

STORAGE IN APPROVED MAGAZINES OF BOXED AMMUNITION AND COMPONENTS ON PALLETS, UNITIZED WITH STRAPPING

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U.S. ARMY MATERIEL COMMAND DRAWING			
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APRIL 1980			
REVISION NO. 2	JANUARY 1994	CLASS	DIVISION
SEE THE REVISION LISTING ON PAGE 2		DRAWING	FILE
		19	48
		4118	1-2-3-4-14 22PA1002

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 SPECIFIED HEREIN ARE APPLICABLE FOR PALLETIZED AMMUNITION AND COMPONENTS, INCLUDING WHITE PHOSPHORUS (WP) AND PLASTICIZED WHITE PHOSPHORUS (PWP), PACKED IN WOODEN OR WIREBOUND BOXES AND METAL CONTAINERS.
- C. REFER TO THE BASIC PROCEDURE DRAWING 19-48-4116-20PA1002 FOUR "UNITIZATION PROCEDURES FOR BOXED AMMUNITION AND COMPONENTS ON 4-WAY ENTRY PALLETS". THIS BASIC DRAWING WILL BE AUGMENTED BY SEPARATELY ISSUED APPENDICIES BEARING THE SAME DRAWING AND FILE NUMBER. AN APPENDIX WILL DELINEATE THE APPROVED CONFIGURATION OF A UNIT LOAD FOR ONE ITEM OF AMMUNITION OR FOR A CATEGORY OF AMMUNITION ITEMS. AN INDEX OF THE UNITIZATION PROCEDURES IS CONTAINED IN APPENDIX O, HAVING DRAWING NUMBER 4116/O AND FILE NUMBER 20PA1002.
- D. THE DEPICTED PROCEDURES ARE APPLICABLE FOR UNITS ASSEMBLED ON THE 40" X 48" OR THE 35" X 45-1/2" 4-WAY ENTRY PALLET.
- E. THE STORAGE PROCEDURES DEPICTED WITHIN THIS DOCUMENT ARE APPLICABLE FOR STORAGE IN VARIOUS LENGTH IGLOO, ARCH TYPE, STRADLEY, OVAL-ARCH, AND STANDARD MAGAZINES AS WELL AS TYPE II, III, AND IV AMMUNITION BUNKERS. THE STORAGE PROCEDURES DEPICTED FOR THE SPECIFIC TYPES OF MAGAZINES MAY ALSO BE UTILIZED TO STORE AMMUNITION ITEMS IN OTHER TYPES OF APPROVED STORAGE STRUCTURES. MINOR ADJUSTMENTS MAY BE MADE TO FACILITATE STORAGE IN OTHER TYPES OF STORAGE STRUCTURES, HOWEVER, THE BASIC PRINCIPLES AS DEPICTED HEREIN WILL BE FOLLOWED.
- F. PALLETIZED UNITS MUST NOT CONTACT THE WALL OR CEILING OF A MAGAZINE. TO PROVIDE FOR THIS MANDATORY CLEARANCE REQUIREMENT, PALLETIZED UNITS MAY BE ELIMINATED FROM A DEPICTED STORAGE PATTERN, OR SIDE AISLE DIMENSIONS MAY BE INCREASED, AS APPLICABLE.
- G. AISLE DIMENSIONS SHOWN FOR STORAGE PROCEDURES IN MAGAZINES AND BUNKERS MAY BE ADJUSTED TO SUIT LOCAL CONDITIONS, VARIATIONS IN PALLET UNIT DIMENSIONS, AND/OR AVAILABLE MATERIALS HANDLING EQUIPMENT.
- H. THE MATERIALS HANDLING EQUIPMENT (MHE) AREA SHOULD BE OF SUFFICIENT DIMENSIONS TO PERMIT "TURN-AROUND" OF THE MHE WHEN STORING IN MAGAZINES NOT EQUIPPED WITH PROPERLY SIZED APRONS FOR THAT PURPOSE. THE MHE AISLE IN ALL MAGAZINES IS BASED ON A FIGURE WHICH IS AT LEAST 7'-7" PLUS THE LENGTH OR WIDTH OF THE PALLET UNIT, AS APPLICABLE, OR THE LENGTH OF THE FORKLIFT TINES (40"), WHICHEVER IS THE GREATEST. IF THE AVAILABLE MHE AND/OR SPACE PERMITS, ADDITIONAL PALLETIZED UNITS MAY BE STORED WITHIN THE FRONTAL AREA AND/OR OTHER AVAILABLE AREA OF THE MAGAZINE.
- J. CAUTION: THE ALLOWABLE "EXPLOSIVE LIMIT" ESTABLISHED FOR A MAGAZINE IS NOT TO BE EXCEEDED.
- K. IF THE QUANTITY OF UNITS FOR A MAGAZINE OR BUNKER IS TO BE REDUCED FROM WHAT IS SHOWN HEREIN DUE TO THE PERMITTED EXPLOSIVE LIMIT OR FOR ANY OTHER REASON, THE DELINEATED PROCEDURES ARE TO BE ADJUSTED BY OMITTING STACKS RATHER THAN BY OMITTING TIERS (LAYERS).
- L. ANY "LIGHT" PALLETIZED UNIT THAT DOES NOT CONTAIN A FULL QUANTITY OF BOXES OR ROUNDS WILL NOT BE BURIED IN STORAGE. IT MUST BE POSITIONED ADJACENT TO AN AISLE, PREFERABLY IN THE FRONT OF THE LOT.
- M. STORAGE OF MULTIPLE LOTS IN A MAGAZINE OR BUNKER WILL REQUIRE CAREFUL PREPLANNING SO AS TO INSURE MHE ACCESSIBILITY TO ANY LOT IN ACCORDANCE WITH REQUIREMENTS SET FORTH IN THE APPLICABLE "SPECIAL NOTES" SECTIONS OF THE MULTIPLE LOT STORAGE PROCEDURES TYPICALLY SHOWN ON PAGES 86 THRU 92 AND ON PAGES 114 AND 115.
- N. WHEN STACKING LOW-HEIGHT UNITS AS TYPICALLY SHOWN ON PAGES 7, 15, 31, 39, 46, 54 AND OTHERS, IT MAY BE NECESSARY TO STACK THE TOP TWO PALLETIZED UNITS PRIOR TO LIFTING INTO POSITION, TO PREVENT THE FORKLIFT, FORK TINES, CARRIAGE, OR GUARD FROM CONTACTING THE WALL OR CEILING OF A MAGAZINE.
- O. SOME AMMUNITION ITEMS ARE UNITIZED ON METAL PALLETS. THE USE OF "FLOOR DUNNAGE" UNDER METAL PALLETS IS OPTIONAL. THE PURPOSE OF FLOOR DUNNAGE IS TO HELP KEEP THE RUNNERS OF A PALLET DRY, THUS AIDING IN PREVENTING DETERIORATION DUE TO OXIDATION (RUSTING). THEREFORE FLOOR DUNNAGE SHOULD BE USED WHEN STORING IN A MAGAZINE THAT IS KNOWN TO HAVE A "DAMP" FLOOR. ALSO, IN LIEU OF USING ONE-INCH THICK FLOOR DUNNAGE AS SPECIFIED BY THE "FLOOR DUNNAGE LOCATION" DETAIL ON PAGE 93, THE USE OF THICKER FLOOR DUNNAGE MAY BE REQUIRED, AND SHOULD BE USED, TO ACHIEVE THE DESIRED OBJECTIVE.
- P. AMMUNITION AND/OR COMPONENTS PRESENTLY STORED IN ACCORDANCE WITH A PRIOR APPROVED DRAWING NEED NOT BE RE-STORED SOLELY TO CONFORM TO THE PROCEDURES SPECIFIED IN THIS DOCUMENT.
- Q. PORTIONS OF THE MAGAZINES, SUCH AS SIDEWALLS, END WALLS, AND ROOFS, HAVE NOT BEEN SHOWN IN THE STORAGE VIEWS FOR CLARITY PURPOSES.
- R. MOST STACKING PATTERNS HEREIN FOR IGLOO, ARCH TYPE, STRADLEY, AND OVAL-ARCH MAGAZINES DEPICT PALLET TIERS (LAYERS) EITHER IN VERTICAL ALIGNMENT OR WITH AN UPPER TIER STAGGERED SO AS TO BE CENTERED ON THE JOINT OF THE ADJACENT LOWER TIER. IN SOME INSTANCES, IT MAY BE POSSIBLE TO POSITION AN ADDITIONAL PALLET UNIT IN A STACK IF THE PALLET UNITS ARE OFFSET A DISTANCE OTHER THAN A HALF-PALLET LENGTH OR WIDTH. SEE THE "FILLER DETAIL" ON PAGE 93 FOR GUIDANCE IN THE USE OF 1" MATERIAL FOR PALLET STABILIZATION.
- S. A PRODUCTION OR STORAGE FACILITY IS AUTHORIZED TO HAVE ONE INCOMPLETE, UNBANDED PARTIAL UNIT LOAD PER LOT IN A STORAGE STRUCTURE. PRIOR TO SHIPMENT OF A PARTIAL UNIT, A LAYER MUST BE COMPLETED, IF APPLICABLE, BY THE POSITIONING OF ONE OR MORE EMPTY BOXES OR FILLER ASSEMBLIES AS DELINEATED BY THE APPLICABLE UNITIZATION PROCEDURE. THE UNIT MUST THEN BE RE-BANDED WITH THE SAME SIZE AND QUANTITY OF STRAPS AS THE ORIGINAL UNIT.

REVISIONS

REVISION NO. 1, DATED APRIL 1980, CONSISTS OF

1. ADDING PROCEDURES FOR ARCH TYPE, CORBETTA AND RECTANGULAR MAGAZINES, AND TYPE II, III, AND IV AMMUNITION BUNKERS.
2. ADDING ALTERNATIVE MULTIPLE-LOT STORAGE PROCEDURES.

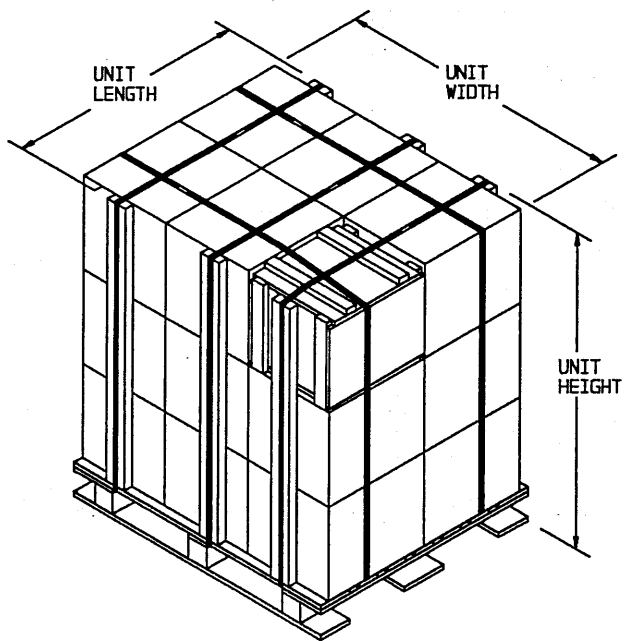
REVISION NO. 2, DATED JANUARY 1994 CONSISTS OF

1. UPDATING DRAWING FORMAT.
2. ADDING GENERAL NOTE "S" ON PAGE 2.
3. MAKING CORRECTIONS AS APPLICABLE.

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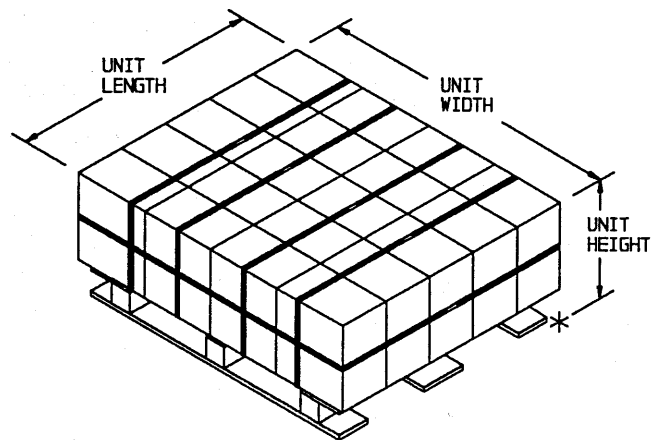
MATERIAL SPECIFICATIONS

LUMBER: SEE TM 743-200-1, (DUNNAGE LUMBER) AND FED SPEC MM-L-751.



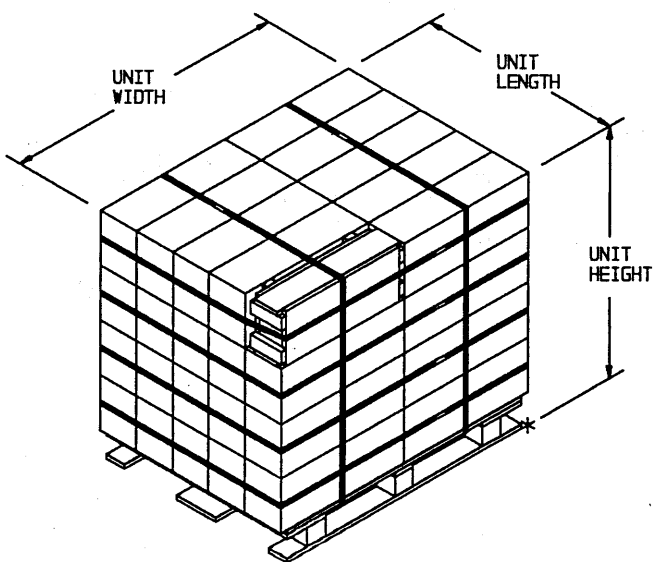
TYPICAL PALLETIZED UNIT (40" X 48" PALLET)

THE UNIT SHOWN IS 40' LONG BY 48" WIDE BY 52-3/4" HIGH.



