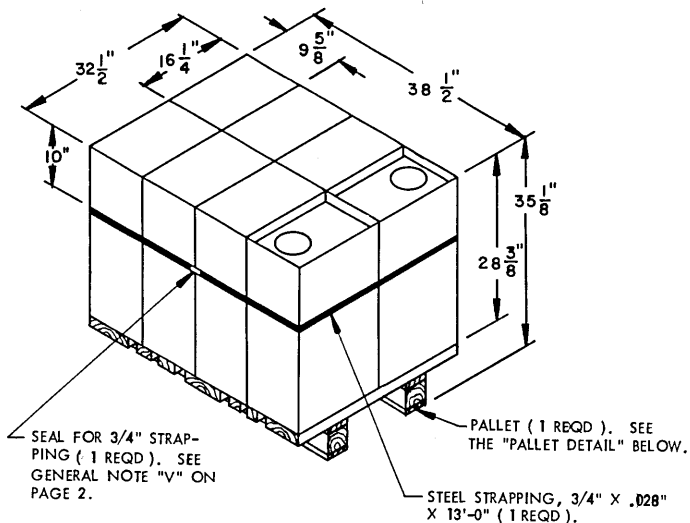


WEDGE, 2" X 4" X 6'-0" (2 REQD PER STACK). SEE THE "WEDGE DETAIL A" ON PAGE 86.



**SPECIAL NOTES:**

1. STORAGE AS SHOWN IS FOR THE 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 MK7 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 19-48-4118-1-2-3-4-14-22PA 1002.
4. PROPELLANT GRAIN MK43 MOD O IN PALLET CRATE MK2 MOD O UNITIZED IN ACCORDANCE WITH WR-53/709, PROPELLANT GRAIN MK49 AND MODS IN PALLET CRATE MK4 MOD O (WR-53/805) AND PROPELLANT GRAIN MK86 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.

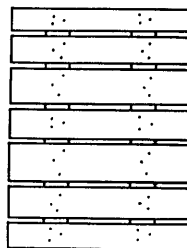


**PALLETIZED BOXES**

EIGHT (8) BOXES PER PALLET.

**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
10d (3")	18	3/4
STEEL STRAPPING, 3/4" X .028" ----- 13' REQD ----- 1 LB		
SEAL FOR 3/4" STRAPPING ----- 1 REQD ----- NIL		

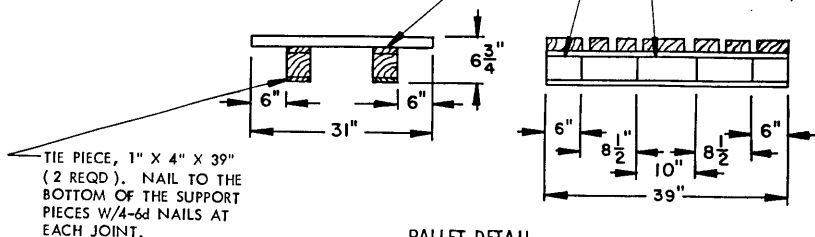


DECK, 2" THICK MATERIAL, BY RANDOM WIDTHS BY 31" LONG. NAIL TO THE SUPPORT PIECES W/3-20d NAILS AT EACH LOCATION.

TIE PIECE, 1" X 4" X 39" (2 REQD). NAIL TO THE DECK W/4-6d NAILS AT EACH JOINT.

SUPPORT PIECE, 4" X 4" X 6" (4 REQD).

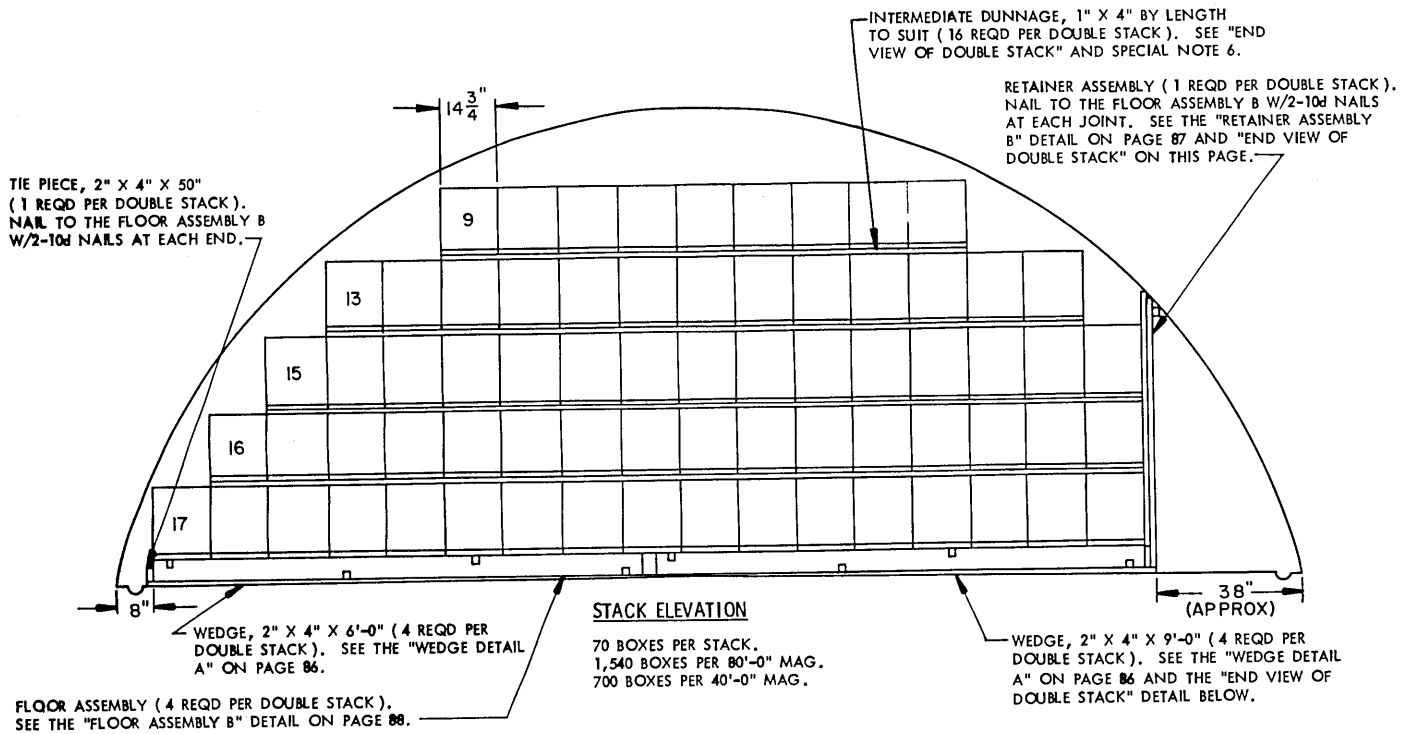
SUPPORT PIECE, 4" X 4" X 10" (2 REQD).



TIE PIECE, 1" X 4" X 39" (2 REQD). NAIL TO THE BOTTOM OF THE SUPPORT PIECES W/4-6d NAILS AT EACH JOINT.

**PALLET DETAIL**

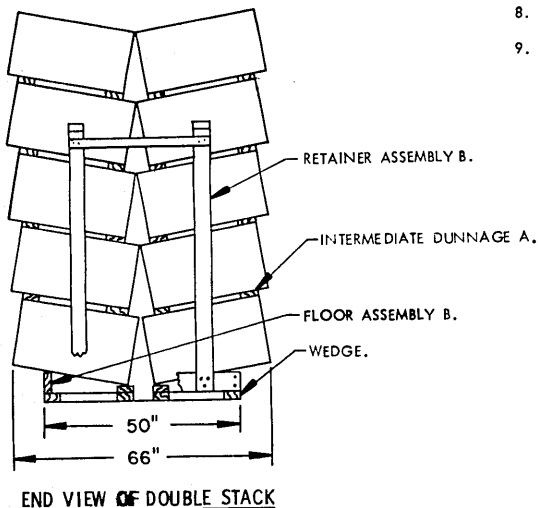
POWDER, PROPELLANT (PACKED IN STEEL BOX, M2 AND MK VII) PALLETIZED

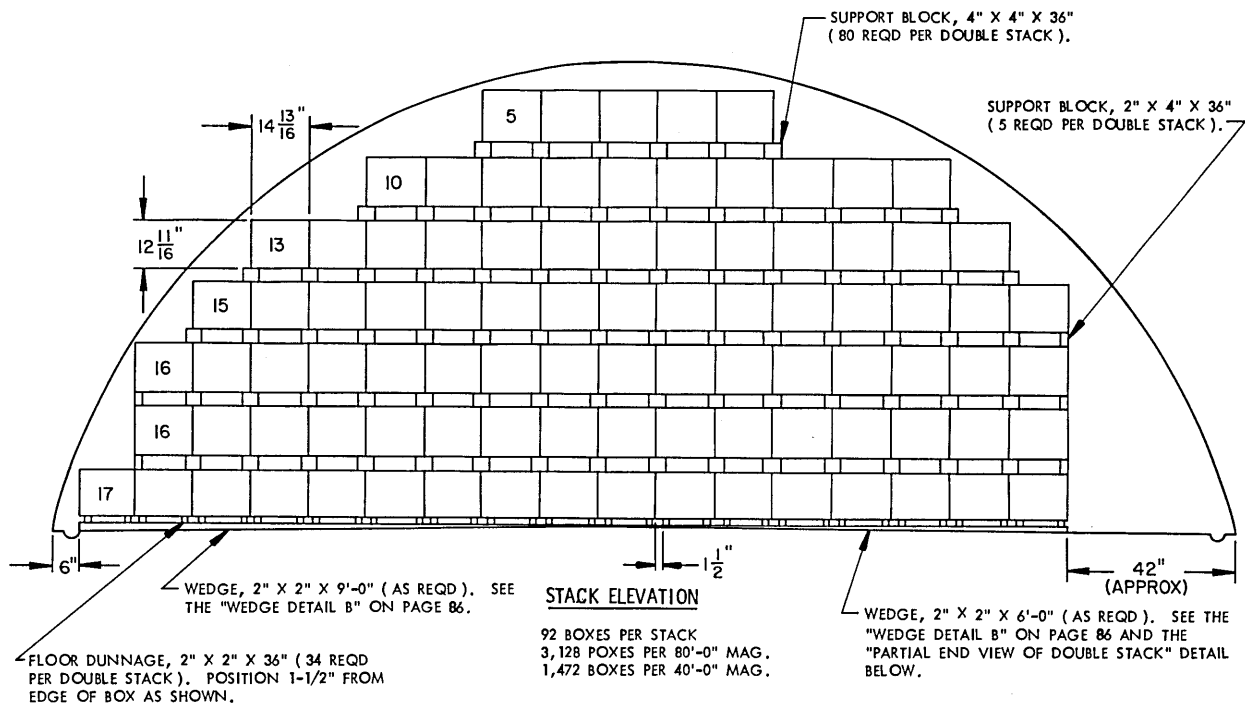


BILL OF MATERIAL ( PER DOUBLE STACK )		
LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	288	96
2" X 2"	3	1
2" X 4"	34	23
2" X 6"	45	45
NAILS	NO. REQD	POUNDS
10d (3")	58	1
WEDGES PER DOUBLE STACK		
LUMBER	LENGTH	NO. REQD.
2" X 4"	6'-0"	4
2" X 4"	9'-0"	4

**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 A METAL-LINED WOODEN BOX IS 150 POUNDS. THE EXPLOSIVE WEIGHT FOR THE STACK ELEVATION SHOWN ABOVE WILL BE 10,570 POUNDS. THE EXPLOSIVE WEIGHT FOR AN 80'-0" MAGAZINE WILL BE 231,000 POUNDS. THERE WILL BE APPROXIMATELY 36" 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 60" OF SPACE AT THE FRONT OF THIS MAGAZINE. SEE GENERAL NOTE "E" ON PAGE 2.