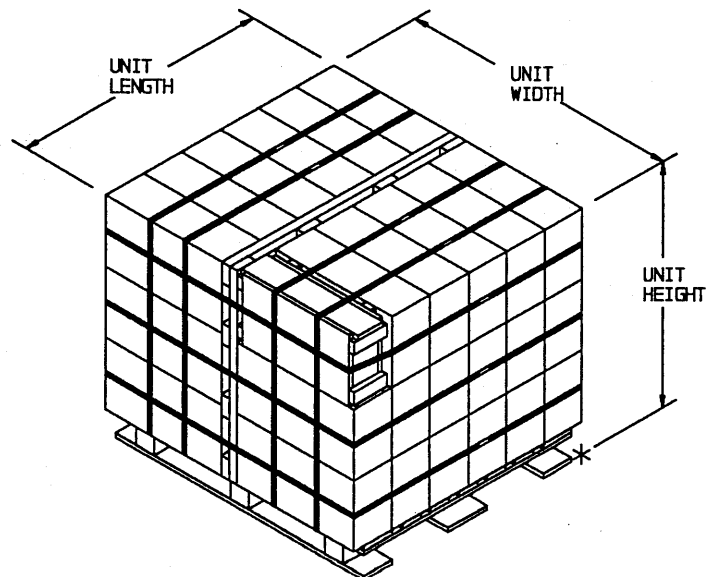
TYPICAL PALLETIZED UNIT (40" X 48" PALLET)

THE UNIT SHOWN IS 41-7/8" LONG BY 51" WIDE BY 20" HIGH.



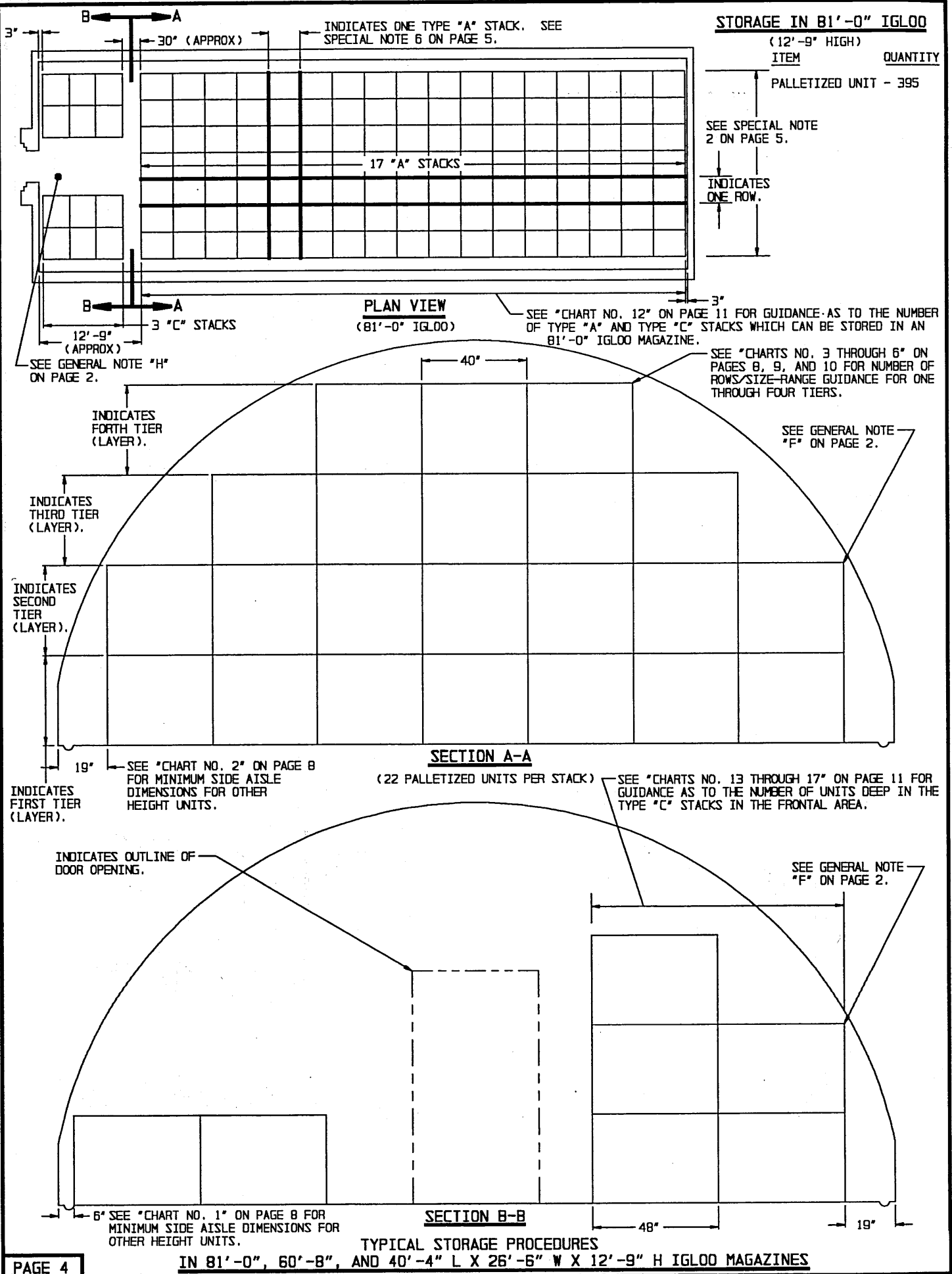
TYPICAL PALLETIZED UNIT (35" X 45-1/2" PALLET)

THE UNIT SHOWN IS 35' LONG BY 48" WIDE BY 42-1/2" HIGH.



TYPICAL PALLETIZED UNIT (40" X 48" PALLET)

THE UNIT SHOWN IS 44' LONG BY 48" WIDE BY 41-1/2" HIGH.



STORAGE IN 60'-8" IGLOO

(12'-9" HIGH)

ITEM QUANTITY

PALLETIZED UNIT - - - 285

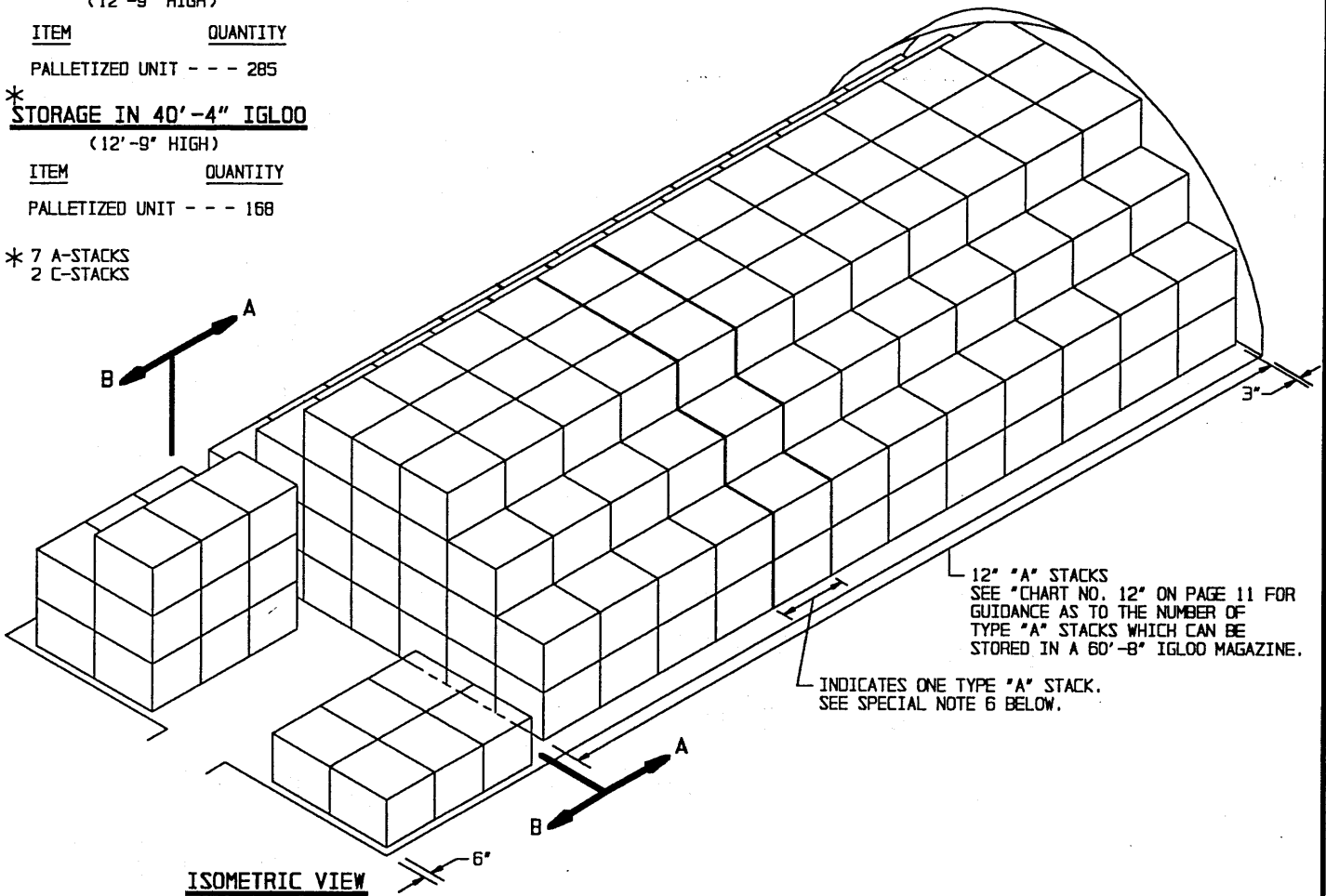
***STORAGE IN 40'-4" IGLOO**

(12'-9" HIGH)

ITEM QUANTITY

PALLETIZED UNIT - - - 168

* 7 A-STACKS
2 C-STACKS



ISOMETRIC VIEW

(60'-8" IGLOO)

12" "A" STACKS
SEE "CHART NO. 12" ON PAGE 11 FOR
GUIDANCE AS TO THE NUMBER OF
TYPE "A" STACKS WHICH CAN BE
STORED IN A 60'-8" IGLOO MAGAZINE.

INDICATES ONE TYPE "A" STACK.
SEE SPECIAL NOTE 6 BELOW.

SPECIAL NOTES:

1. THE TYPICAL PALLETIZED UNIT SHOWN HAS OVERALL DIMENSIONS OF 40" LONG BY 48" WIDE BY 34-1/2" HIGH. THE QUANTITY OF UNITS, THE NUMBER OF STACKS, ROWS, AND TIERS (LAYERS) WILL VARY, DEPENDENT UPON THE SIZE OF THE UNIT BEING STORED. SEE THE SPECIAL NOTES AND CHARTS ON PAGES 8 THROUGH 11 FOR GUIDANCE. AS MANY UNITS AS POSSIBLE WILL BE STORED WITHIN THE MAGAZINE.
2. THE STORAGE VIEWS ON PAGE 4 AND ABOVE DEPICT PALLETIZED UNITS STACKED IN VERTICAL ALIGNMENT, USING A MINIMUM WIDTH SIDE AISLE AT THE LEFT SIDE OF THE MAGAZINE. THE TYPICAL STACKING PATTERN VIEWS ON PAGES 6 AND 7 DEPICT PALLETIZED UNITS STACKED IN VERTICAL AND/OR STAGGERED PATTERN, USING A MINIMUM WIDTH SIDE AISLE AT THE LEFT SIDE OF THE MAGAZINE. CHARTS NO. 3 THROUGH 11 ON PAGES 8 THROUGH 10 DEPICT THE MAXIMUM NUMBER OF ROWS PER TIER ACROSS THE WIDTH OF THE MAGAZINE. THE PALLET UNITS IN A STACK WILL BE STORED IN VERTICAL ALIGNMENT IF A CHART FOR THE TIER INDICATES EITHER THE SAME QUANTITY OR TWO LESS ROWS WIDE THAN IS SPECIFIED BY THE CHART FOR THE NEXT LOWER TIER. THE PALLET UNITS IN A TIER WILL BE CENTERED (STAGGERED) ON THE UNITS IN THE NEXT LOWER TIER IF A CHART FOR THE TIER INDICATES A QUANTITY OF ONE LESS ROW WIDE THAN IS SPECIFIED FOR THE NEXT LOWER TIER. HOWEVER, IT SHOULD BE NOTED THAT SOME PALLET UNIT CONFIGURATIONS WILL NOT PROVIDE A STABLE STACK WHEN USING THE STAGGERED PATTERN, AND, THEREFORE, THE VERTICAL ALIGNMENT PATTERN MUST BE USED. ALSO, THE STAGGERED STACKING PATTERN CANNOT BE USED WHEN STORING MULTIPLE LOTS WHICH REQUIRE ADJACENT ROWS TO BE SEPARATED. CHART NO. 12 ON PAGE 11 SPECIFIES THE NUMBER OF TYPE "A" AND TYPE "C" STACKS WHICH CAN BE STORED IN DIFFERENT LENGTH MAGAZINES. CHART NO. 13 ON PAGE 11 SPECIFIES THE NUMBER OF PALLETS DEEP WHICH CAN BE STORED ON EACH SIDE OF THE MAGAZINE IN THE BOTTOM TIER OF THE TYPE "C" STACKS IN THE FRONTAL AREA. NOTE THAT THOSE ON THE RIGHT SIDE MUST BE STORED BY USING A PALLET JACK AFTER COMPLETING ALL THE TIERS ON THE LEFT SIDE. CHARTS NO 14 THRU 20 ON PAGE 11 SPECIFY THE NUMBER OF PALLETS DEEP WHICH CAN BE STORED IN THE UPPER TIERS ON THE LEFT SIDE.
3. REFER TO PAGES 86 AND 87 FOR GUIDANCE IN THE STORAGE OF MULTIPLE LOTS.