**STACK ELEVATION**

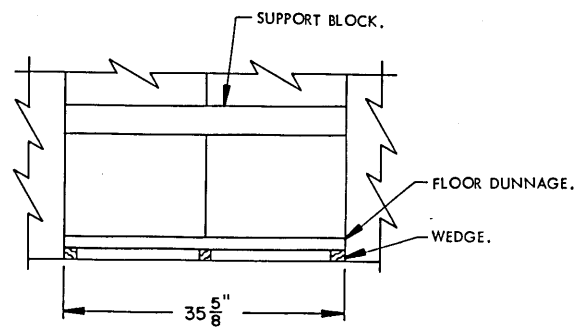
92 BOXES PER STACK  
 3,128 BOXES PER 80'-0" MAG.  
 1,472 BOXES PER 40'-0" MAG.

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

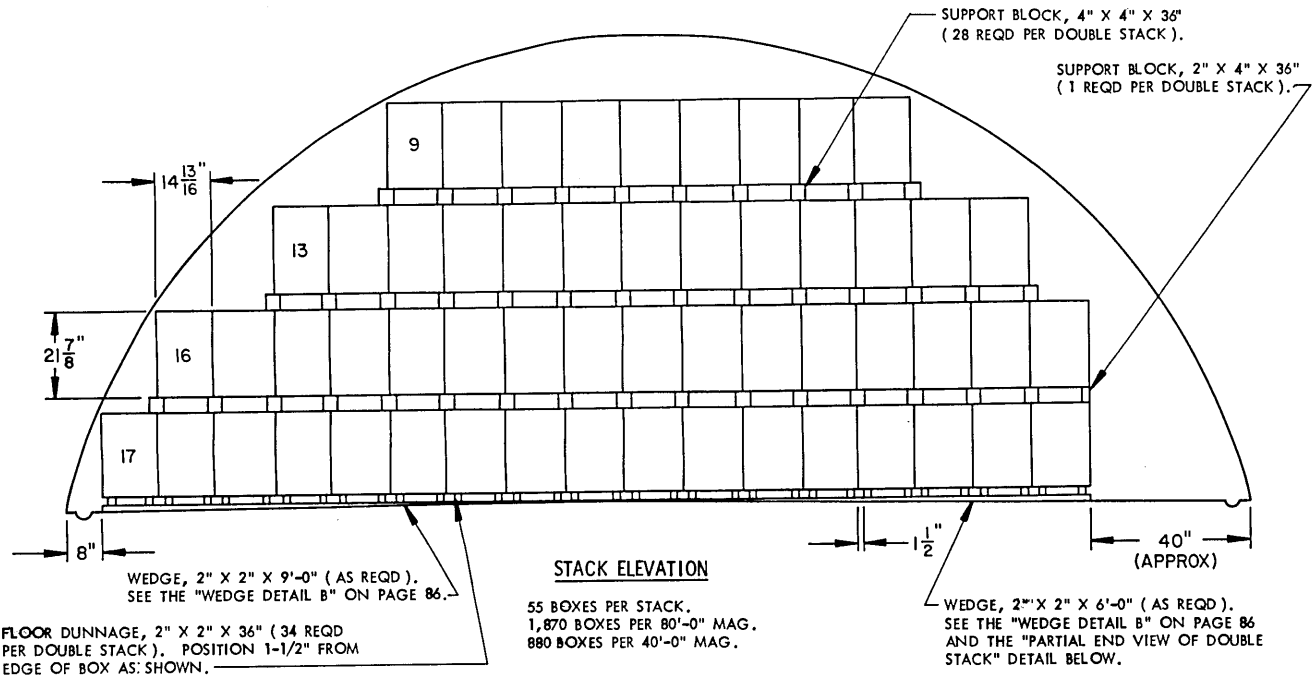
LUMBER	LINEAR FEET	BOARD FEET
2" X 2"	102	34
2" X 4"	15	10
4" X 4"	240	320
WEDGES PER DOUBLE STACK		
LUMBER	LENGTH	NO. REQD
2" X 2"	6'-0"	3
2" X 2"	9'-0"	3

**SPECIAL NOTES:**

1. STORAGE AS SHOWN IS FOR A WOODEN BOX.  
 BOX DIMENSIONS --- 17-13/16" LONG BY 14-13/16" WIDE BY 12-11/16" 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 A WOODEN BOX IS 50 POUNDS. THE EXPLOSIVE WEIGHT FOR THE STACK ELEVATION SHOWN ABOVE WILL BE 4,600 POUNDS. THE EXPLOSIVE WEIGHT FOR AN 80'-0" MAGAZINE WILL BE 156,400 POUNDS. THERE WILL BE APPROXIMATELY 48" OF SPACE AT THE FRONT OF THIS MAGAZINE. THE EXPLOSIVE WEIGHT FOR A 40'-0" MAGAZINE WILL BE 73,000 POUNDS. THERE WILL BE APPROXIMATELY 51" OF SPACE AT THE FRONT OF THIS MAGAZINE. SEE GENERAL NOTE "E" ON PAGE 2.



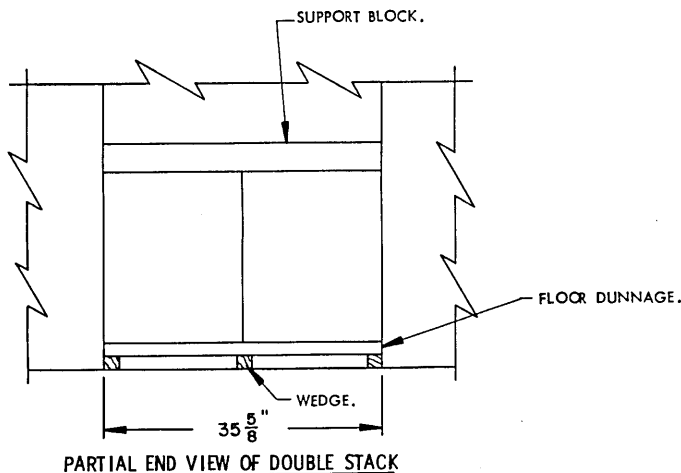
**PARTIAL END VIEW OF DOUBLE STACK**

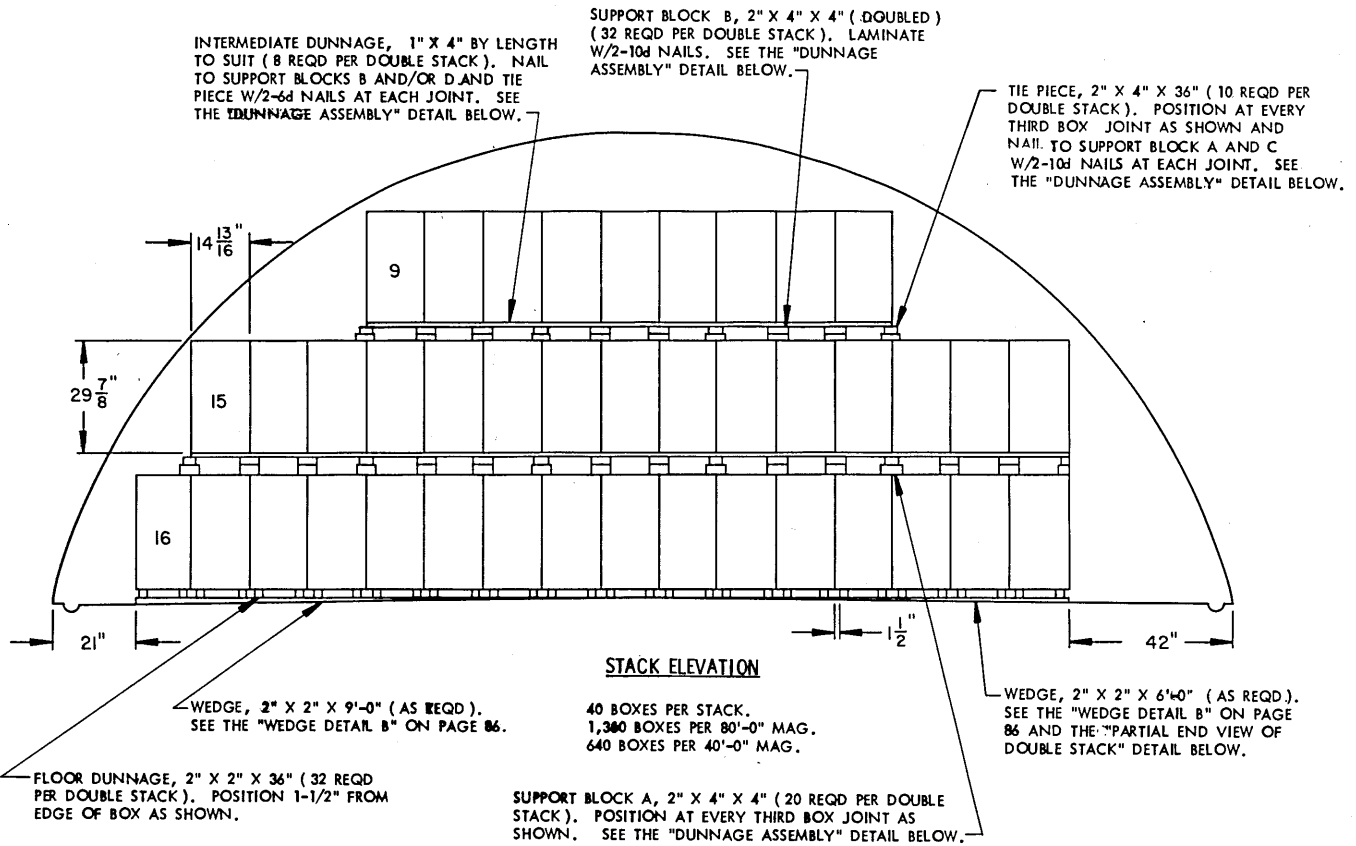


BILL OF MATERIAL ( PER DOUBLE STACK )		
LUMBER	LINEAR FEET	BOARD FEET
2" X 2"	102	34
2" X 4"	3	2
4" X 4"	84	112
WEDGES PER DOUBLE STACK		
LUMBER	LENGTH	NO. REQD
2" X 2"	6'-0"	3
2" X 2"	9'-0"	3

**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 5,500 POUNDS. THE EXPLOSIVE WEIGHT FOR AN 80'-0" MAGAZINE WILL BE 187,000 POUNDS. THERE WILL BE APPROXIMATELY 48" OF SPACE AT THE FRONT OF THIS MAGAZINE. THE EXPLOSIVE WEIGHT FOR A 40'-0" MAGAZINE WILL BE 88,000 POUNDS. THERE WILL BE APPROXIMATELY 51" OF SPACE AT THE FRONT OF THIS MAGAZINE. SEE GENERAL NOTE "E" ON PAGE 2.

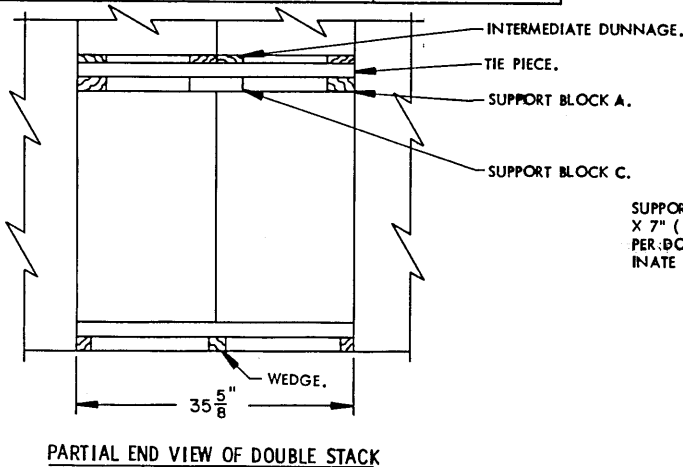




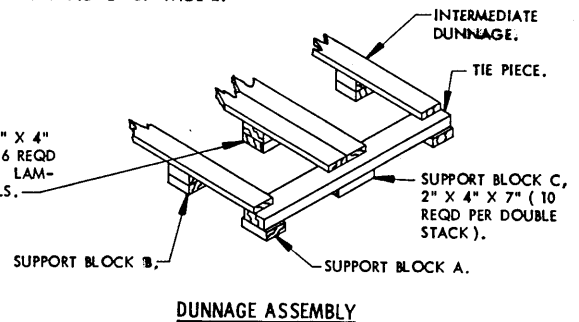
BILL OF MATERIAL ( PER DOUBLE STACK )		
LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	119	40
2" X 2"	96	32
2" X 4"	48	32
NAILS	NO. REQD	POUNDS
6d (2")	58	1/2
10d (3")	104	1-3/4
WEDGES PER DOUBLE STACK		
LUMBER	LENGTH	NO. REQD
2" X 2"	6'-0"	3
2" X 2"	9'-0"	3

**SPECIAL NOTES:**

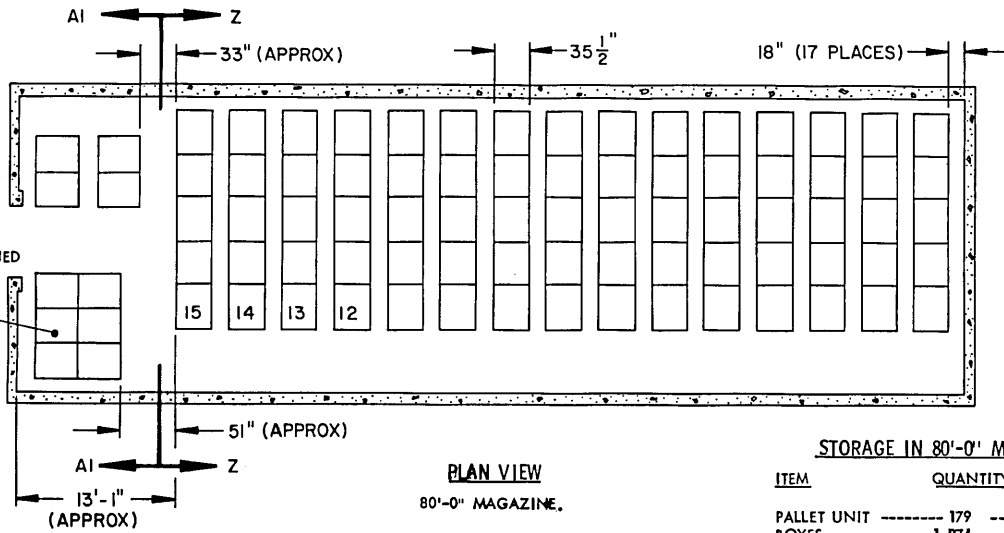
1. STORAGE AS SHOWN IS FOR A WOODEN BOX.  
BOX DIMENSIONS --- 17-13/16" LONG BY 14-13/16" WIDE BY 29-7/8" HIGH.
2. SEE THE "TYPICAL PLAN VIEW B" ON PAGE 4.
3. THE NUMBERS SHOWN IN THE STACK ELEVATION INDICATE THE QUANTITY OF BOXES PER LAYER IN A STACK.
4. STORE IN DOUBLE STACKS FOR BETTER STABILITY. 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 A WOODEN BOX IS 150 POUNDS. THE EXPLOSIVE WEIGHT FOR THE STACK ELEVATION SHOWN ABOVE WILL BE 6,040 POUNDS. THE EXPLOSIVE WEIGHT FOR AN 80'-0" MAGAZINE WILL BE 204,000 POUNDS. THERE WILL BE APPROXIMATELY 48" OF SPACE AT THE FRONT OF THIS MAGAZINE. THE EXPLOSIVE WEIGHT FOR A 40'-0" MAGAZINE WILL BE 96,000 POUNDS. THERE WILL BE APPROXIMATELY 51" SPACE AT THE FRONT OF THIS MAGAZINE. SEE GENERAL NOTE "E" ON PAGE 2.



SUPPORT BLOCK D, 2" X 4" X 7" (DOUBLED) (16 REQD PER DOUBLE STACK). LAMINATE W/2-10d NAILS.



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



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

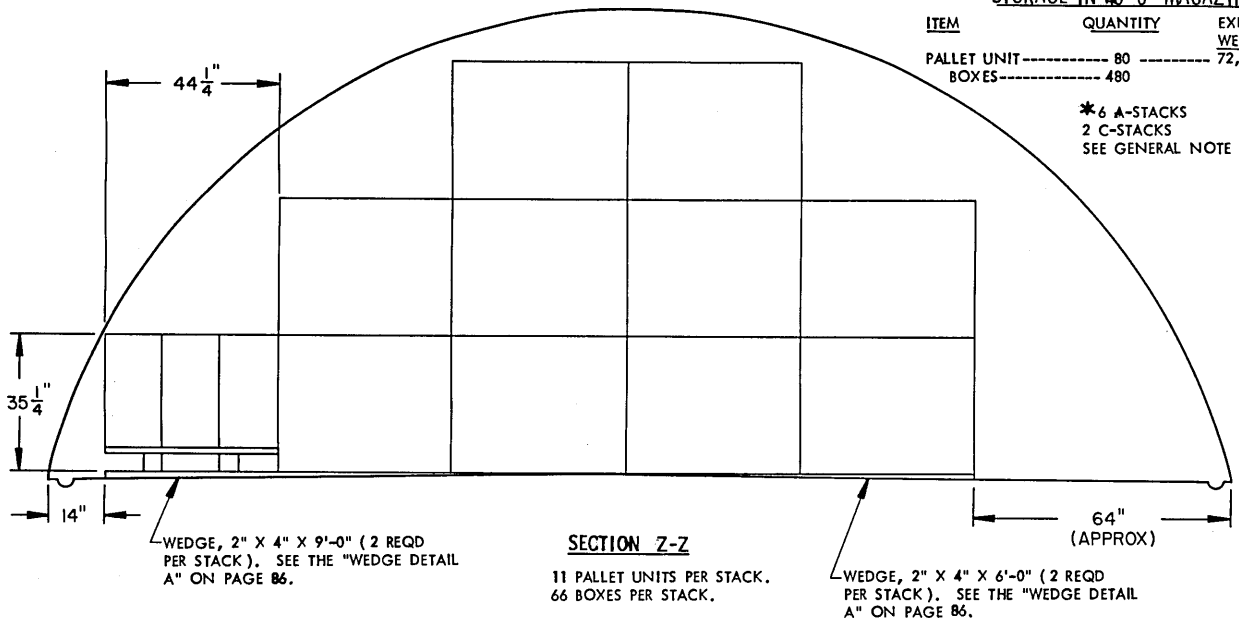
**STORAGE IN 80'-0' MAGAZINE**

ITEM	QUANTITY	EXPLOSIVE WEIGHT
PALLET UNIT	179	161,100 LBS
BOXES	1,074	

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

ITEM	QUANTITY	EXPLOSIVE WEIGHT
PALLET UNIT	80	72,000 LBS
BOXES	480	

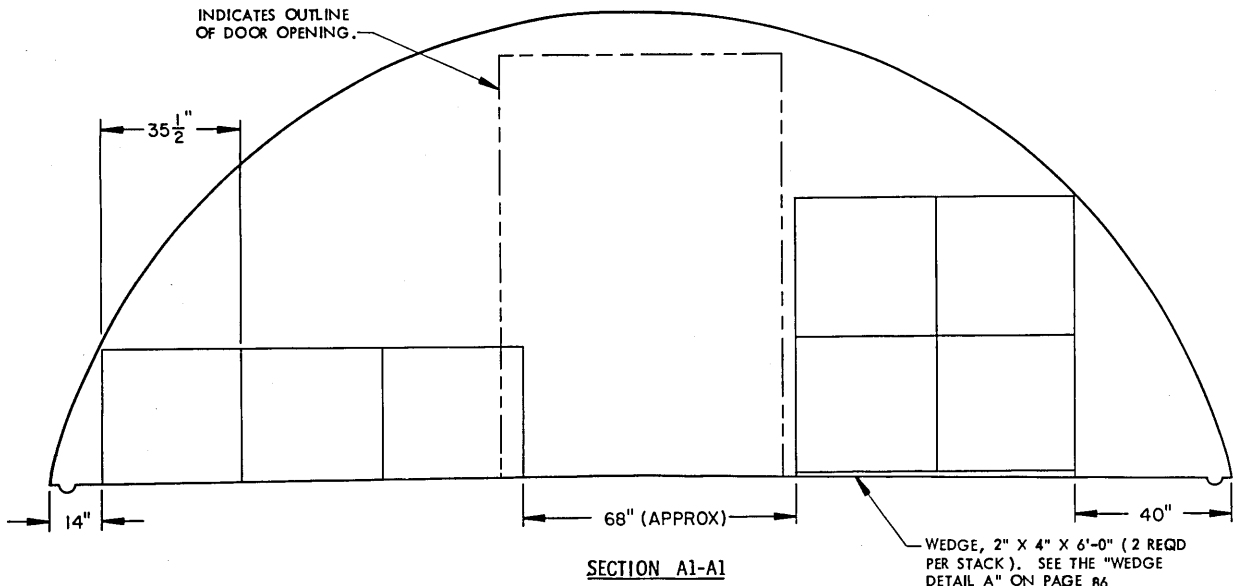
\* 6 A-STACKS  
2 C-STACKS  
SEE GENERAL NOTE "E" ON PAGE 2.



**SECTION Z-Z**

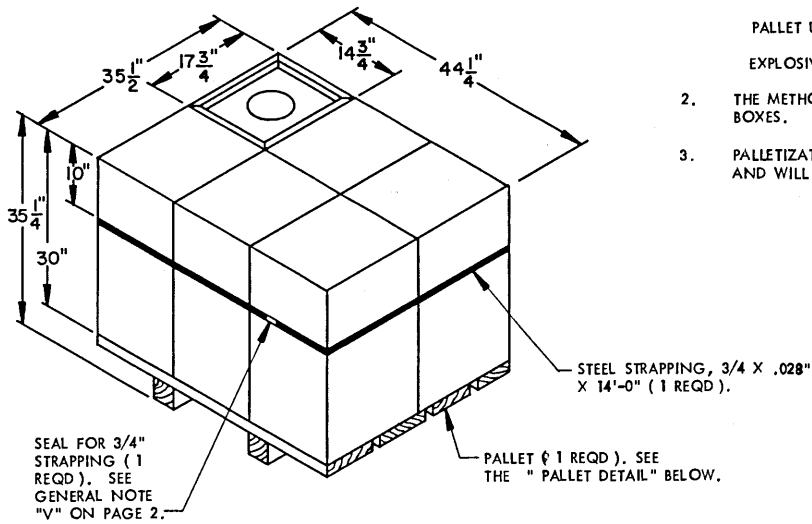
11 PALLET UNITS PER STACK.  
66 BOXES PER STACK.

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.