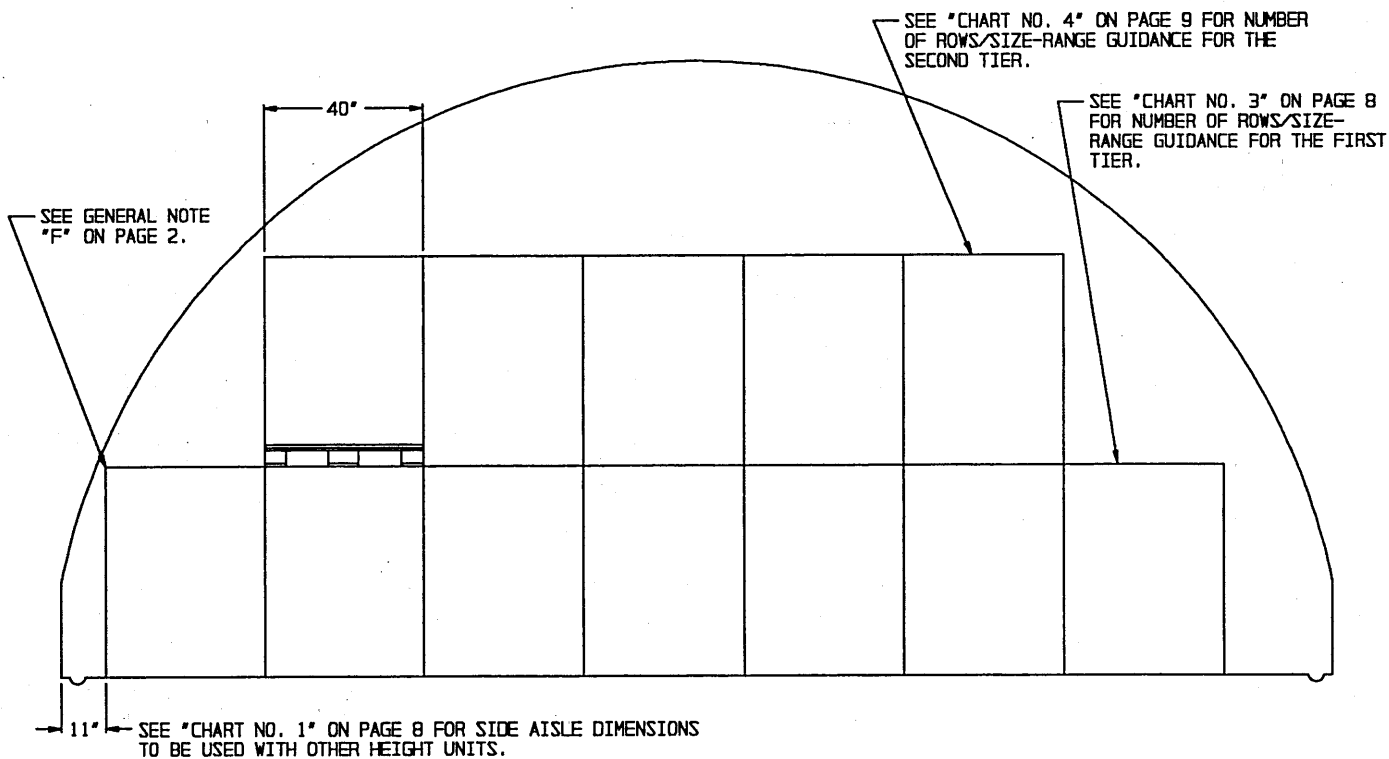
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(SPECIAL NOTES CONTINUED)

4. THE STACKING PATTERNS SHOWN ON PAGES 4 THROUGH 7 DEPICT THE PALLETIZED UNIT LENGTH POSITIONED ACROSS THE MAGAZINE. IF IT IS DESIRED TO STORE PALLET UNITS WHICH ARE WIDER THAN 46" IN SUCH A MANNER THAT THE WIDTH OF THE UNIT IS ACROSS THE WIDTH OF THE MAGAZINE, DOUBLE-DOOR EQUIPPED MAGAZINES WILL FACILITATE HANDLING. THE USE OF DOUBLE-DOORS IS NOT MANDATORY, HOWEVER, IN IGLOOS HAVING SINGLE DOORS, THE WIDE UNITS MUST BE "DOUBLE-HANDLED".
5. WHEN PLACING UNITS IN A STACK WHERE A STAGGERED PATTERN IS BEING USED, SUCH AS TYPICALLY SHOWN IN "STACKING PATTERN B" ON PAGE 6 AND "STACKING PATTERN D" ON PAGE 7, CARE WILL BE USED TO ENSURE THAT EACH UNIT IS LEVEL AND STABLE. IF ALL OF THE BOTTOM DECK BOARDS OF A PALLET ARE NOT FULLY SUPPORTED, ONE INCH THICK LUMBER MUST BE POSITIONED UNDER EACH UNSUPPORTED BOTTOM DECKBOARD TO PROVIDE A STABLE UNIT. SEE THE FILLER DETAIL ON PAGE 93 FOR ADDITIONAL GUIDANCE.
6. THE NUMBER OF TYPE "A" STACKS SPECIFIED FOR A MAGAZINE IS BASED ON HAVING A MATERIAL HANDLING EQUIPMENT OPERATING AREA (DISTANCE FROM THE FACE OF THE LAST TYPE "A" STACK TO THE MAGAZINE FRONT WALL) OF 7'-7" PLUS THE LENGTH OR WIDTH OF THE PALLET UNIT, AS APPLICABLE, OR THE LENGTH OF THE FORKLIFT TRUCK TINES (40"), WHICH EVER IS THE GREATEST. ADDITIONAL TYPE "A" STACKS MAY BE STORED IF THE AVAILABLE MATERIALS HANDLING EQUIPMENT PERMITS.
7. IF DESIRED, AND IF NOT IN VIOLATION OF SERVEILLANCE REQUIREMENTS/PROCEDURES, ONE (1) SURVEILLANCE "CONTROL UNIT" SAMPLE MAY BE WITHHELD FROM EACH STORED LOT. IF THE MAGAZINE CONTAINES ONLY ONE (1) LOT, IT IS RECOMMENDED THAT THIS "CONTROL UNIT" BE PLACED JUST INSIDE THE DOOR WHERE IT IS EASILY ACCESSIBLE. IF THE MAGAZINE CONTAINS SEVERAL LOTS, THE "CONTROL UNIT" SAMPLES SHOULD BE PLACED ADJACENT TO THE MHE OPERATING AISLE FOR ACCESSIBILITY.

TYPICAL STORAGE PROCEDURES

IN 81'-0", 60'-8", AND 40'-4" L X 26'-6" W X 12'-9" H IGLOO MAGAZINES

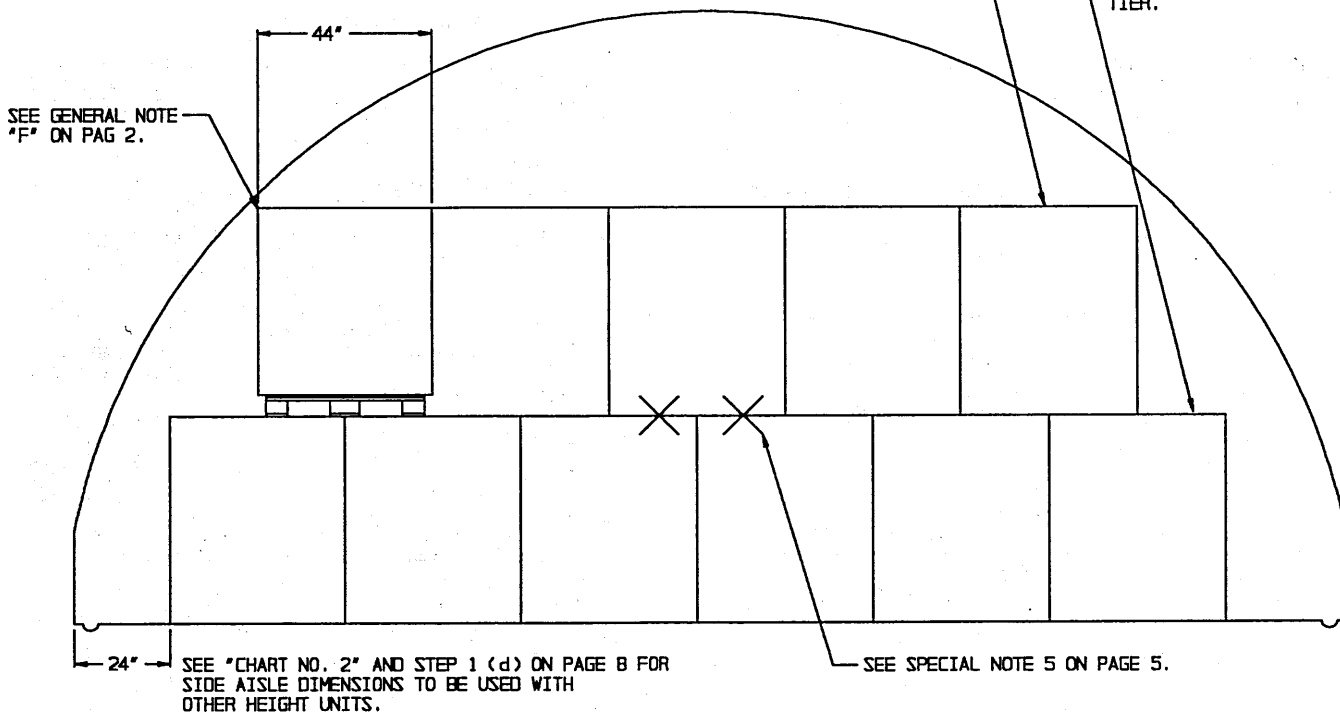


STACKING PATTERN A (40" X 48" PALLET)

THE PALLETIZED UNIT SHOWN IS 40" LONG BY 48" WIDE BY 52-3/4" HIGH. TWO-TIER STORAGE IS APPLICABLE FOR ALL PALLETIZED UNITS WHICH ARE OVER 50" IN HEIGHT.

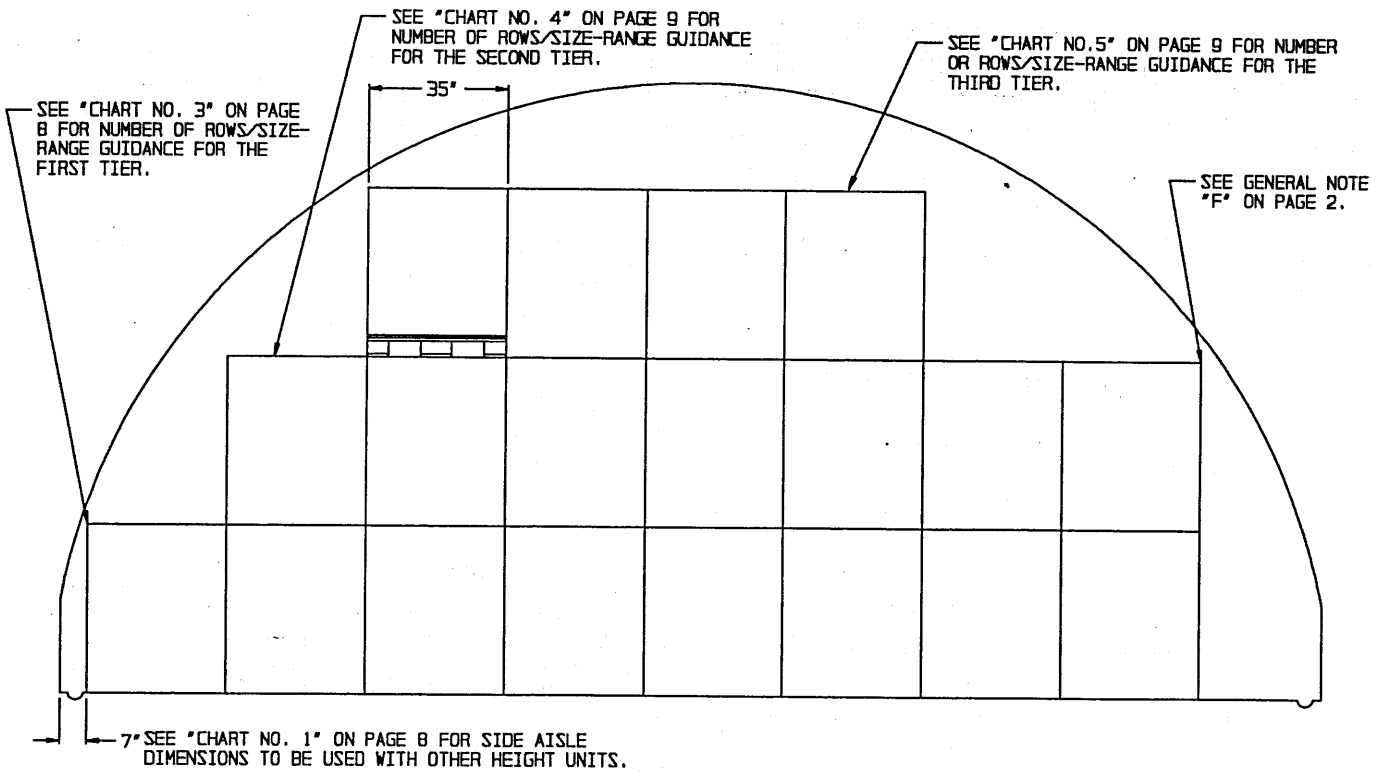
SEE "CHART NO. 4" ON PAGE 9 FOR NUMBER OF ROWS/SIZE-RANGE GUIDANCE FOR THE SECOND TIER.

SEE "CHART NO. 3" ON PAGE 8 FOR NUMBER OF ROWS/SIZE-RANGE GUIDANCE FOR THE FIRST TIER.



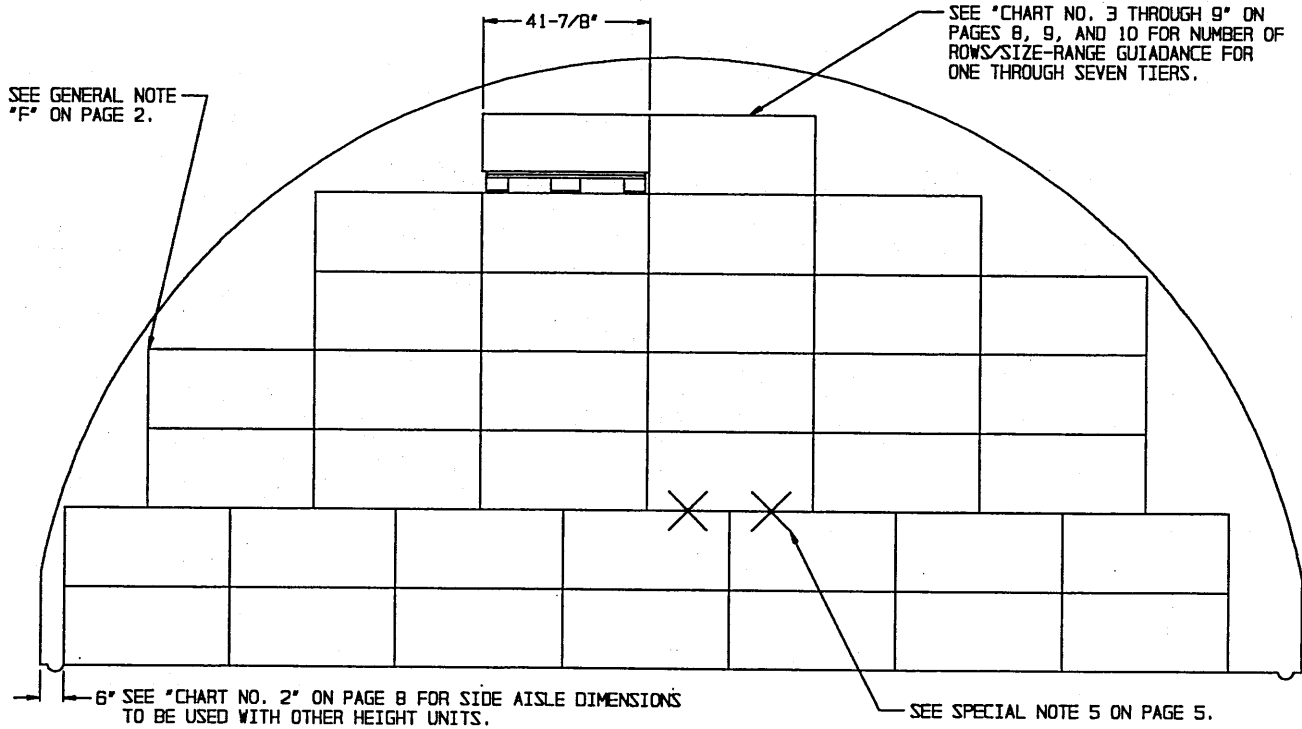
STACKING PATTERN B (40" X 48" PALLET)

THE PALLETIZED UNIT SHOWN IS 44" LONG BY 50" WIDE BY 52-1/2" HIGH. TWO-TIER STORAGE IS APPLICABLE FOR ALL PALLETIZED UNITS WHICH ARE OVER 50" IN HEIGHT.