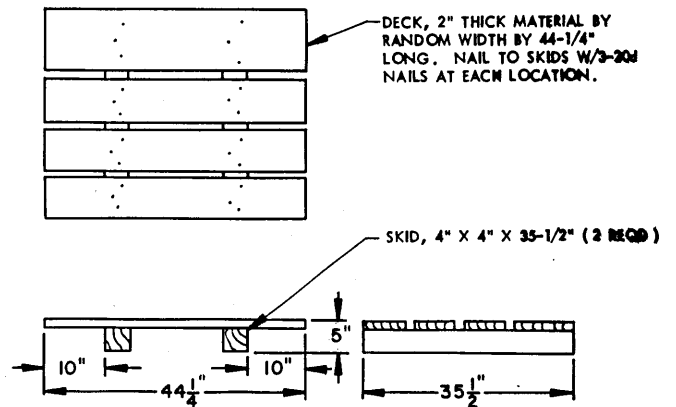
**PALLETIZED BOXES**

six (6) BOXES PER PALLET

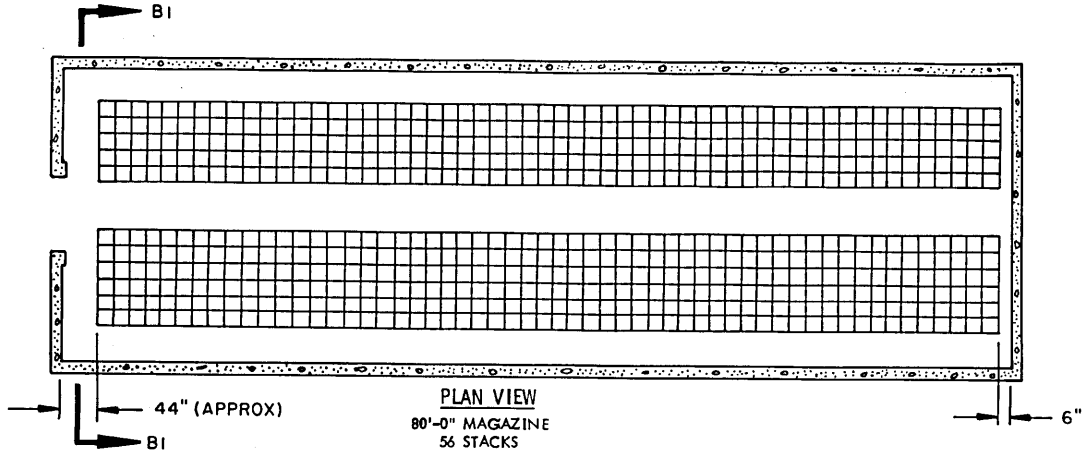
**SPECIAL NOTES:**

1. STORAGE AS SHOWN IS FOR THE METAL-LINED WOODEN BOX (PALLETTIZED).  
 PALLET UNIT DIMENSIONS --- 35-1/2" LONG BY 44-1/4" WIDE BY 35-1/4" 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.

BILL OF MATERIAL ( PER PALLET )		
LUMBER	LINEAR FEET	BOARD FEET
2" X 8"	11	15
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

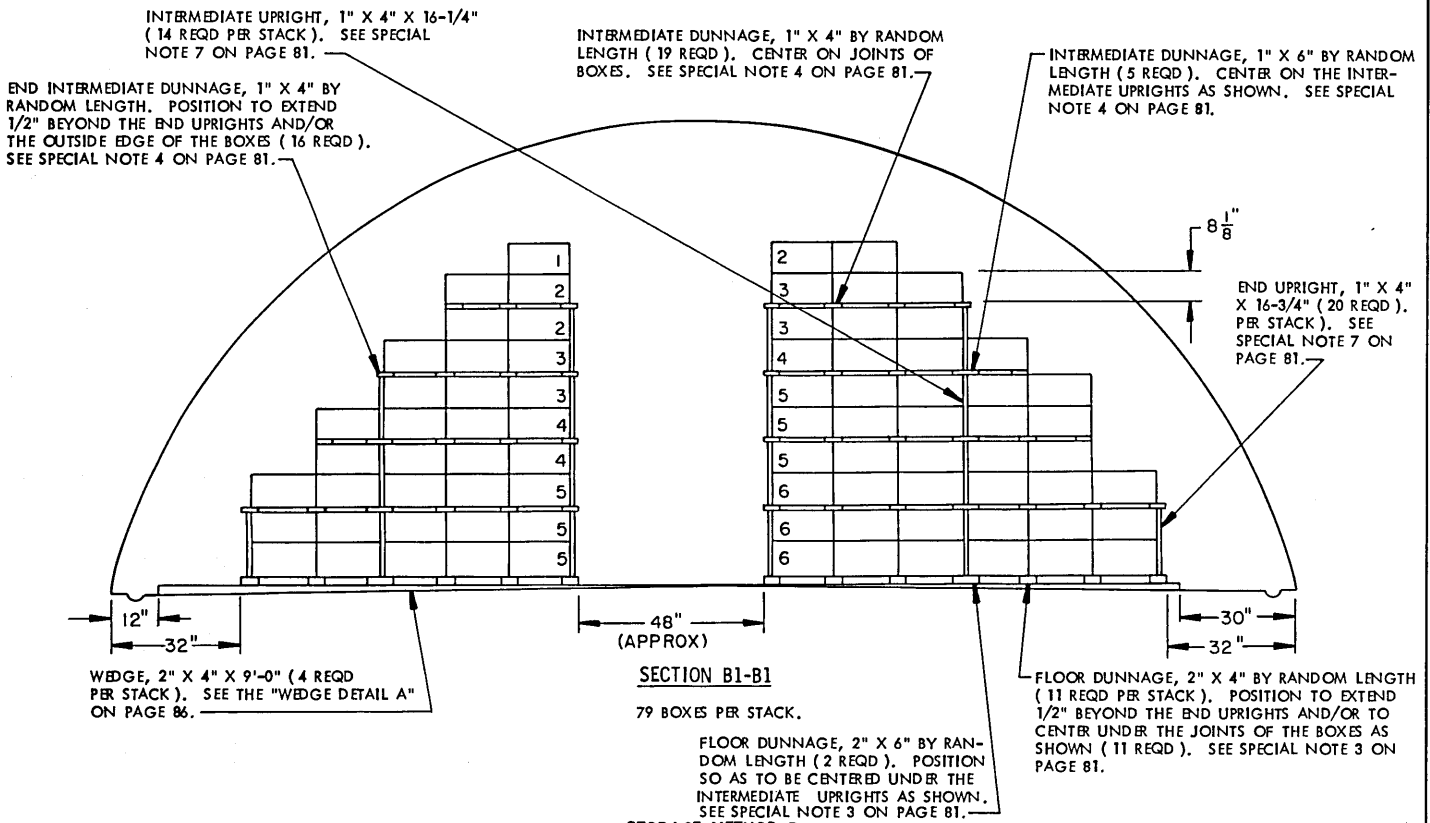
STORAGE IN 80'-0" MAGAZINE

ITEM	QUANTITY	EXPLOSIVE WEIGHT
FIBERBOARD BOX	4,424	176,960 LBS

\* STORAGE IN 40'-0" MAGAZINE

ITEM	QUANTITY	EXPLOSIVE WEIGHT
FIBERBOARD BOX	2,133	85,320 LBS

\* 27 STACKS WITH 35" (APPROX) SPACE AT FRONT, SEE GENERAL NOTE "E" ON PAGE 2 AND SPECIAL NOTE 2 AND "TABLE 4" ON PAGE 81.



INTERMEDIATE UPRIGHT, 1" X 4" X 16-1/4" (14 REQD PER STACK). SEE SPECIAL NOTE 7 ON PAGE 81.

INTERMEDIATE DUNNAGE, 1" X 4" BY RANDOM LENGTH (19 REQD). CENTER ON JOINTS OF BOXES. SEE SPECIAL NOTE 4 ON PAGE 81.

INTERMEDIATE DUNNAGE, 1" X 6" BY RANDOM LENGTH (5 REQD). CENTER ON THE INTERMEDIATE UPRIGHTS AS SHOWN. SEE SPECIAL NOTE 4 ON PAGE 81.

END INTERMEDIATE DUNNAGE, 1" X 4" BY RANDOM LENGTH. POSITION TO EXTEND 1/2" BEYOND THE END UPRIGHTS AND/OR THE OUTSIDE EDGE OF THE BOXES (16 REQD). SEE SPECIAL NOTE 4 ON PAGE 81.

END UPRIGHT, 1" X 4" X 16-3/4" (20 REQD). PER STACK). SEE SPECIAL NOTE 7 ON PAGE 81.

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

SECTION B1-B1

79 BOXES PER STACK.

FLOOR DUNNAGE, 2" X 6" BY RANDOM LENGTH (2 REQD). POSITION SO AS TO BE CENTERED UNDER THE INTERMEDIATE UPRIGHTS AS SHOWN. SEE SPECIAL NOTE 3 ON PAGE 81.

FLOOR DUNNAGE, 2" X 4" BY RANDOM LENGTH (11 REQD PER STACK). 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 81.

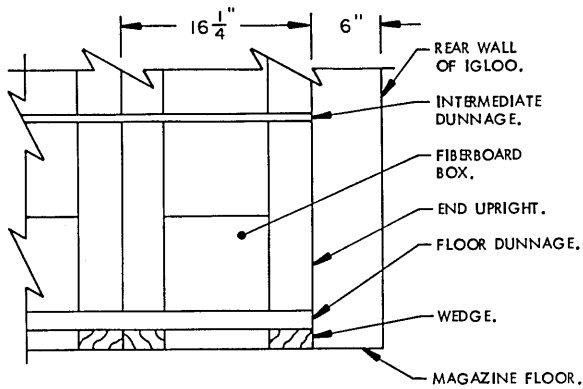
STORAGE METHOD B

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 THE BOX SEE DRAWING NO. 754-8645. SEE SPECIAL NOTE 8.
2. STORAGE AS SHOWN IS FOR FIBERBOARD BOXES CONTAINING TNC. THE PROCEDURES ARE APPLICABLE FOR ALL THE ITEMS LISTED IN TABLE 4. FULL STACKS ARE SHOWN IN THE PLAN VIEW ON PAGE 80. ONE ADDITIONAL FULL OR PARTIAL STACK OF ANY OF THE LISTED ITEMS MAY BE STORED IN EITHER 80'-0" OR 40'-0" MAGAZINES, 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 TEN (10) BOXES HIGH.
6. THE NUMBERS SHOWN IN SECTION B1-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 PROCEDURES APPLICABLE TO THE STORAGE OF THESE ITEMS IN GEOGRAPHICAL AREAS HAVING LOW HUMIDITY LEVELS, REFER TO THE STORAGE PROCEDURES ON PAGES 42 AND 43.