STACKING PATTERN C (35" X 45-1/2" PALLET)

THE PALLETIZED UNIT SHOWN IS 35" LONG BY 48" WIDE BY 42-1/2" HIGH. THREE-TIER STORAGE IS APPLICABLE FOR ALL PALLETIZED UNITS WHICH ARE OVER 37" BUT NOT MORE THAN 50" IN HEIGHT.



STACKING PATTERN D (40" X 48" PALLET)

THE PALLETIZED UNIT SHOWN IS 41-7/8" LONG BY 51" WIDE BY 20" HIGH. SEVEN-TIER STORAGE IS APPLICABLE FOR ALL PALLETIZED UNITS WHICH ARE OVER 19" BUT NOT MORE THAN 21" IN HEIGHT.

SPECIAL NOTES:

(SPECIAL NOTES CONTINUED)

- THE CHARTS ON THIS PAGE AND ON PAGES THROUGH 11 ARE PRESENTED AS GUIDANCE IN THE DEVELOPMENT OF A PATTERN FOR THE STORAGE OF PALLETIZED UNITS OF AMMUNITION AND COMPONENTS IN 26'-6" WIDE BY 12'-9" HIGH IGLOO MAGAZINES. TO A CERTAIN EXTENT, THE CHARTS MAY ALSO BE USED IN CALCULATING THE QUANTITY OF UNITS WHICH CAN BE STORED. NOTICE: THE CHARTS ARE FOR GUIDANCE PURPOSES ONLY. VARIATIONS IN PALLETIZED UNIT OVERALL SIZES, THE COMPACTNESS OF PLACEMENT WITHIN A MAGAZINE, AS WELL AS VARIANCES IN THE INSIDE DIMENSIONS OF THE IGLOO CAN CAUSE DISCREPANCIES WITHIN THE CHARTS.
- THE FOLLOWING STEP-BY-STEP PROCEDURES ARE PRESENTED AS GUIDANCE IN USING THE DEPICTED CHARTS. SEE THE "EXAMPLE ON THIS PAGE AND PAGE 9.

STEP 1

- THE STORAGE VIEWS ON PAGES 4 THRU 7 DEPICT VARIOUS STACKING PATTERNS. A PATTERN WILL BE ESTABLISHED BY USING THE DIMENSIONAL DATA SET FORTH IN THE CHARTS.
- WHEN USING THE STACKING PATTERN SHOWN IN TYPICAL "STACKING PATTERNS A" ON PAGE 6 OR "C" ON PAGE 7, LOCATE IN CHART 1 THE HEIGHT OF THE PALLETIZED UNIT TO BE STORED. OPPOSITE THAT HEIGHT IS SPECIFIED A MINIMUM LEFT SIDE AISLE DIMENSION WHICH WILL LOCATE THE FIRST TIER OF UNITS ACROSS THE WIDTH OF THE IGLOO.
- WHEN USING THE STACKING PATTERN SHOWN IN "SECTION A-A ON PAGE 4 AND TYPICAL "STACKING PATTERN D" ON PAGE 7, LOCATE IN CHART 2 THE HEIGHT OF THE PALLETIZED UNIT TO BE STORED. OPPOSITE THAT HEIGHT IS SPECIFIED A MINIMUM LEFT SIDE AISLE DIMENSION WHICH WILL LOCATE THE FIRST AND SECOND TIER OF UNITS ACROSS THE WIDTH OF THE IGLOO.
- WHEN USING THE STACKING PATTERN SHOWN IN TYPICAL "STACKING PATTERN B" ON PAGE 6 (WHICH SHOWS THE SECOND TIER STAGGERED WITH THE PALLETIZED UNITS CENTERED ON THE JOINTS OF THE FIRST TIER) OR TYPICAL "STACKING PATTERN D" ON PAGE 7 (WHICH SHOWS THE FIRST TWO TIERS IN VERTICAL ALIGNMENT, THE THIRD AND FOURTH TIER ARE IN VERTICAL ALIGNMENT AND STAGGERED WITH THE PALLETIZED UNITS CENTERED ON THE JOINTS OF THE FIRST AND SECOND TIER).

- FIND THE UNIT HEIGHT IN ONE OF THE COLUMNS OF CHART 2.
- LOOK IN THE COLUMN ADJACENT TO THE RIGHT FOR THE MINIMUM LEFT SIDE AISLE FOR UNITS STACKED IN VERTICAL ALIGNMENT.
- SUBTRACT 1/2 OF THE UNIT WIDTH OR LENGTH (DIM ACROSS MAGAZINE) AND THIS IS THE MINIMUM LEFT SIDE AISLE WHEN STAGGERING.

NOTE:

THE MINIMUM LEFT SIDE AISLE MUST NEVER BE LESS THAN THE DIMENSION GIVEN FOR THE UNIT HEIGHT IN CHART 1. IF ONE-HALF OF THE UNIT LENGTH OR WIDTH (DIMENSION ACROSS THE MAGAZINE) SUBTRACTED FROM THE MINIMUM LEFT SIDE AISLE GIVEN IN CHART 2 IS LESS THAN THE DIMENSION GIVEN IN CHART 1, USE THE MINIMUM DIMENSION GIVEN IN CHART 1 AS THE LEFT SIDE AISLE.

(SPECIAL NOTES CONTINUED AT RIGHT)

EXAMPLE A

SEE BOTTOM STACKING PATTERN ON PAGE 6. THE UNIT LENGTH IS 44" AND THE HEIGHT IS 52-1/2". THE MINIMUM LEFT SIDE AISLE DIMENSIONS IN CHART 2 IS 46". SUBTRACTING 22" FOR THE LEFT SIDE AISLE UNIT LENGTH FROM 46" LEAVES 24". USE 24" FOR THE LEFT SIDE AISLE BECAUSE 24" IS GREATER THAN THE 11" SPECIFIED IN CHART 1.

EXAMPLE B

IF THE UNIT HEIGHT IS 30", A STAGGERED STACKING PATTERN IS TO BE USED, AND THE DIMENSION ACROSS THE MAGAZINE IS 48" THE MINIMUM LEFT SIDE AISLE IN CHART 2 IS 15". WE CANNOT SUBTRACT 24" FROM 15", SO WE USE THE MINIMUM LEFT SIDE AISLE FROM CHART 1 FOR A UNIT HEIGHT OF 30", WHICH IS 6".

EXAMPLE C

SEE THE "STACKING PATTERN D", ON PAGE 7. IN THIS PATTERN THE FIRST AND SECOND TIERS ARE IN VERTICAL ALIGNMENT AND THE THIRD AND FOURTH TIERS ARE IN VERTICAL ALIGNMENT BUT STAGGERED ON THE FIRST AND SECOND TIERS. THE UNIT LENGTH IS 41-7/8" AND THE HEIGHT IS 20". FIND THE TOTAL HEIGHT OF 20" IN CHART 2. THE MINIMUM LEFT SIDE AISLE GIVEN IS 6".

STEP 2

LOCATE IN THE LEFT HAND COLUMN OF CHART 3 THE FIGURE WHICH IS EITHER THE EXACT UNIT HEIGHT OR IS THE NEXT EVEN DIMENSION OVER THE UNIT HEIGHT. ALONG THAT LINE, LOCATE THE COLUMN WHICH CONTAINS THE LENGTH OR THE WIDTH OF THE UNIT TO BE STORED. THE HEADING AT THE BOTTOM OF THAT COLUMN WILL INDICATE THE NUMBER OF ROWS WIDE THAT CAN BE STORED IN THE FIRST TIER (LAYER). SEE SPECIAL NOTE 4 ON PAGE 5 FOR GUIDANCE RELATIVE TO THE HANDLING OF PALLET UNITS WIDER THAN 46" DURING STORAGE OPERATIONS.

STEP 3

LOCATE IN THE LEFT HAND COLUMN OF CHART 4 THE FIGURE WHICH IS EITHER THE EXACT UNIT HEIGHT OR IS THE NEXT EVEN DIMENSION OVER THE UNIT HEIGHT. ALONG THAT LINE, LOCATE THE COLUMN WHICH CONTAINS THE LENGTH OR THE WIDTH OF THE UNIT TO BE STORED. THE HEADING AT THE BOTTOM OF THAT COLUMN WILL INDICATE THE NUMBER OF ROWS WIDE THAT CAN BE STORED IN THE SECOND TIER.

STEP 4

REPEAT STEP 3 FOR CHARTS 5 THROUGH 11 AS APPLICABLE, FOR THE THIRD THROUGH THE NINTH TIER.

STEP 5 (NUMBER OF TYPE "A" AND TYPE "C" STACKS IN THE MAGAZINE)

LOCATE IN THE LEFT HAND COLUMN OF CHART 12 ON PAGE 11 THE LENGTH OR WIDTH, AS APPLICABLE FOR THE ORIENTATION OF THE UNITS BEING STORED. OPPOSITE THAT LENGTH OR WIDTH FIGURE IS SPECIFIED THE APPROXIMATE NUMBER OF TYPE "A" STACKS (FULL STACKS ACROSS THE MAGAZINE) AS WELL AS THE NUMBER OF TYPE "C" STACKS (PARTIAL STACKS AT THE FRONT OF THE MAGAZINE) THAT CAN BE POSITIONED IN AN 81'-0", 60'-8", OR 40'-4" LONG IGLOO MAGAZINE. SEE SPECIAL NOTE 6 ON PAGE 5 FOR THE CRITERIA USED IN DETERMINING THE NUMBER OF TYPE "A" STACKS SPECIFIED WITHIN THE CHART.

(CONTINUED ON PAGE 9)

CHART NO. 1	
UNIT HEIGHT	MINIMUM LEFT SIDE AISLE
53" - 54"	12"
52" - 53"	11"
50" - 52"	10"
47" - 50"	9"
44" - 47"	8"
41" - 44"	7"
15" - 41"	6"

THIS CHART IS FOR USE WHEN STACKING PALLETIZED UNITS AS SHOWN IN TYPICAL "STACKING PATTERNS A" ON PAGE 6 AND "C" ON PAGE 7.

CHART NO. 2			
UNIT HEIGHT	MINIMUM LEFT SIDE AISLE	UNIT HEIGHT	MINIMUM LEFT SIDE AISLE
54" - 55"	50"	37" - 38"	22"
53" - 54"	48"	36" - 37"	21"
52" - 53"	46"	35" - 36"	20"
51" - 52"	44"	34" - 35"	19"
50" - 51"	42"	33" - 34"	18"
49" - 50"	40"	32" - 33"	17"
48" - 49"	38"	31" - 32"	16"
47" - 48"	37"	30" - 31"	15"
46" - 47"	35"	29" - 30"	14"
45" - 46"	33"	28" - 29"	13"
44" - 45"	32"	27" - 28"	12"
43" - 44"	31"	26" - 27"	11"
42" - 43"	29"	25" - 26"	10"
41" - 42"	27"	23" - 25"	9"
40" - 41"	26"	22" - 23"	8"
39" - 40"	25"	21" - 22"	7"
38" - 39"	23"	15" - 21"	6"

THIS CHART IS FOR USE WHEN STACKING THE FIRST TWO TIERS IN VERTICAL ALIGNMENT AS SHOWN IN "SECTION A-A" ON PAGE 4 AND TYPICAL "STACKING PATTERN D" ON PAGE 7.

IF BOTTOM 2 LAYERS ARE STACKED IN VERTICAL ALIGNMENT PER CHART 2, CHART 3 WILL NOT BE USED.

UNIT HEIGHT	CHART NO. 3				
	UNIT SIZE RANGE, LENGTH OR WIDTH				
54"	35" - 36"	36" - 42"	42" - 49"	49" - 54"	
51"	35" - 37"	37" - 42"	42" - 49"	49" - 54"	
45"	35" - 37"	37" - 42"	42" - 50"	50" - 54"	
43"	35" - 37"	37" - 43"	43" - 50"	50" - 54"	
40"	35" - 38"	38" - 43"	43" - 50"	50" - 54"	
36"	35" - 38"	38" - 43"	43" - 51"	51" - 54"	
33"	35" - 38"	38" - 43"	43" - 51"	51" - 54"	
26"	35" - 38"	38" - 43"	43" - 51"	51" - 54"	
24"	35" - 38"	38" - 43"	43" - 51"	51" - 54"	
15" - 22"	35" - 38"	38" - 43"	43" - 51"	51" - 54"	
UNIT HEIGHT	8	7	6	5	
	NUMBER OF ROWS WIDE IN FIRST TIER OF TYPE "A" STACKS				

NOTE:

A LEFT SIDE AISLE GREATER THAN THE MINIMUM DIMENSION GIVEN IN CHART 1 AND CHART 2 MAY BE USED TO ACHIEVE A MAXIMUM STACKING PATTERN.

(SPECIAL NOTES CONTINUED FROM PAGE 8)

STEP 6 (NUMBER OF PALLETS DEEP IN TYPE "C" STACKS)

LOCATE IN THE LEFT HAND COLUMN OF CHART NO. 13 ON PAGE 11 THE LINE WHICH SPECIFIES A PALLET UNIT HEIGHT RANGE THAT CONTAINS THE HEIGHT OF THE UNIT TO BE STORED. ALONG THAT LINE LOCATE THE COLUMN WHICH CONTAINS THE LENGTH OR WIDTH OF THE UNIT, AS APPLICABLE, WHICH IS TO BE POSITIONED ACROSS THE WIDTH OF THE MAGAZINE. THE HEADING AT THE BASE OF THAT COLUMN WILL INDICATE THE NUMBER OF PALLETS DEEP WHICH CAN BE STORED AT EACH SIDE OF THE DOOR OPENING IN THE FIRST TIER OF A TYPE "C" STACK.