PARTIAL END VIEW OF STACKS

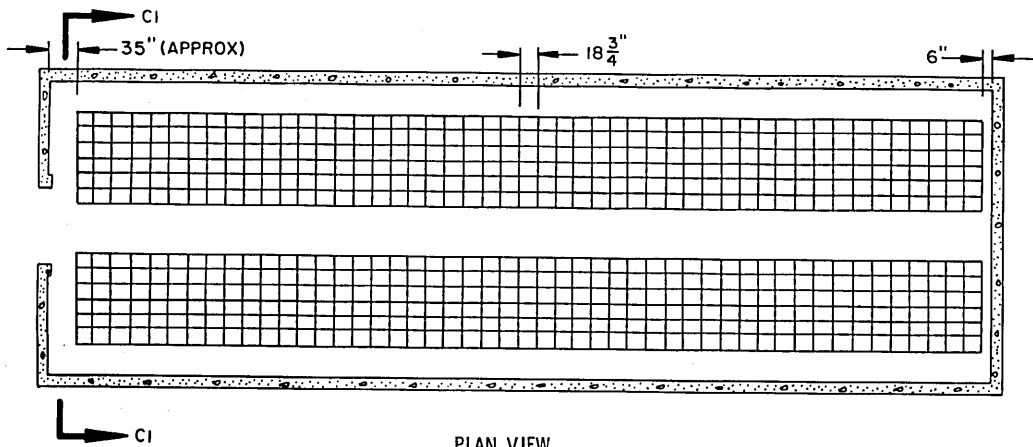
**TABLE 4**

ITEM	EXPL WT/BX	80'-0" MAGAZINE		40'-0" MAGAZINE	
		MAX QUANTITY	MAX EXPLOSIVE	MAX QUANTITY	MAX EXPLOSIVE
PENTOLITE	35 LBS	4,424	154,840	2,133	74,655
POTASSIUM PICRATE	35 LBS	4,424	154,840	2,133	74,655
COMPOSITION D-2	30 LBS	4,424	132,720	2,133	63,990
MAX 2	50 LBS	4,424	221,200	2,133	106,650
MOX 2B	50 LBS	4,424	221,200	2,133	106,650

**BILL OF MATERIAL ( PER STACK )**

LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	95	32
1" X 6"	7	4
2" X 4"	15	10
2" X 6"	3	3
WEDGES PER STACK		
LUMBER	LENGTH	NO. REQD
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)



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

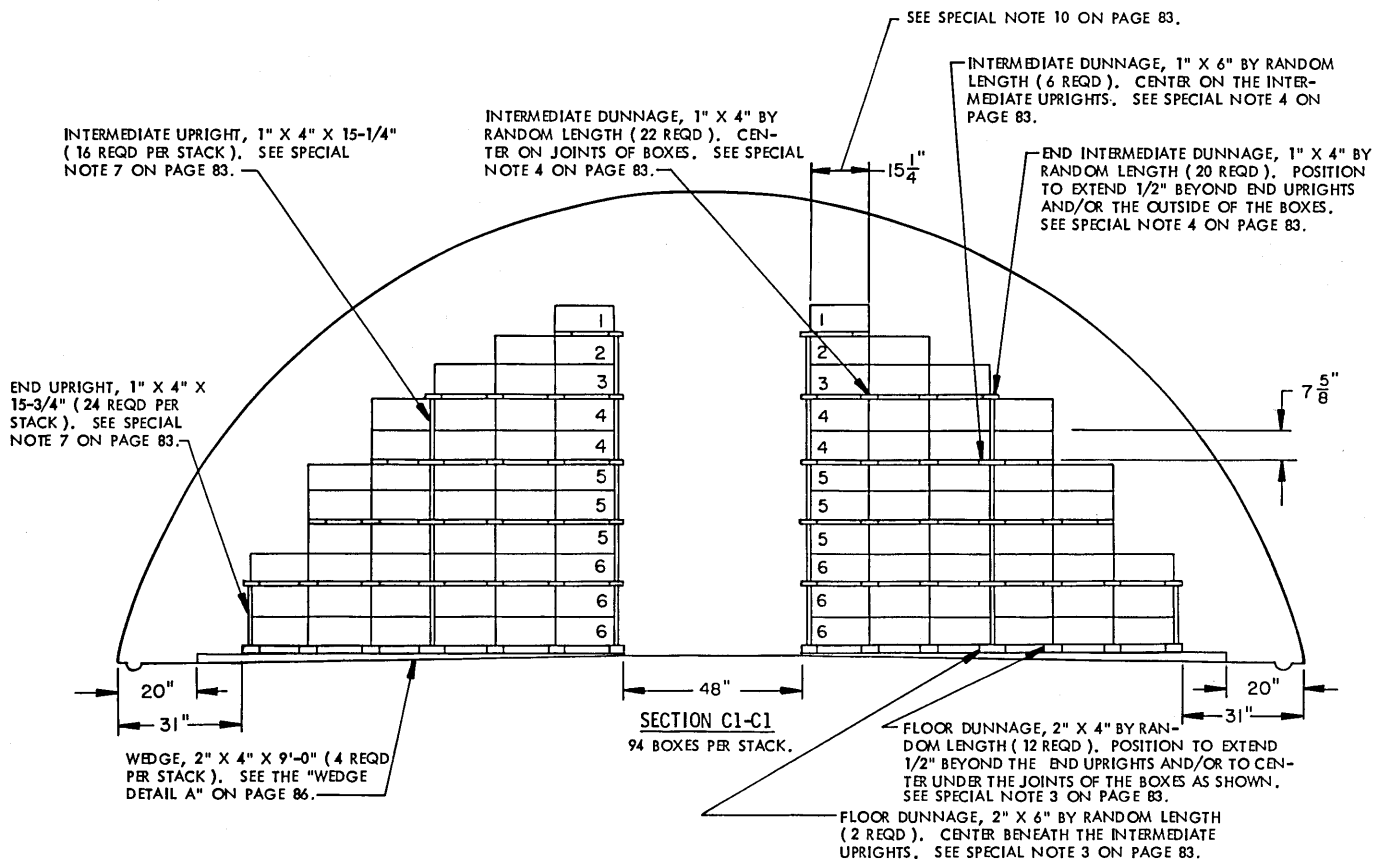
STORAGE IN 80'-0" MAGAZINE

ITEM	QUANTITY	EXPLOSIVE WEIGHT
FIBERBOARD BOX-----	4,606	230,300 LBS

\* STORAGE IN 40'-0" MAGAZINE

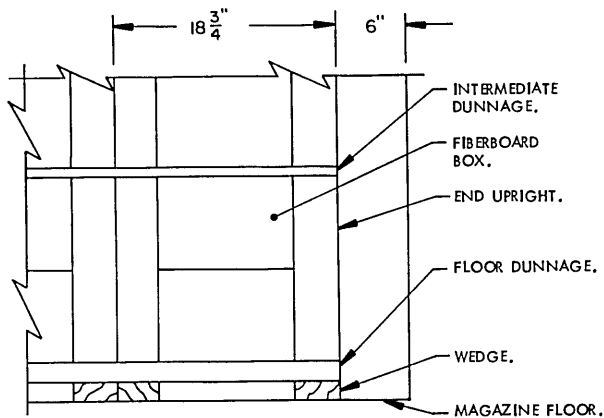
ITEM	QUANTITY	EXPLOSIVE WEIGHT
FIBERBOARD BOX-----	2,256	112,800 LBS

\* 23 STACKS WITH 25" (APPROX) SPACE AT FRONT.  
SEE GENERAL NOTE "E" ON PAGE 2. SEE SPECIAL NOTE 8 AND "TABLE 5"  
ON PAGE 83.



STORAGE METHOD B

TNT, ALL COMP A, ALL COMP B, COMP C-3 AND C-4, EXPLOSIVE D,  
CYCLOTOL, OCTOL, PBX, TETRYL, TOVEX AND PBXN 6 (PACKED IN FIBERBOARD BOX)



PARTIAL END VIEW OF STACKS

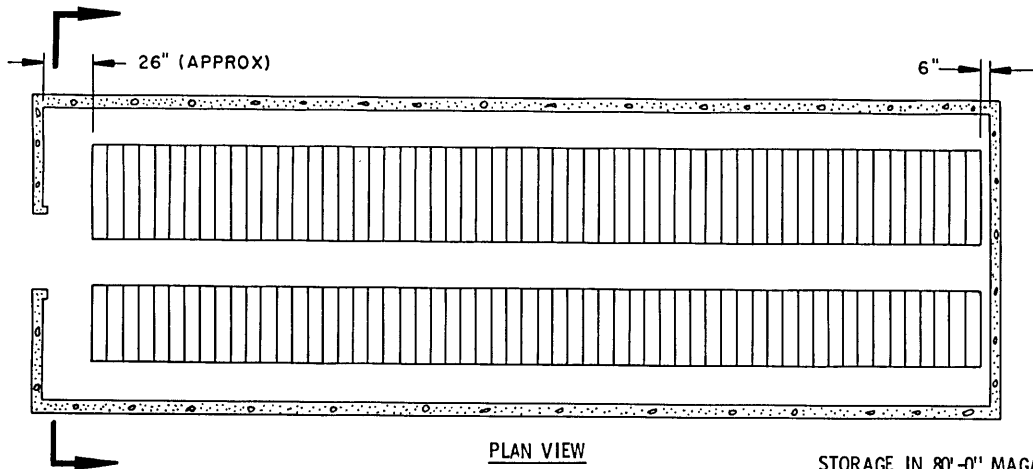
SPECIAL NOTES:

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 NOTES 8 AND 9.  
  
DIMENSIONS ----- 18-3/4" LONG BY 15-1/4" WIDE BY 7-5/8" HIGH.  
EXPLOSIVE WEIGHT -- 50 OR 55 POUNDS.
2. SIMILAR BULK EXPLOSIVES INCLUDE:
  - (a) ALL COMPOSITION A.
  - (b) ALL COMPOSITION B.
  - (c) COMPOSITION C-3 AND C-4.
  - (d) EXPLOSIVE D.
  - (e) CYCLOTOL.
  - (f) OCTOL.
  - (g) PBX.
  - (h) TETRYL.
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 THAN ELEVEN (11) 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 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. 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 5. THE EXPLOSIVE WEIGHT FOR 55-POUND BOXES OF TNT IN 80"-0" MAGAZINES IS 253,330 POUNDS, AND 124,080 POUNDS IN 40"-0" MAGAZINE.
9. 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.
10. 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.

BILL OF MATERIAL ( PER STACK )		
LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	123	41
1" X 6"	10	5
2" X 4"	19	13
2" X 6"	4	4
WEDGES PER STACK		
LUMBER	LENGTH	NO. REQD
2" X 4"	9'-0"	4

TABLE 5					
ITEM	EXPL WT/BX	80"-0" MAGAZINE		40"-0" MAGAZINE	
		MAX QUANTITY	MAX EXPLOSIVE	MAX QUANTITY	MAX EXPLOSIVE
TNT	50 LBS	4,606	230,300	2,256	112,800
TNT	55 LBS	4,606	253,330	2,256	124,080
ALL COMPOSITION A	60 LBS	4,606	276,360	2,256	135,360
ALL COMPOSITION B	60 LBS	4,606	276,360	2,256	135,360
COMPOSITION C-3 AND C-4	60 LBS	4,606	276,360	2,256	135,360
EXPLOSIVE D	50 LBS	4,606	230,300	2,256	112,800
CYCLOTOL	60 LBS	4,606	276,360	2,256	135,360
OCTOL	60 LBS	4,606	276,360	2,256	135,360
PBX	60 LBS (MAX)	4,606	276,360	2,256	135,360
TETRYL	60 LBS	4,606	276,360	2,256	135,360
TOVEX	50 LBS	4,606	230,300	2,256	112,800
PBXN 6	50 LBS	4,606	230,300	2,256	112,800

STORAGE METHOD B  
TNT, ALL COMP A, ALL COMP B, COMP C-3 AND C-4, EXPLOSIVE D,  
CYCLOTOL, OCTOL, PBX, TETRYL, TOVEX AND PBXN 6 (PACKED IN FIBERBOARD BOX)



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

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

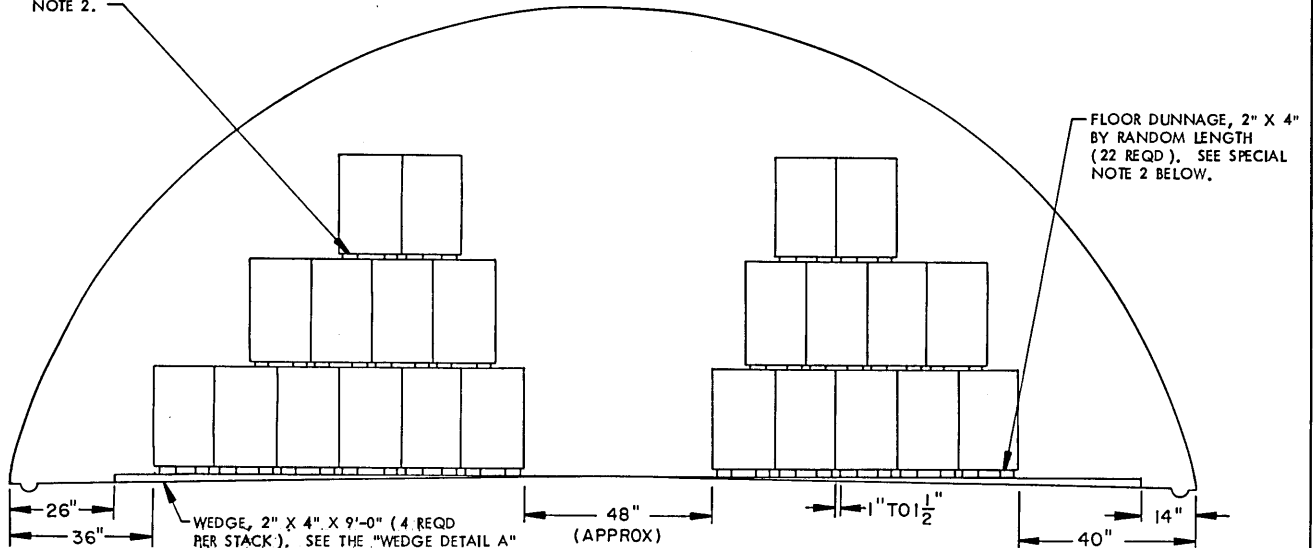
ITEM	QUANTITY	EXPLOSIVE WEIGHT
FIBERBOARD DRUM	1,334	186,760 LBS

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

ITEM	QUANTITY	EXPLOSIVE WEIGHT
FIBERBOARD DRUM	664	90,160 LBS

\* 28 STACKS WITH 26" (APPROX) SPACE AT FRONT.  
SEE GENERAL NOTE "E" ON PAGE 2.

INTERMEDIATE DUNNAGE, 1" X 4" BY RANDOM LENGTH (24 REQD). POSITION 1" TO 1-1/2" FROM EDGE OF DRUM AS SHOWN. SEE SPECIAL NOTE 2.

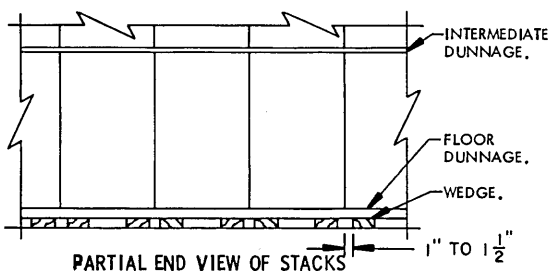


**SECTION D1-D1**  
23 DRUMS PER STACK

**SPECIAL NOTES:**

1. STORAGE AS SHOWN IS FOR A FIBERBOARD DRUM.  
DRUM DIMENSIONS -- 27" HIGH BY 16" DIAMETER.  
EXPLOSIVE WEIGHT -- 140 POUNDS.
2. RANDOM LENGTHS OF LUMBER MAY BE USED FOR THE INTERMEDIATE AND FLOOR DUNNAGE.
3. FIBERBOARD DRUMS, INCLUDING NITROGUANIDINE AS SHOWN ON PAGES 67 AND 85 WILL NOT BE STACKED MORE THAN THREE LAYERS HIGH.
4. THE DRUMS IN EACH LAYER WILL BE STAGGERED ABOVE THE DRUMS IN THE LAYER UNDERNEATH, AS SHOWN.
5. 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 STORAGE OF DRUMS IN GEOGRAPHICAL AREAS HAVING LOW HUMIDITY LEVELS, REFER TO THE STORAGE PROCEDURES ON PAGE 53.

BILL OF MATERIAL (PER STACK)		
LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	32	11
2" X 4"	30	20
WEDGES PER STACK		
LUMBER	LENGTH	NO. REQD
2" X 4"	9'-0"	4



**PARTIAL END VIEW OF STACKS**

**STORAGE METHOD B**  
**FIBERBOARD DRUM STORAGE, UNPALLETIZED**

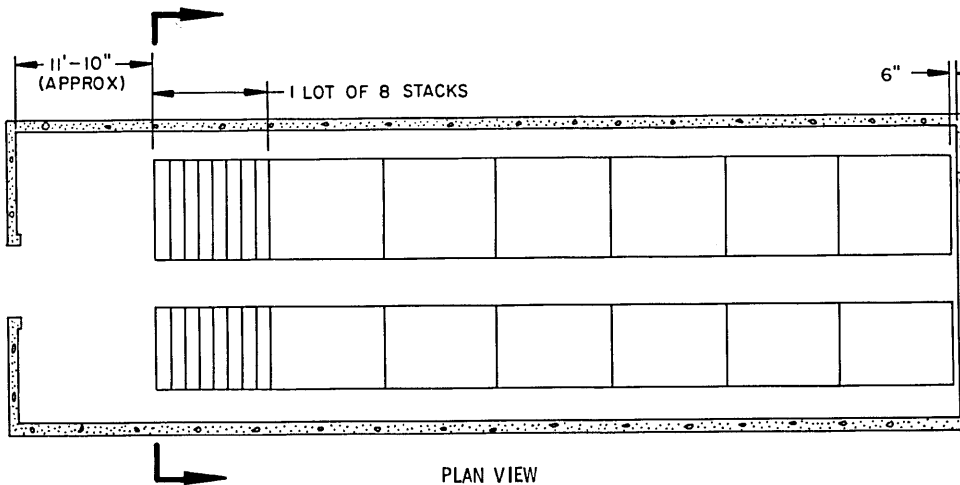
**STORAGE IN 80'-0" MAGAZINE**

ITEM	QUANTITY	EXPLOSIVE WEIGHT
FIBERBOARD DRUMS	- 1,400	----- 70,000 LBS

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

ITEM	QUANTITY	EXPLOSIVE WEIGHT
FIBERBOARD DRUMS	- 600	----- 30,000 LBS

\* 24 STACKS WITH 11'-0" (APPROX) SPACE AT FRONT. SEE GENERAL NOTE "E" ON PAGE 2.

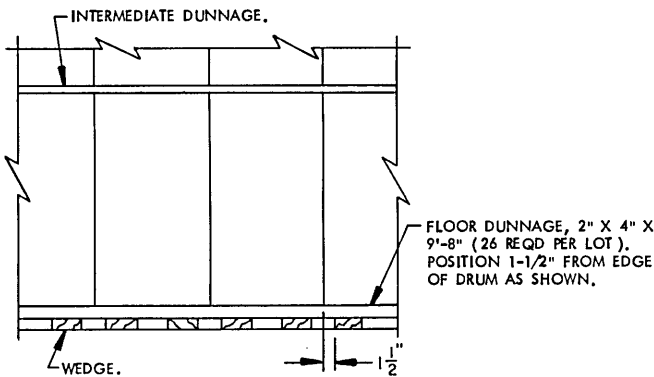


**PLAN VIEW**  
80'-0" MAGAZINE  
56 STACKS

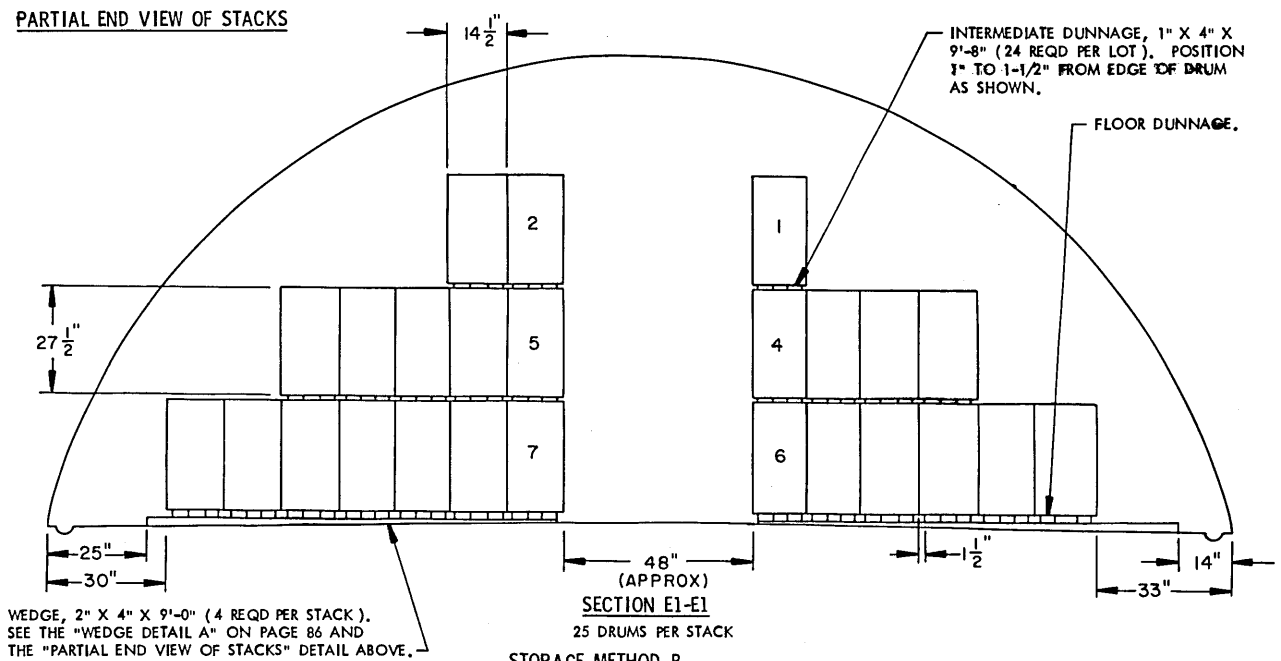
BILL OF MATERIAL ( PER LOT )		
LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	232	78
2" X 4"	252	168
WEDGES PER STACK		
LUMBER	LENGTH	NO. REQD
2" X 4"	9'-0"	32

**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 EACH HALF OF A STACK.
3. EACH LOT CONSISTS OF 10,000 LBS ( 200 DRUMS ), 8 STACKS OF 25 DRUMS.
4. 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.
5. NITROGUANIDINE PACKED IN 14.5" DIAMETER BY 17.04" HIGH DRUM AND PALLETIZED IN ACCORDANCE WITH NAVAL SEA SYSTEMS COMMAND DRAWING WR-53/827 WILL BE STORED USING THE PROCEDURES SHOWN IN U.S. ARMY DARCOM DRAWING 19-48-4118-1-2-3-4-22PA1002.