STEP 7

REPEAT STEP 6 FOR CHARTS 14 THROUGH 20, AS APPLICABLE, TO DETERMINE THE NUMBER OF PALLETS DEEP WHICH CAN BE STACKED ON THE LEFT SIDE OF THE DOOR IN THE SECOND THROUGH EIGHTH TIERS.

EXAMPLE

THE PALLETIZED UNIT SHOWN IN TYPICAL "STACKING PATTERN A" ON PAGE 6 HAS BEEN SELECTED FOR THE EXAMPLE. THE UNIT IS 40" LONG BY 48" WIDE BY 52-3/4" HIGH. A STORAGE PATTERN CAN BE DETERMINED BY FOLLOWING THE DOTTED-LINE EXAMPLE WITHIN CHARTS NO. 1, 3, AND 4, AND CHARTS 12 THROUGH 14 IN CONJUNCTION WITH USING THE STEP-BY-STEP PROCEDURES SPECIFIED ON PAGE 8 AND THIS PAGE. TO FIND THE MINIMUM LEFT SIDE AISLE LOOK IN THE LEFT HAND COLUMN OF CHART NO. 1, UNDER THE UNIT HEIGHT. THE 52-3/4" UNIT HEIGHT IS WITHIN THE 52"-53" RANGE AND THE MINIMUM LEFT SIDE AISLE IS INDICATED IN THE RIGHT HAND COLUMN AS 11". TO FIND THE NUMBER OF ROWS WIDE IN THE FIRST TIER LOOK IN THE LEFT HAND COLUMN OF CHART NO. 3. USE THE 54" HEIGHT, AS THE UNIT HEIGHT OF 52-3/4" IS GREATER THAN 51" AND THE NEXT HEIGHT LISTED IS 54" USING THE 40" UNIT LENGTH FOLLOW THE ARROWS ALONG THE DOTTED LINE TO THE RIGHT. THE 40" UNIT LENGTH IS WITHIN THE 36"-42" RANGE. FOLLOW THE ARROWS DOWN TO THE NUMERAL IN THE HEADING OF THAT COLUMN WHICH SPECIFIES THAT 7 UNITS, 40" LONG, CAN BE POSITIONED ACROSS THE WIDTH OF THE MAGAZINE IN THE FIRST TIER. FOLLOWING THE SAME PROCEDURE IN CHART NO. 4 WE GO TO THE 53" HEIGHT AS THE UNIT HEIGHT OF 52-3/4" IS GREATER THAN 52" AND THE NEXT HEIGHT LISTED IS 53". USING THE 40" UNIT LENGTH FOLLOW THE ARROWS ALONG THE DOTTED LINE TO THE RIGHT. THE 40" UNIT LENGTH IS WITHIN THE 37"-44" RANGE. FOLLOW THE ARROWS DOWN TO THE NUMERAL IN THE HEADING OF THAT COLUMN WHICH SPECIFIES THAT 5 UNITS, 40" LONG, CAN BE POSITIONED ACROSS THE WIDTH OF THE MAGAZINE IN THE SECOND TIER. IN CHART NO. 5 THE LEFT HAND COLUMN ONLY SHOWS UNIT HEIGHTS UP TO 50" WHICH INDICATES THAT THE 52-3/4" HIGH UNIT CANNOT BE STACKED OVER TWO TIERS HIGH.

TO FIND THE NUMBER OF TYPE "A" AND TYPE "C" STACKS WHICH CAN BE STORED IN A MAGAZINE, LOOK AT CHART NO. 12. SINCE WE ARE POSITIONING THE 40" UNIT LENGTH ACROSS THE WIDTH OF THE MAGAZINE, WE NOW LOOK FOR THE UNIT WIDTH OF 48" IN THE LEFT HAND COLUMN. FOLLOWING THE ARROWS TO THE RIGHT INDICATES THAT 17 TYPE "A" STACKS AND 3 TYPE "C" STACKS CAN BE STORED IN AN 81'-0" IGLOO, 12 TYPE "A" STACKS AND 2 TYPE "C" STACKS CAN BE STORED IN A 60'-8" IGLOO, AND 7 AND 2 TYPE "A" AND "C" STACKS, RESPECTIVELY, CAN BE STORED IN A 40'-4" IGLOO MAGAZINE.

TO FIND THE NUMBER OF PALLETS DEEP IN THE FIRST TIER AT EACH SIDE OF THE DOOR OPENING IN TYPE "C" STACKS, LOOK IN THE LEFT HAND COLUMN OF CHART NO. 13 ON PAGE 11. THE UNIT HEIGHT OF 52-3/4" FALLS WITHIN THE RANGE OF 50"-54". FOLLOW THE ARROW ALONG THE DOTTED LINE TO THE COLUMN WHICH CONTAINS THE 48" WIDTH OF THE UNIT. NOTE THAT THE PALLET UNIT CANNOT BE STORED BY HANDLING FROM THE 48" SIDE UNLESS THE MAGAZINE BEING FILLED HAS DOUBLE DOORS. FOLLOW THE ARROW DOWN TO THE NUMERALS IN THE HEADING AT THE BASE OF THAT COLUMN WHICH SPECIFIES THAT 2 UNITS CAN BE POSITIONED AT EACH SIDE OF THE DOOR OPENING, THOSE ON THE RIGHT SIDE BY USING A PALLET JACK, AFTER COMPLETING ALL THE TIERS ON THE LEFT SIDE. THE NUMBER OF PALLETS DEEP IN THE SECOND, THIRD, AND HIGHER TIERS CAN BE DETERMINED IN SIMILAR MANNER BY USING THE APPLICABLE CHARTS NO. 14 THRU 20. SEE SPECIAL NOTE 6 BELOW.

- FOR ANY FRACTIONAL AND/OR DIMENSIONAL HEIGHT NOT SPECIFIED IN THE UNIT HEIGHT COLUMN, THE NEXT LARGER DIMENSIONAL HEIGHT WILL BE USED. FOR EXAMPLE, IN CHART NUMBER 4, FOR A UNIT WHICH IS 43-5/8" HIGH, USE THE SPECIFIED 44" HEIGHT.
- THE UNIT SIZE RANGE (LENGTH OR WIDTH) COVERS ALL SIZES WITHIN THE RANGE SPECIFIED. FOR EXAMPLE, IN CHART NO. 4, FOR A 44" HIGH UNIT WHICH IS 36" OR GREATER BUT LESS THAN 42" IN LENGTH OR WIDTH, SIX ROWS MAY BE POSITIONED IN THE SECOND TIER, A 44" HIGH UNIT WHICH IS 42" OR GREATER BUT LESS THAN 51" IN LENGTH OR WIDTH WILL ALLOW 5 ROWS TO BE POSITIONED IN THE SECOND TIER.
- ALL PALLETIZED UNITS HAVING A WIDTH GREATER THAN 46" AND POSITIONED IN A STACK HAVING THE PALLETIZED UNIT WIDTH ACROSS THE WIDTH OF THE MAGAZINE ARE APPLICABLE FOR IGLOOS WITH DOUBLE DOORS. THE USE OF DOUBLE DOORS IS NOT MANDATORY FOR THOSE SIZE RANGES, HOWEVER, IN IGLOOS HAVING SINGLE DOORS, WIDE UNITS MUST BE "DOUBLE-HANDLED" IN ORDER TO STORE THEM WITH THE WIDTH OF THE UNIT ACROSS THE MAGAZINE.

(CONTINUED AT RIGHT)

UNIT HEIGHT		CHART NO. 4 UNIT SIZE RANGE, LENGTH OR WIDTH				
54"			35"-36"	36"-44"	44"-54"	
53"			35"-37"	37"-44"	44"-54"	
52"			35"-37"	37"-45"	45"-54"	
51"			35"-38"	38"-46"	46"-54"	
50"			35"-39"	39"-47"	47"-54"	
48"			35"-40"	40"-48"	48"-54"	
46"			35"-41"	41"-49"	49"-54"	
45"		35"	35"-41"	41"-50"	50"-54"	
44"		35"-36"	36"-42"	42"-51"	51"-54"	
43"		35"-36"	36"-42"	42"-51"	51"-54"	
42"		35"-37"	37"-43"	43"-52"	52"-54"	
40"		35"-38"	38"-44"	44"-53"	53"-54"	
37"		35"-39"	39"-45"	45"-54"		
35"		35"-40"	40"-46"	46"-54"		
34"		35"	35"-40"	40"-46"	46"-54"	
33"		35"	35"-40"	40"-47"	47"-54"	
30"		35"-36"	36"-41"	41"-48"	48"-54"	
27"		35"-36"	36"-42"	42"-49"	49"-54"	
25"		35"-37"	37"-42"	42"-49"	49"-54"	
23"		35"-37"	37"-43"	43"-50"	50"-54"	
20"		35"-38"	38"-43"	43"-50"	50"-54"	
15"-17"		35"-38"	38"-44"	44"-51"	51"-54"	
UNIT HEIGHT		8	7	6	5	4
		NUMBER OF ROWS WIDE IN SECOND TIER OF TYPE "A" STACKS				

UNIT HEIGHT		CHART NO. 5 UNIT SIZE RANGE, LENGTH OR WIDTH								
50" MAX									35"-36"	35"-42"
49"									35"-46"	36"-54"
48"									36"-54"	46"-54"
47"								35"-36"	42"-54"	
46"								35"-42"	46"-54"	
45"								35"-46"	50"-54"	
44"							35"-38"	38"-50"		
43"							35"-40"	40"-54"		
42"							35"-42"	42"-54"		
41"							35"-36"	45"-54"		
40"							35"-36"	46"-54"		
39"							35"-38"	48"-54"		
38"							35"-40"	50"-54"		
37"			35"				35"-42"	52"-54"		
36"			35"-36"				36"-43"			
35"			35"-37"				37"-44"			
34"			35"-38"				38"-46"			
33"			35"-39"				39"-46"			
32"			35"-40"				40"-48"			
31"			35"				35"-41"			
30"			35"-36"				36"-42"			
28"			35"-37"				37"-43"			
27"			35"-37"				37"-44"			
26"			35"-38"				38"-44"			
25"			35"-38"				38"-45"			
24"			35"-39"				39"-46"			
22"			35"				35"-40"			
21"			35"-36"				36"-40"			
20"			35"-36"				36"-41"			
19"			35"-36"				36"-42"			
18"			35"-37"				37"-42"			
16"			35"-37"				37"-42"			
15"			35"-37"				37"-43"			
UNIT HEIGHT		8	7	6	5	4	3	2	1	
		NUMBER OF ROWS WIDE IN THIRD TIER OF TYPE "A" STACKS								

(SPECIAL NOTES CONTINUED)

- PALLET UNITS WITHIN THE TYPE "C" STACKS MAY BE STORED EITHER IN THE SAME ORIENTATION AS THE TYPE "A" STACKS IN THE MAGAZINE OR TURNED 90° TO THOSE IN THE TYPE "A" STACKS. BY STUDYING CHARTS 12 THRU 20 IT CAN BE DETERMINED WHICH POSITIONING WILL RESULT IN THE GREATER NUMBER OF PALLET UNITS. NOTE THAT THE NUMBER OF TYPE "C" STACKS SPECIFIED IN CHART 12 ON PAGE 11 IS BASED ON THE UNITS BEING IN THE SAME ORIENTATION AS THOSE IN THE TYPE "A" STACKS.

CHART NO. 6								
UNIT HEIGHT	UNIT SIZE RANGE, LENGTH OR WIDTH							
37" MAX							35"-44"	
36"							40"-54"	
35"							44"-54"	
34"								
33"								
32"								
31"								
30"								
29"								
28"								
27"								
26"								
25"								
24"								
23"								
22"								
21"								
20"								
19"								
18"								
17"								
16"								
15"								
UNIT HEIGHT	8	7	6	5	4	3	2	1
	NUMBER OF ROWS WIDE IN FOURTH TIER OF TYPE "A" STACKS							

CHART NO. 10					
UNIT HEIGHT	UNIT SIZE RANGE, LENGTH OR WIDTH				
18" MAX					
17"					
16"					
15"					
UNIT HEIGHT	5	4	3	2	1
	NUMBER OF ROWS WIDE IN EIGHTH TIER OF TYPE "A" STACKS				

CHART NO. 11			
UNIT HEIGHT	UNIT SIZE RANGE, LENGTH OR WIDTH		
16" MAX			
15"			
UNIT HEIGHT	3	2	1
	NUMBER OF ROWS WIDE IN NINTH TIER OF TYPE "A" STACKS		

CHART NO. 7							
UNIT HEIGHT	UNIT SIZE RANGE, LENGTH OR WIDTH						
29" MAX							
28"							
27"							
26"							
25"							
24"							
23"							
22"							
21"							
20"							
19"							
18"							
17"							
16"							
15"							
UNIT HEIGHT	7	6	5	4	3	2	1
	NUMBER OF ROWS WIDE IN FIFTH TIER OF TYPE "A" STACKS						

CHART NO. 8							
UNIT HEIGHT	UNIT SIZE RANGE, LENGTH OR WIDTH						
24" MAX							
23"							
22"							
21"							
20"							
19"							
18"							
17"							
16"							
15"							
UNIT HEIGHT	7	6	5	4	3	2	1
	NUMBER OF ROWS WIDE IN SIXTH TIER OF TYPE "A" STACKS						

CHART NO. 9					
UNIT HEIGHT	UNIT SIZE RANGE, LENGTH OR WIDTH				
21" MAX					
20"					
19"					
18"					
17"					
16"					
15"					
UNIT HEIGHT	6	5	4	3	2
	NUMBER OF ROWS WIDE IN SEVENTH TIER OF TYPE "A" STACKS				