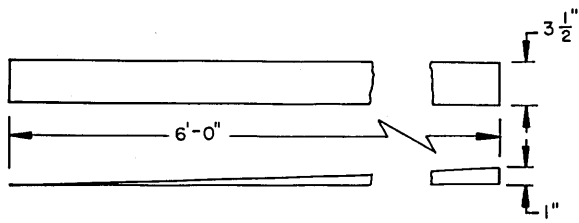
**PARTIAL END VIEW OF STACKS**



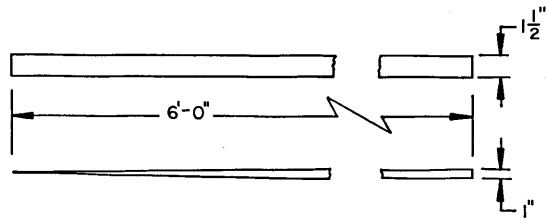
**SECTION E1-E1**

25 DRUMS PER STACK

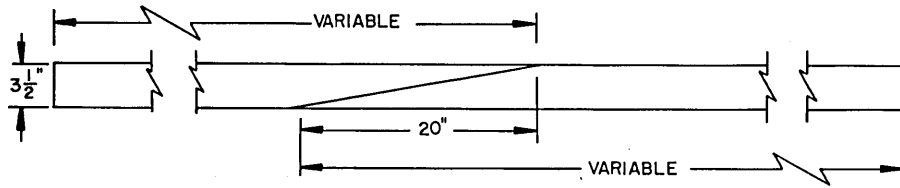
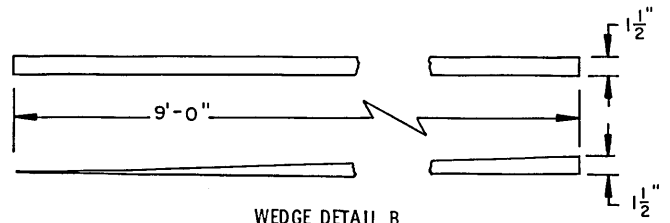
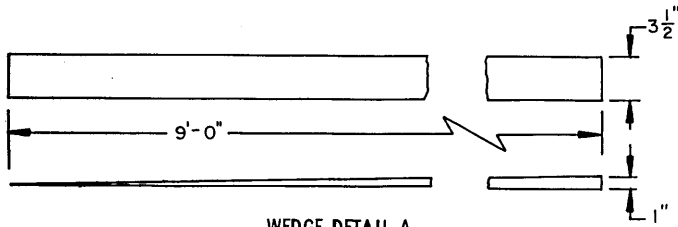
**STORAGE METHOD B**  
**NITROGUANIDINE (PACKED IN FIBERBOARD DRUMS)**



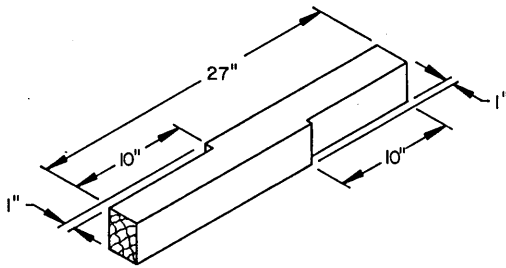
**WEDGE DETAIL A**  
2" X 4" MATERIAL



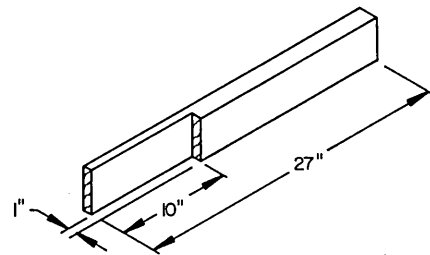
**WEDGE DETAIL B**  
2" X 2" MATERIAL



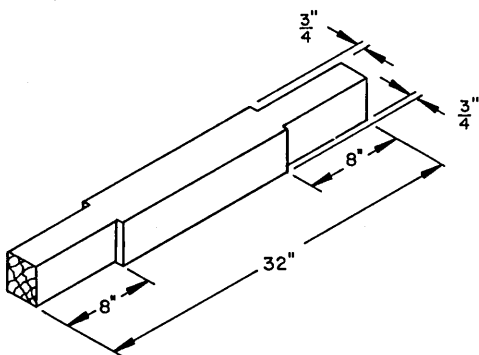
**SPLICE DETAIL**  
1" X 4" OR 2" X 4" MATERIAL



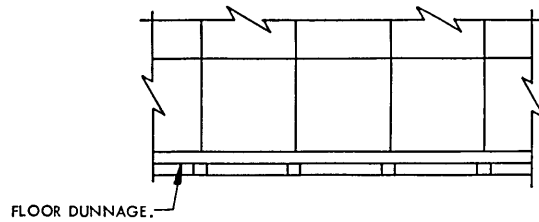
**SUPPORT BLOCK A**  
4" X 4" MATERIAL. SEE  
SPECIAL NOTE 5 ON  
PAGE 68.



**SUPPORT BLOCK B**  
2" X 4" MATERIAL. SEE  
SPECIAL NOTE 5 ON  
PAGE 68.

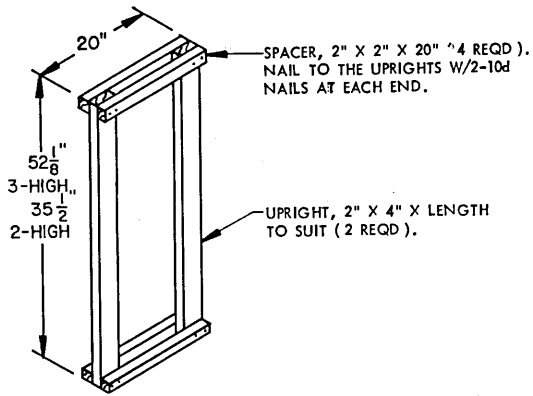


**SUPPORT BLOCK C**  
4" X 4" MATERIAL. SEE  
SPECIAL NOTE 5 ON  
PAGE 70.



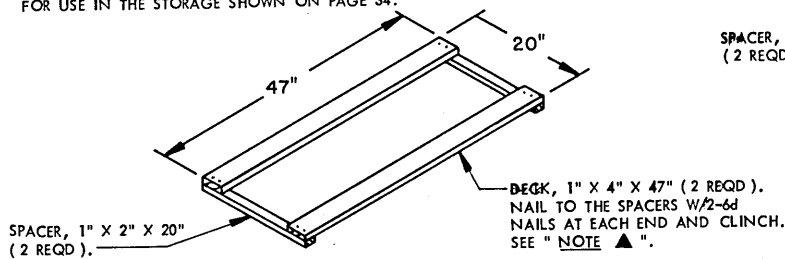
**PLACEMENT OF WEDGES**

**NOTE:** WEDGES ARE CENTERED UNDER THE JOINTS BETWEEN STACKS.



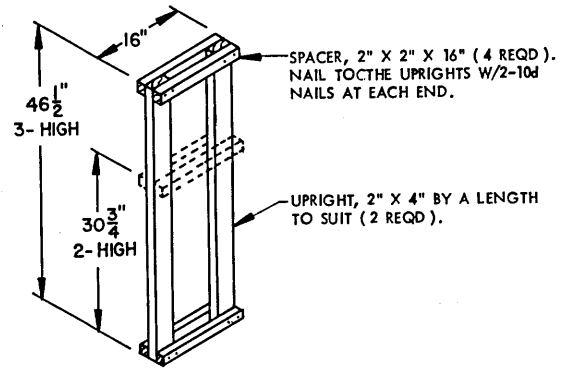
**SEPARATOR ASSEMBLY A**

FOR USE IN THE STORAGE SHOWN ON PAGE 34.



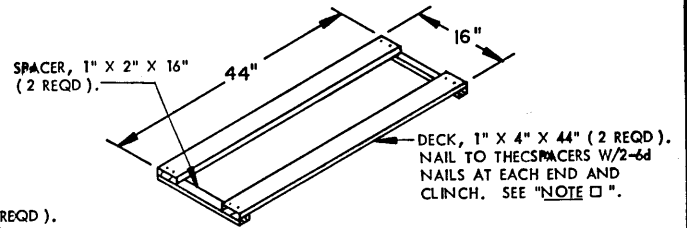
**DECK ASSEMBLY A**

**NOTE ▲:** 13 DECK ASSEMBLIES OF THIS SIZE SHOWN ABOVE AND ONE DECK ASSEMBLY 31" LONG ARE REQUIRED FOR THE STORAGE SHOWN ON PAGE 34.



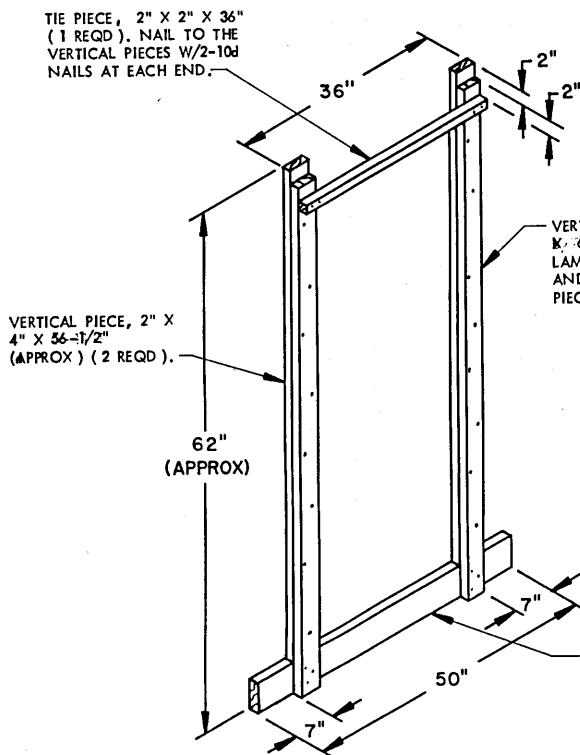
**SEPARATOR ASSEMBLY B**

FOR USE IN THE STORAGE SHOWN ON PAGE 35.



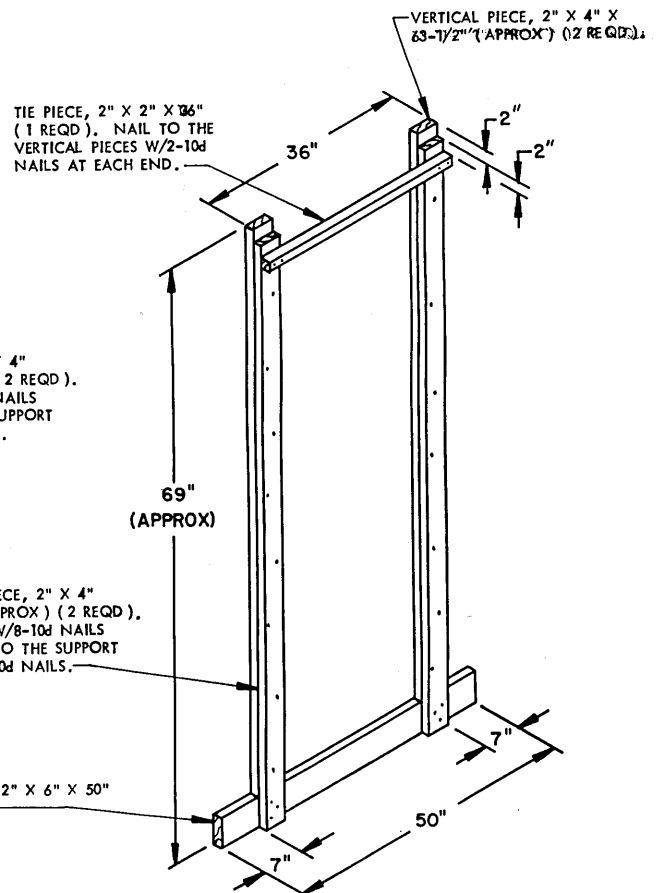
**DECK ASSEMBLY B**

**NOTE □:** 17 DECK ASSEMBLIES OF THIS SIZE SHOWN ABOVE, ONE DECK ASSEMBLY 29 1/2" LONG AND THREE DECK ASSEMBLIES 15" LONG ARE REQUIRED FOR THE STORAGE SHOWN ON PAGE 35.



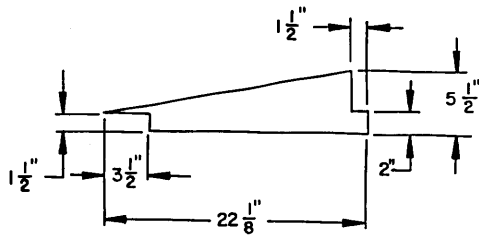
**RETAINER ASSEMBLY A**

SEE SPECIAL NOTE 7 ON PAGE 71

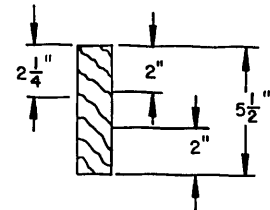


**RETAINER ASSEMBLY B**

SEE SPECIAL NOTE 7 ON PAGE 74.

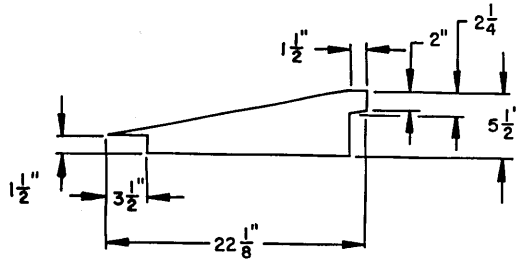


**BRACE A**  
2" X 6" MATERIAL



**DETAIL A**

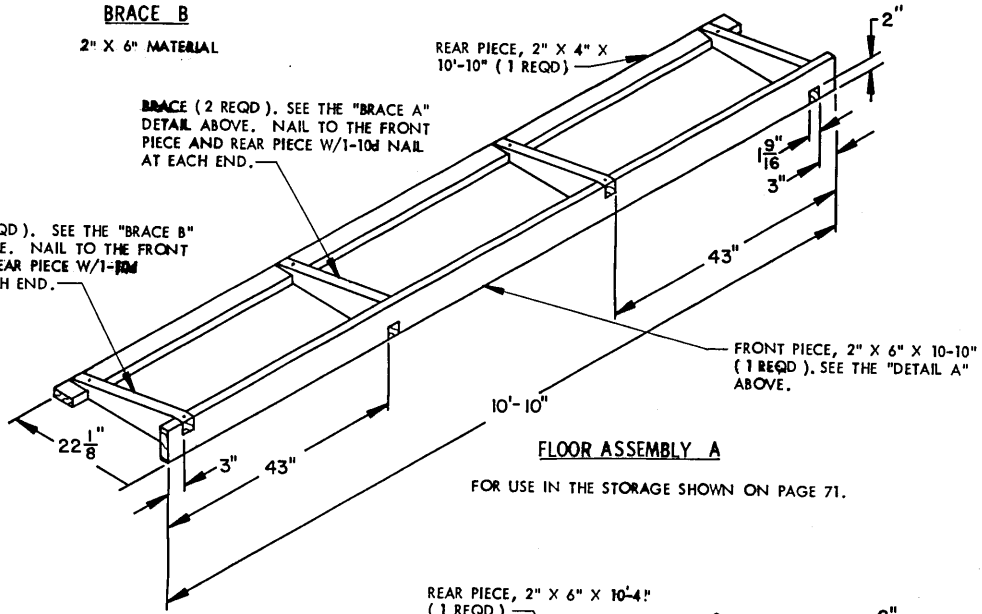
THE END VIEW OF THE FRONT PIECE DEPICTED ABOVE SHOWS DIMENSIONS OF THE NOTCHES.



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

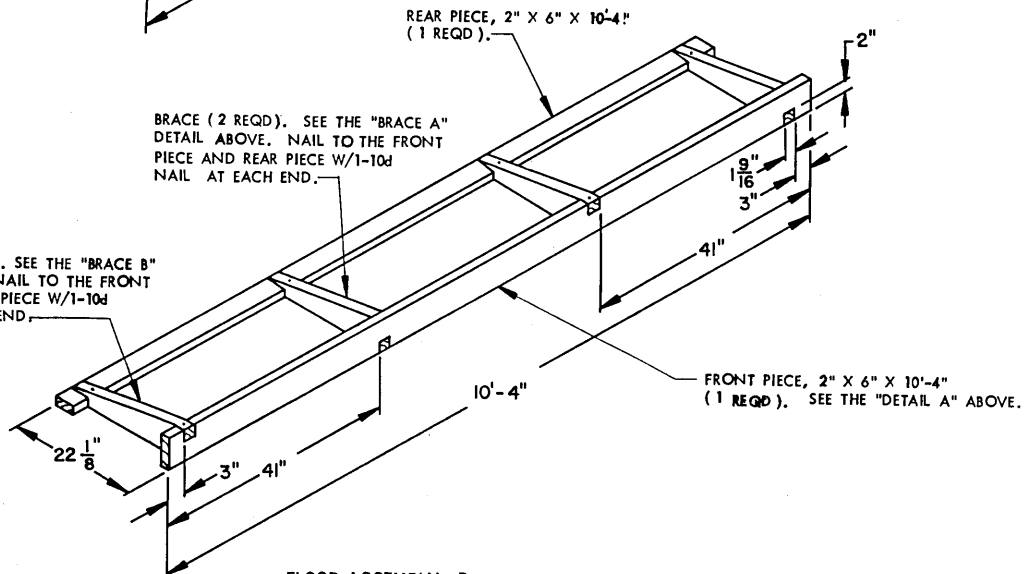
BRACE (2 REQD). SEE THE "BRACE A" DETAIL ABOVE. NAIL TO THE FRONT PIECE AND REAR PIECE W/1-10d NAIL AT EACH END.

BRACE (2 REQD). SEE THE "BRACE B" DETAIL ABOVE. NAIL TO THE FRONT PIECE AND REAR PIECE W/1-10d NAIL AT EACH END.



**FLOOR ASSEMBLY A**

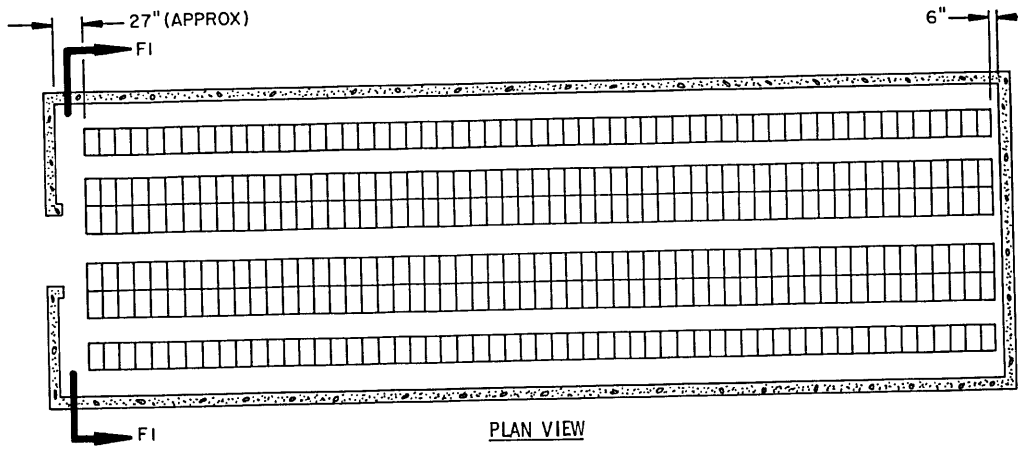
FOR USE IN THE STORAGE SHOWN ON PAGE 71.



**FLOOR ASSEMBLY B**

FOR USE IN THE STORAGE SHOWN ON PAGE 74.





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

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

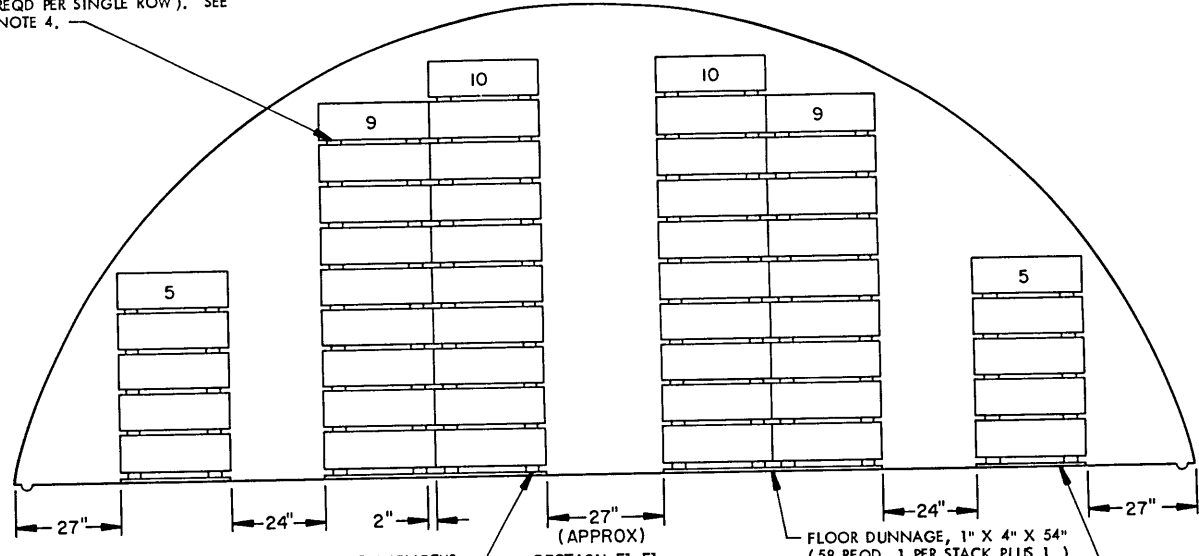
ITEM	QUANTITY	EXPLOSIVE WEIGHT
BOXES	2,736	300,960 LBS

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

ITEM	QUANTITY	EXPLOSIVE WEIGHT
BOXES	1,296	142,560 LBS

\* 27 STACKS WITH 41" (APPROX) SPACE AT FRONT.  
SEE GENERAL NOTE "E" ON PAGE 2.

INTERMEDIATE DUNNAGE, 1" X 4" BY RANDOM LENGTHS (34 REQD PER DOUBLE ROW, 8 REQD PER SINGLE ROW). SEE SPECIAL NOTE 4.



**SECTION F1-F1**  
(APPROX)  
48 BOXES PER STACK

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" (58 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" (58 REQD, 1 PER STACK PLUS 1). POSITION AS SHOWN IN THE "PARTIAL SIDE VIEW OF A ROW" BELOW.

**BILL OF MATERIAL (PER DOUBLE ROW) \***

LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	2,882	961
2" X 4"	310	207

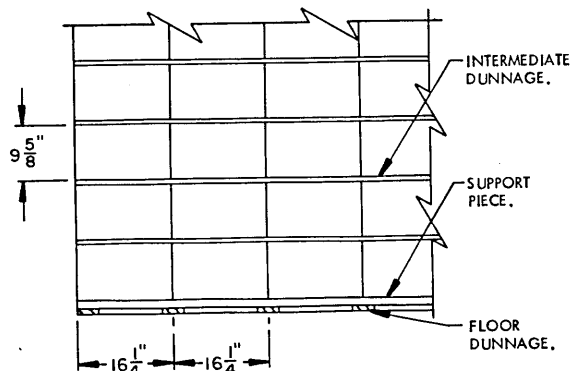
(PER SINGLE ROW) \*\*

LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	751	251
2" X 4"	155	104

- ONE DOUBLE ROW STACK REQUIRES 46.05 LINEAR FEET OF 1" X 4" PLUS 2 PIECES 54" LONG, AND 5.42 LINEAR FEET OF 2" X 4".
- ONE SINGLE ROW STACK REQUIRES 10.83 LINEAR FEET OF 1" X 4" PLUS 2 PIECES 28" LONG, AND 2.71 LINEAR FEET OF 2" X 4".

**SPECIAL NOTES:**

1. STORAGE AS SHOWN IS FOR THE M2 AND MKVII STEEL BOX.  
BOX DIMENSIONS---- 16-1/4" LONG BY 9-5/8" WIDE BY 28-3/8" HIGH.  
EXPLOSIVE WEIGHT--- 110 POUNDS PER BOX.
2. THE NUMBERS SHOWN IN THE SECTION VIEW INDICATE THE QUANTITY OF BOXES HIGH IN A STACK.
3. 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.
4. 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.
5. 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.



**PARTIAL SIDE VIEW OF A ROW**

**STORAGE METHOD C**  
POWDER, PROPELLANT (PACKED IN STEEL BOX, M2 AND MKVII)