CHART NO. 12
NUMBER OF STACKS IN MAGAZINE

UNIT DIMENSION LENGTHWISE IN MAGAZINE	81'-0" IGL00				60'-8" IGL00				40'-4" IGL00			
	"A" STACKS		"C" STACKS		"A" STACKS		"C" STACKS		"A" STACKS		"C" STACKS	
	NO.*	MHE AISLE	NO.	SPACE REMAIN	NO.*	MHE AISLE	NO.	SPACE REMAIN	NO.*	MHE AISLE	NO.	SPACE REMAIN
54"	15	13'-3"	2	48"	10	15'-5"	3	32"	6	13'-1"	2	46"
53"	15	14'-6"	3	12"	11	11'-10"	3	33"	6	13'-7"	2	54"
52"	16	11'-4"	2	30"	11	12'-9"	2	46"	6	14'-1"	3	10"
51"	16	12'-9"	2	48"	11	13'-8"	3	8"	6	14'-7"	3	19"
50"	16	14'-1"	3	16"	11	14'-7"	3	22"	6	15'-1"	3	28"
49"	17	11'-4"	2	35"	12	11'-5"	2	36"	6	15'-7"	3	37"
48"	17	12'-9"	2	6"	12	12'-5"	2	50"	7	12'-1"	2	46"
47"	17	14'-2"	3	26"	12	13'-5"	3	17"	7	12'-8"	3	8"
46"	18	11'-9"	2	46"	12	14'-5"	3	32"	7	13'-3"	3	18"
45"	18	13'-3"	3	21"	13	11'-8"	2	47"	7	13'-10"	3	28"
44"	19	11'-7"	2	42"	13	12'-9"	3	18"	7	14'-5"	3	38"
43"	19	12'-8"	3	20"	13	13'-10"	3	34"	8	11'-5"	3	5"
42"	19	14'-3"	3	42"	14	11'-5"	3	8"	8	12'-1"	3	16"
41"	20	12'-5"	3	23"	14	12'-7"	3	25"	8	12'-9"	3	27"
40"	20	14'-1"	4	6"	14	13'-9"	3	42"	8	13'-5"	3	38"
39"	21	12'-6"	3	30"	15	11'-8"	3	20"	8	14'-1"	4	10"
38"	22	11'-1"	3	16"	15	12'-11"	3	38"	9	11'-7"	3	22"
37"	22	12'-11"	3	41"	16	11'-1"	3	19"	9	12'-4"	3	34"
36"	23	11'-9"	3	30"	16	12'-5"	3	38"	9	13'-1"	4	10"
35"	23	13'-8"	4	21"	16	13'-9"	4	22"	10	10'-11"	3	23"

* SEE SPECIAL NOTE 6 ON PAGE 5.

UNIT HEIGHT	CHART NO. 13 UNIT SIZE RANGE, LENGTH OR WIDTH	
50"-54" 41"-50" 15"-41"	35"-40" 35"-42" 35"-43"	40"-54" 42"-54" 43"-54"
UNIT HEIGHT	3 AND 2	2 AND 2
	NUMBER OF PALLET DEEP IN FIRST TIER OF TYPE "C" STACKS	

UNIT HEIGHT	CHART NO. 14 UNIT SIZE RANGE, LENGTH OR WIDTH		
53"-54"	35"-43"	43"-54"	
52"-53"	35"-44"	44"-54"	
51"-52"	35"-45"	45"-54"	
50"-51"	35"-46"	46"-54"	
49"-50"	35"-47"	47"-54"	
48"-49"	35"-48"	48"-54"	
47"-48"	35"-49"	49"-54"	
46"-47"	35"-50"	50"-54"	
44"-46"	35"-51"	51"-54"	
43"-44"	35"-52"	52"-54"	
42"-43"	35"	35"-53"	53"-54"
39"-42"	35"-36"	36"-54"	
37"-39"	35"-37"	37"-54"	
34"-37"	35"-38"	38"-54"	
31"-34"	35"-39"	39"-54"	
28"-31"	35"-40"	40"-54"	
25"-28"	35"-41"	41"-54"	
21"-25"	35"-42"	42"-54"	
15"-21"	35"-43"	43"-54"	
UNIT HEIGHT	3	2	1
	NUMBER OF PALLET DEEP IN SECOND TIER OF TYPE "C" STACKS		

UNIT HEIGHT	CHART NO. 16 UNIT SIZE RANGE, LENGTH OR WIDTH		
32"-33"			35"
30"-32"			35"-54"
29"-30"	35"-36"		36"-54"
28"-29"	35"-38"		38"-54"
27"-28"	35"-41"		41"-54"
26"-27"	35"-43"		43"-54"
25"-26"	35"-45"		45"-54"
24"-25"	35"-47"		47"-54"
23"-24"	35"-49"		49"-54"
22"-23"	35"-50"		50"-54"
21"-22"	35"-52"		52"-54"
20"-21"	35"	35"-53"	53"-54"
19"-20"	35"-36"	36"-54"	
18"-19"	35"-37"	37"-54"	
17"-18"	35"-38"	38"-54"	
15"-17"	35"-39"	39"-54"	
15"	35"-40"	40"-54"	
UNIT HEIGHT	3	2	1
	NUMBER OF PALLET DEEP IN FOURTH TIER OF TYPE "C" STACKS		

UNIT HEIGHT	CHART NO. 19 UNIT SIZE RANGE, LENGTH OR WIDTH	
19"-20"		35"-36"
18"-19"		35"-50"
17"-18"		35"-54"
16"-17"	35"-36"	36"-54"
15"-16"	35"-40"	40"-54"
15"	35"-44"	44"-54"
UNIT HEIGHT	2	1
	NUMBER OF PALLET DEEP IN SEVENTH TIER OF TYPE "C" STACKS	

UNIT HEIGHT	CHART NO. 20 UNIT SIZE RANGE, LENGTH OR WIDTH	
16"-17"		35"-45"
15"-16"		35"-54"
15"	35"-36"	36"-54"
UNIT HEIGHT	2	1
	NUMBER OF PALLET DEEP IN EIGHTH TIER OF TYPE "C" STACKS	

UNIT HEIGHT	CHART NO. 15 UNIT SIZE RANGE, LENGTH OR WIDTH		
43"-44"			35"
40"-43"			35"-54"
39"-40"	35"		36"-54"
38"-39"	35"-37"		37"-54"
37"-38"	35"-39"		38"-54"
36"-37"	35"-41"		41"-54"
35"-36"	35"-43"		43"-54"
34"-35"	35"-45"		45"-54"
33"-34"	35"-46"		46"-54"
32"-33"	35"-47"		47"-54"
31"-32"	35"-49"		49"-54"
30"-31"	35"-50"		50"-54"
29"-30"	35"-51"		51"-54"
28"-29"	35"	35"-52"	52"-54"
27"-28"	35"	35"-53"	53"-54"
26"-27"	35"-36"	36"-54"	
24"-26"	35"-37"	37"-54"	
22"-24"	35"-38"	38"-54"	
21"-22"	35"-39"	39"-54"	
18"-21"	35"-40"	40"-54"	
16"-18"	35"-41"	41"-54"	
15"-16"	35"-42"	42"-54"	
UNIT HEIGHT	3	2	1
	NUMBER OF PALLET DEEP IN THIRD TIER OF TYPE "C" STACKS		

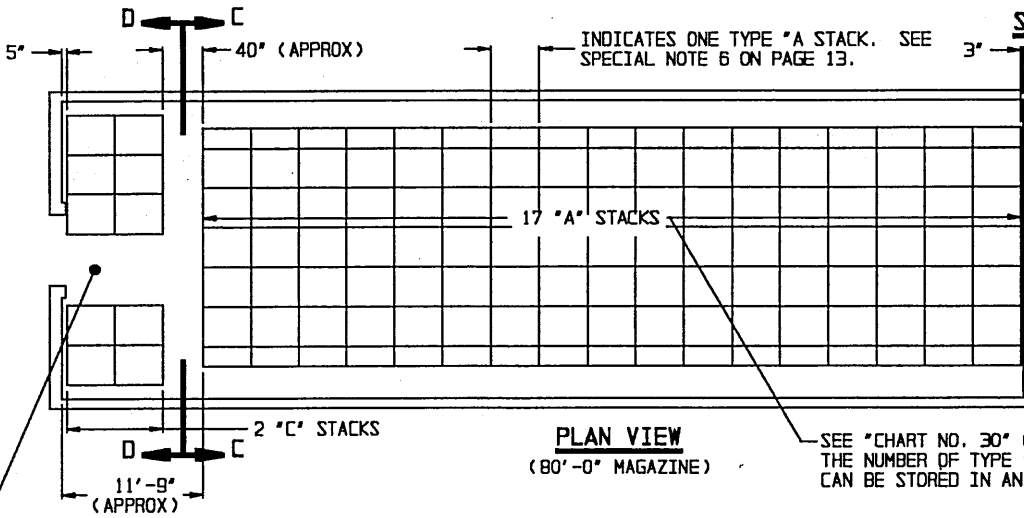
UNIT HEIGHT	CHART NO. 17 UNIT SIZE RANGE, LENGTH OR WIDTH		
27"-28"			35"
26"-27"			35"-47"
24"-26"			35"-54"
23"-24"	35"-36"		36"-54"
22"-23"	35"-39"		38"-54"
21"-22"	35"-42"		42"-54"
20"-21"	35"-44"		44"-54"
19"-20"	35"-47"		47"-54"
18"-19"	35"-49"		49"-54"
17"-18"	35"-51"		51"-54"
16"-17"	35"-53"		53"-54"
15"-16"	35"-36"	36"-54"	
15"	35"-37"	37"-54"	
UNIT HEIGHT	3	2	1
	NUMBER OF PALLET DEEP IN FIFTH TIER OF TYPE "C" STACKS		

UNIT HEIGHT	CHART NO. 18 UNIT SIZE RANGE, LENGTH OR WIDTH	
22"-23"		35"-42"
21"-22"		35"-53"
20"-21"		35"-54"
19"-20"	35"-36"	36"-54"
18"-19"	35"-39"	38"-54"
17"-18"	35"-43"	43"-54"
16"-17"	35"-46"	46"-54"
15"-16"	35"-49"	49"-54"
15"	35"-51"	51"-54"
UNIT HEIGHT	2	1
	NUMBER OF PALLET DEEP IN SIXTH TIER OF TYPE "C" STACKS	

STORAGE IN 80'-0" MAGAZINE

(10'-0" HIGH)

ITEM	QUANTITY
PALLETIZED UNIT - - - -	254



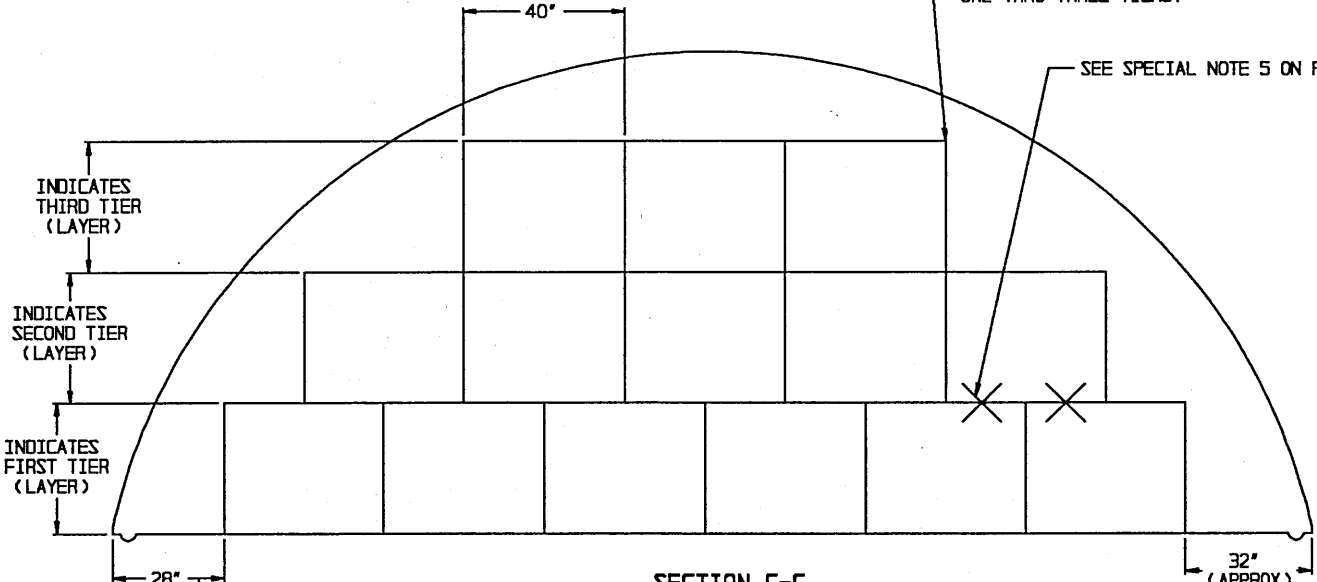
PLAN VIEW
(80'-0" MAGAZINE)

SEE "CHART NO. 30" ON PAGE 18 FOR GUIDANCE AS TO THE NUMBER OF TYPE "A" AND TYPE "C" STACKS WHICH CAN BE STORED IN AN 80'-0" MAGAZINE.

SEE GENERAL NOTE "H" ON PAGE 2.

SEE "CHARTS NO. 23 THRU 25" ON PAGES 17 AND 18 FOR NUMBER OF ROWS/SIZE RANGE FOR ONE THRU THREE TIERS.

SEE SPECIAL NOTE 5 ON PAGE 13.



SECTION C-C

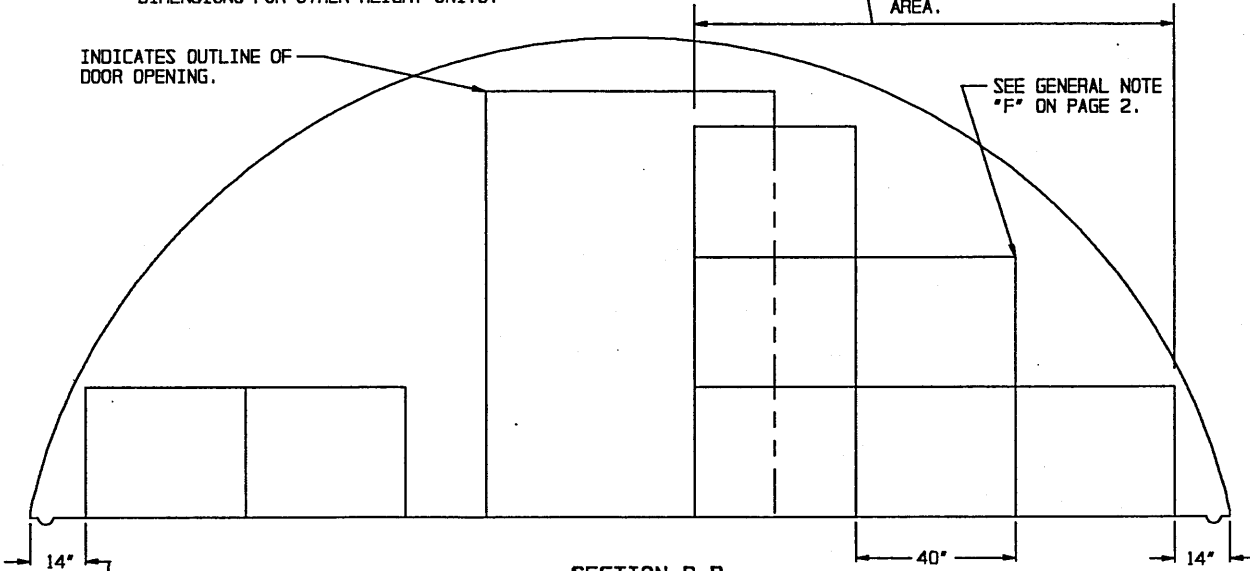
(14 PALLETIZED UNITS PER STACK)

SEE "CHART NO. 22" AND STEP 1 (d) ON PAGE 16 FOR SIDE AISLE DIMENSIONS FOR OTHER HEIGHT UNITS.

SEE "CHARTS NO. 11 THRU 16 ON PAGE 19 FOR GUIDANCE AS TO THE NUMBER UNITS DEEP IN THE TYPE "C" STACKS IN THE FRONTAL AREA.

INDICATES OUTLINE OF DOOR OPENING.

SEE GENERAL NOTE "F" ON PAGE 2.



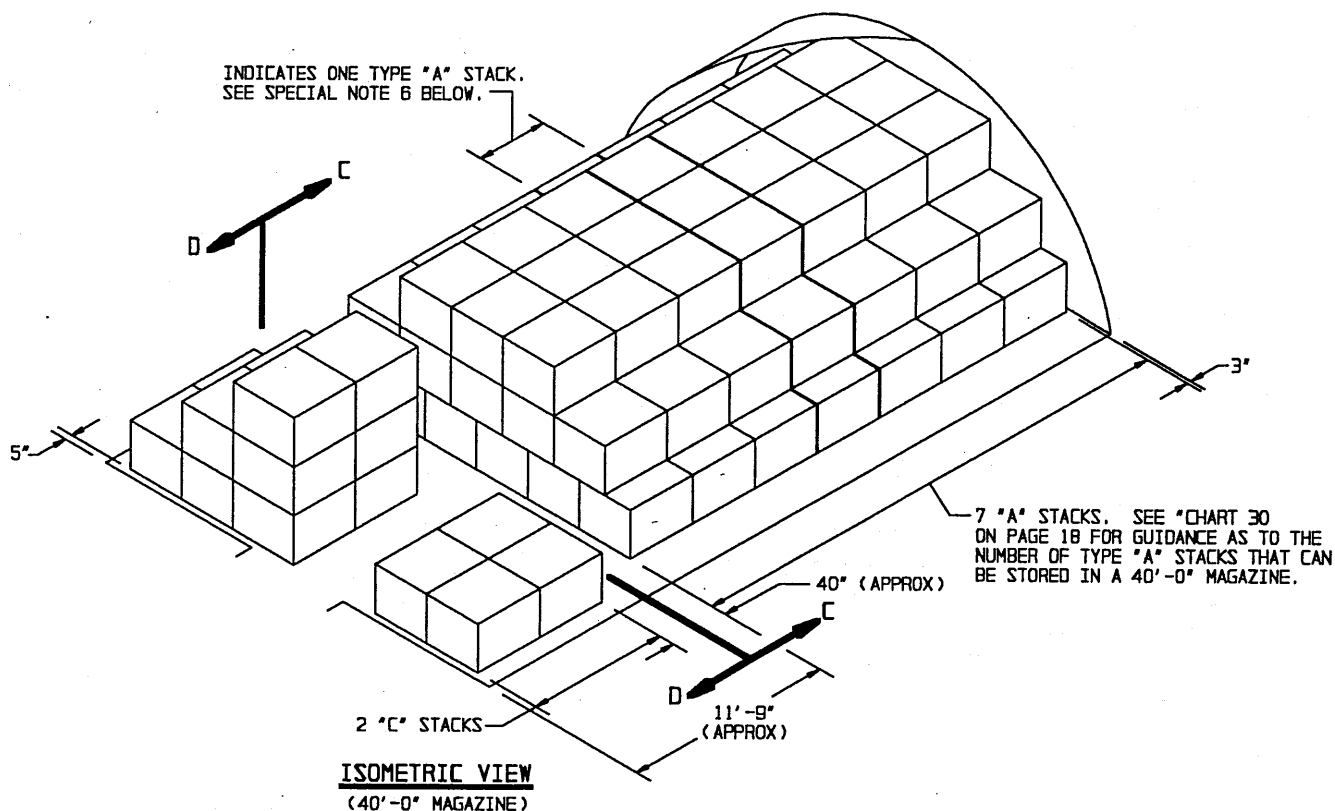
SECTION D-D

SEE "CHART NO 21" ON PAGE 16 FOR SIDE AISLE DIMENSIONS FOR OTHER HEIGHT UNITS.

STORAGE IN 40'-0" MAGAZINE

(10'-0" HIGH)

ITEM	QUANTITY
PALLETIZED UNIT - - -	114



SPECIAL NOTES:

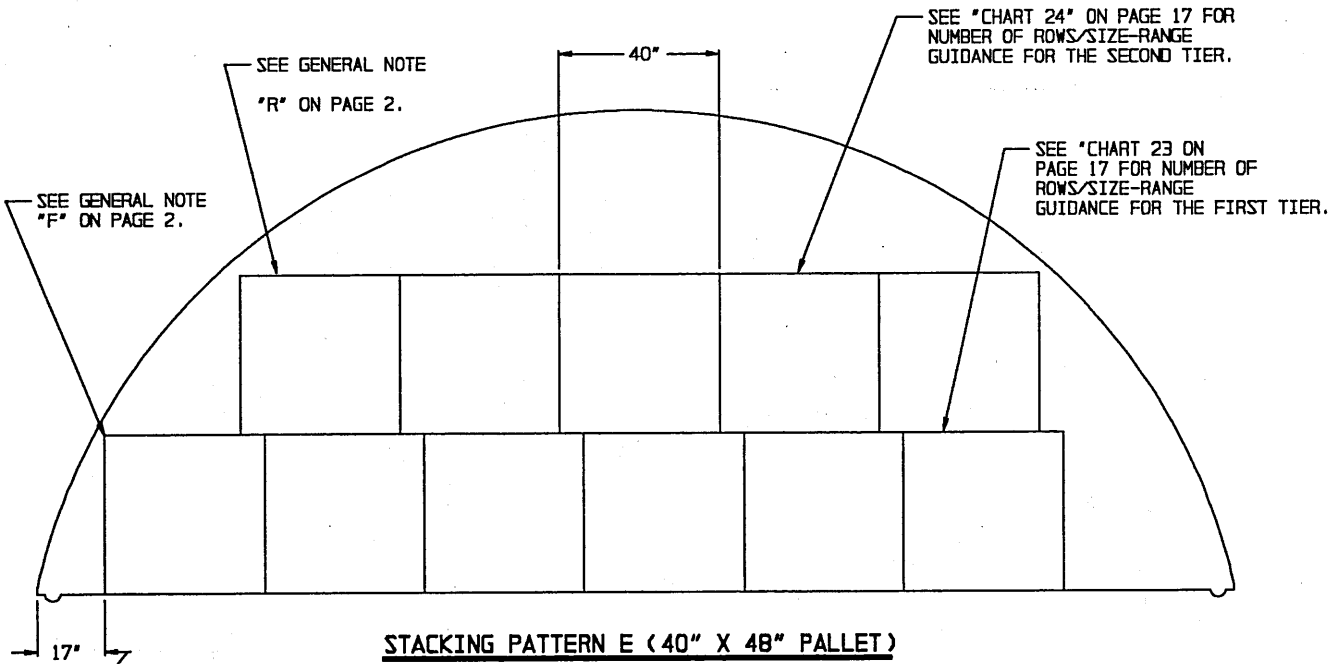
1. THE TYPICAL PALLETIZED UNIT SHOWN HAS OVERALL DIMENSIONS OF 40" LONG BY 48" WIDE BY 34-1/2" HIGH. THE QUANTITY OF UNITS, THE NUMBER OF STACKS, ROWS, AND TIERS (LAYERS) WILL VARY, DEPENDENT UPON THE SIZE OF THE UNIT BEING STORED. SEE THE SPECIAL NOTES AND CHARTS ON PAGES 16 THROUGH 19 FOR GUIDANCE. AS MANY UNITS AS POSSIBLE WILL BE STORED WITHIN THE MAGAZINE.
2. THE STORAGE VIEWS ON PAGE 12 AND ABOVE DEPICT PALLETIZED UNITS STACKED IN STAGGERED/VERTICAL ALIGNMENT, USING A MINIMUM WIDTH SIDE AISLE AT THE LEFT SIDE OF THE MAGAZINE. THE TYPICAL STACKING PATTERN VIEWS ON PAGES 14 AND 15 DEPICT PALLETIZED UNITS STACKED IN VERTICAL AND/OR STAGGERED PATTERN, USING A MINIMUM WIDTH SIDE AISLE AT THE LEFT SIDE OF THE MAGAZINE. CHARTS NO. 23 THROUGH 29 ON PAGES 17 AND 18 DEPICT THE MAXIMUM NUMBER OF ROWS PER TIER ACROSS THE WIDTH OF THE MAGAZINE. THE PALLET UNITS IN A STACK WILL BE STORED IN VERTICAL ALIGNMENT IF A CHART FOR THE TIER INDICATES EITHER THE SAME QUANTITY OR TWO LESS ROWS WIDE THAN IS SPECIFIED BY THE CHART FOR THE NEXT LOWER TIER. THE PALLET UNITS IN A TIER WILL BE CENTERED (STAGGERED) ON THE UNITS IN THE NEXT LOWER TIER IF A CHART FOR THE TIER INDICATES A QUANTITY OF ONE LESS ROW WIDE THAN IS SPECIFIED FOR THE NEXT LOWER TIER. HOWEVER, IT SHOULD BE NOTED THAT SOME PALLET UNIT CONFIGURATIONS WILL NOT PROVIDE A STABLE STACK WHEN USING THE STAGGERED PATTERN, AND, THEREFORE, THE VERTICAL ALIGNMENT PATTERN MUST BE USED. ALSO, THE STAGGERED STACKING PATTERN CANNOT BE USED WHEN STORING MULTIPLE LOTS WHICH REQUIRE ADJACENT ROWS TO BE SEPARATED. CHART NO. 30 ON PAGE 18 SPECIFIES THE NUMBER OF TYPE "A" AND TYPE "C" STACKS WHICH CAN BE STORED IN 80'-0" AND 40'-0" LONG MAGAZINES. CHART NO. 31 ON PAGE 19 SPECIFIES THE NUMBER OF PALLETS DEEP WHICH CAN BE STORED ON EACH SIDE OF THE MAGAZINE IN THE BOTTOM TIER OF THE TYPE "C" STACKS IN THE FRONTAL AREA. NOTE THAT THOSE ON THE RIGHT SIDE MUST BE STORED BY USING A PALLET JACK AFTER COMPLETING ALL THE TIERS ON THE LEFT SIDE. CHARTS NO. 32 THROUGH 36 ON PAGE 19 SPECIFY THE NUMBER OF PALLETS DEEP WHICH CAN BE STORED IN THE UPPER TIERS ON THE LEFT SIDE.
3. REFER TO PAGES 86 AND 87 FOR GUIDANCE IN THE STORAGE OF MULTIPLE LOTS.

(SPECIAL NOTES CONTINUED)

4. THE STACKING PATTERNS SHOWN ON PAGES 12 THROUGH 15 DEPICT THE PALLETIZED UNIT LENGTH POSITIONED ACROSS THE MAGAZINE. HOWEVER, IT MAY BE MORE ADVANTAGEOUS TO STACK THE PALLETIZED UNITS WITH THE WIDTH ACROSS THE MAGAZINE.
5. WHEN PLACING UNITS IN A STACK WHERE A STAGGERED PATTERN IS BEING USED, SUCH AS TYPICALLY SHOWN IN "SECTION C-C" ON PAGE 12 AND "STACKING PATTERN H" ON PAGE 15, CARE WILL BE USED TO INSURE THAT EACH UNIT IS LEVEL AND STABLE. IF ALL OF THE BOTTOM DECKBOARDS OF A PALLET ARE NOT FULLY SUPPORTED, ONE INCH THICK LUMBER MUST BE POSITIONED UNDER EACH UNSUPPORTED BOTTOM DECKBOARD TO PROVIDE A STABLE UNIT. SEE THE FILLER DETAIL ON PAGE 93 FOR ADDITIONAL GUIDANCE.
6. THE NUMBER OF TYPE "A" STACKS SPECIFIED FOR A MAGAZINE IS BASED ON HAVING A MATERIAL HANDLING EQUIPMENT OPERATING AREA (DISTANCE FROM THE FACE OF THE LAST TYPE "A" STACK TO THE MAGAZINE FRONT WALL) OF 7'-7" PLUS THE LENGTH OR WIDTH OF THE PALLET UNIT, AS APPLICABLE, OR THE LENGTH OF THE FORKLIFT TRUCK TINES (40") WHICHEVER IS THE GREATEST. ADDITIONAL TYPE "A" STACKS MAY BE STORED IF THE AVAILABLE MATERIALS HANDLING EQUIPMENT PERMITS.
7. IF DESIRED, AND IF NOT IN VIOLATION OF SURVEILLANCE REQUIREMENTS/PROCEDURES, ONE (1) SURVEILLANCE "CONTROL UNIT" SAMPLE MAY BE WITHHELD FROM EACH STORED LOT. IF THE MAGAZINE CONTAINS ONLY ONE (1) LOT IT IS RECOMMENDED THAT THIS "CONTROL UNIT" BE PLACED JUST INSIDE THE DOOR WHERE IT IS EASILY ACCESSIBLE. IF THE MAGAZINE CONTAINS SEVERAL LOTS THE "CONTROL UNIT" SAMPLES SHOULD BE PLACED ADJACENT TO THE MHE OPERATING AISLE FOR ACCESSIBILITY.

(CONTINUED AT RIGHT)

TYPICAL STORAGE PROCEDURES IN 80'-0" AND 40'-0" L X 25'-0" W X 10'-0" H ARCH-TYPE MAGAZINES



STACKING PATTERN E (40" X 48" PALLET)

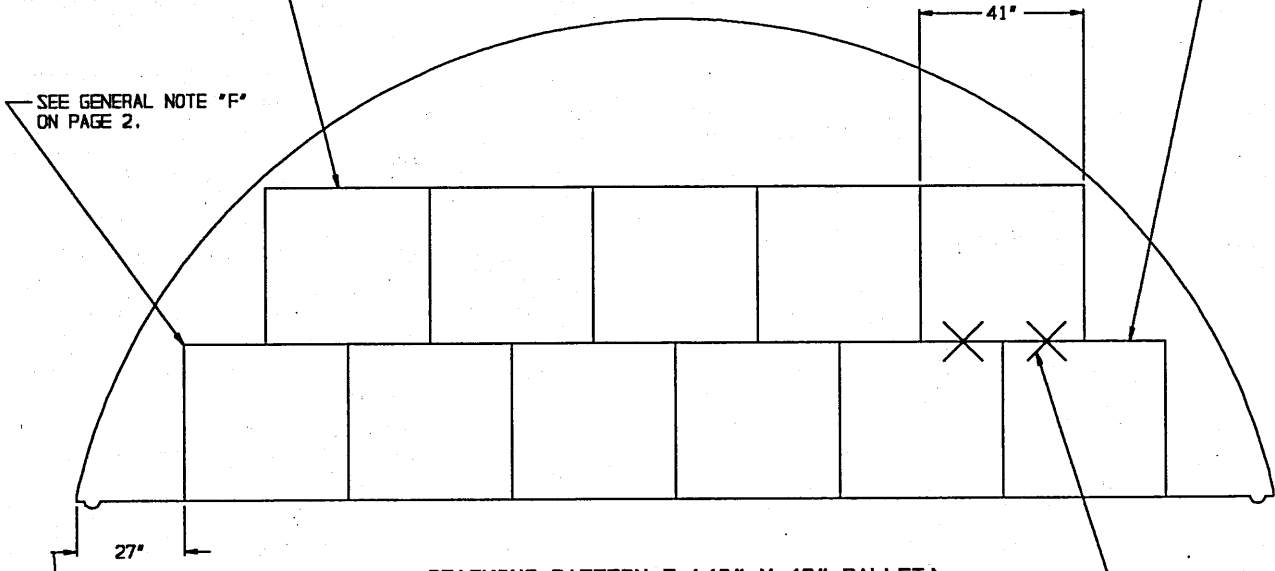
THE PALLETIZED UNIT SHOWN IS 40" LONG BY 48" WIDE BY 40" HIGH. TWO-TIER STORAGE IS APPLICABLE FOR ALL PALLETIZED UNITS WHICH ARE OVER 38" IN HEIGHT.

SEE "CHART 21" ON PAGE 16 FOR SIDE AISLE DIMENSIONS TO BE USED WITH OTHER HEIGHT UNITS.

SEE "CHART 23" ON PAGE 17 FOR NUMBER OF ROWS/SIZE-RANGE GUIDANCE FOR THE FIRST TIER.

SEE "CHART 24" ON PAGE 17 FOR NUMBER OF ROWS/SIZE-RANGE GUIDANCE FOR THE SECOND TIER.

SEE GENERAL NOTE "F" ON PAGE 2.

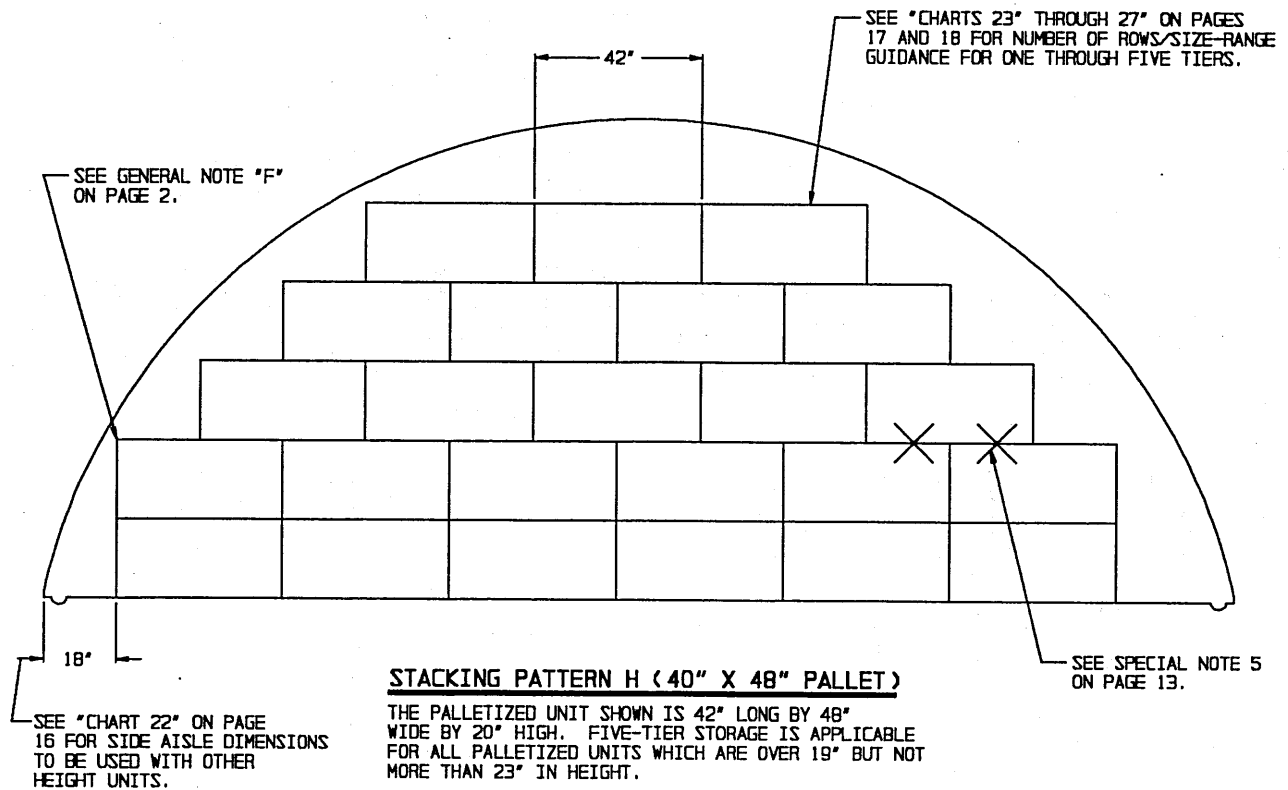
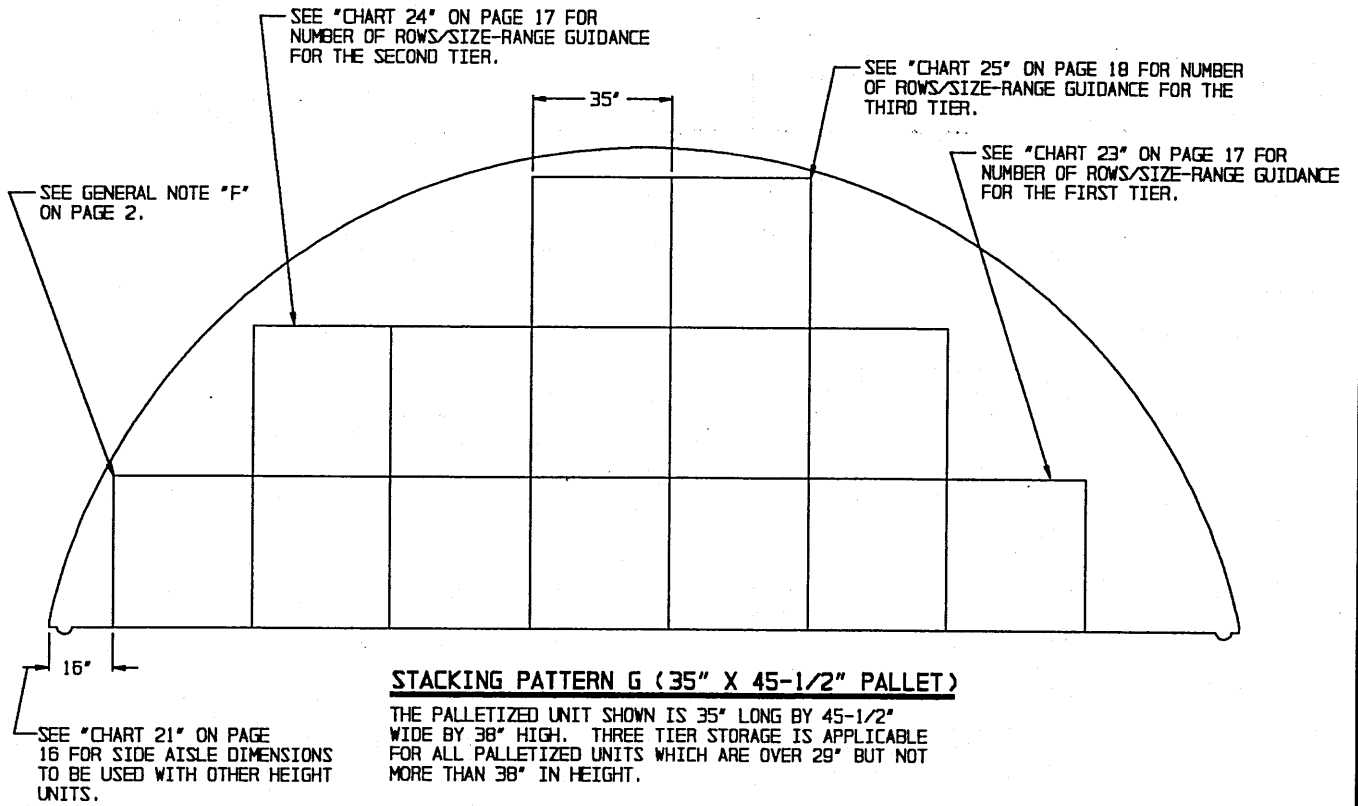


STACKING PATTERN F (40" X 48" PALLET)

THE PALLETIZED UNIT SHOWN IS 41" LONG BY 48" WIDE BY 39-1/2" HIGH. TWO-TIER STORAGE IS APPLICABLE FOR ALL PALLETIZED UNITS WHICH ARE OVER 38" IN HEIGHT.

SEE "CHART 22" AND STEP 1 (D) ON PAGE 16 FOR SIDE AISLE DIMENSIONS TO BE USED WITH OTHER HEIGHT UNITS

SEE SPECIAL NOTE 5 ON PAGE 13.



SPECIAL NOTES:

(SPECIAL NOTES CONTINUED)

- THE CHARTS ON THIS PAGE AND ON PAGE 17 THROUGH 19 ARE PRESENTED AS GUIDANCE IN THE DEVELOPMENT OF A PATTERN FOR THE STORAGE OF PALLETIZED UNITS OF AMMUNITION AND COMPONENTS IN 25'-0" WIDE BY 10'-0" HIGH ARCH TYPE MAGAZINES. TO A CERTAIN EXTENT, THE CHARTS MAY ALSO BE USED IN CALCULATING THE QUANTITY OF UNITS WHICH CAN BE STORED. NOTICE: THE CHARTS ARE FOR GUIDANCE PURPOSES ONLY. VARIATIONS IN PALLETIZED UNIT OVERALL SIZES, THE COMPACTNESS OF PLACEMENT WITHIN A MAGAZINE, AS WELL AS VARIANCES IN THE INSIDE DIMENSIONS OF THE ARCH TYPE MAGAZINE CAN CAUSE DISCREPANCIES WITHIN THE CHARTS.
- THE FOLLOWING STEP-BY-STEP PROCEDURES ARE PRESENTED AS GUIDANCE IN USING THE DEPICTED CHARTS. SEE THE "EXAMPLE" ON THIS PAGE AND ON PAGE 17.

STEP 1

- THE STORAGE VIEWS ON PAGES 12 THRU 15 DEPICT VARIOUS STACKING PATTERNS. A PATTERN WILL BE ESTABLISHED BY USING THE DIMENSIONAL DATA SET FORTH IN THE CHARTS.
- WHEN USING THE STACKING PATTERN SHOWN IN TYPICAL "STACKING PATTERNS E" ON PAGE 14 OR "G" ON PAGE 15. LOCATE IN CHART NO. 21 THE HEIGHT OF THE PALLETIZED UNIT TO BE STORED. OPPOSITE THAT HEIGHT IS SPECIFIED A MINIMUM LEFT SIDE AISLE DIMENSION WHICH WILL LOCATE THE FIRST TIER OF UNITS ACROSS THE WIDTH OF THE MAGAZINE.
- WHEN USING THE STACKING PATTERN SHOWN IN THE TYPICAL "STACKING PATTERN H" ON PAGE 15, LOCATE IN CHART NO. 22 THE HEIGHT OF THE PALLETIZED UNIT TO BE STORED. OPPOSITE THAT HEIGHT IS SPECIFIED A MINIMUM LEFT SIDE AISLE DIMENSION WHICH WILL LOCATE THE FIRST AND SECOND TIER OF UNITS ACROSS THE WIDTH OF THE MAGAZINE.
- WHEN USING THE STACKING PATTERN SHOWN IN "SECTION C-C" ON PAGE 12 AND TYPICAL "STACKING PATTERN F" ON PAGE 14 (WHICH SHOWS THE SECOND TIER STAGGERED WITH THE PALLETIZED UNITS CENTERED ON THE JOINTS OF THE FIRST TIER).

- FIND THE UNIT HEIGHT IN ONE OF THE COLUMNS OF CHART NO. 22.
- LOOK IN THE COLUMN ADJACENT TO THE RIGHT FOR THE MINIMUM LEFT SIDE AISLE FOR UNITS STACKED IN VERTICAL ALIGNMENT.
- SUBTRACT 1/2 OF THE UNIT WIDTH OR LENGTH (DIM ACROSS MAGAZINE) AND THIS IS THE MINIMUM LEFT SIDE AISLE WHEN STAGGERING.

NOTE:

THE MINIMUM LEFT SIDE AISLE MUST NEVER BE LESS THAN THE DIMENSION GIVEN FOR THE UNIT HEIGHT IN CHART NO. 21. IF ONE-HALF OF THE UNIT LENGTH OR WIDTH (DIMENSION ACROSS THE MAGAZINE) SUBTRACTED FROM THE MINIMUM LEFT SIDE AISLE GIVEN IN CHART NO. 22 IS LESS THAN THE DIMENSION GIVEN IN CHART NO. 21, USE THE MINIMUM DIMENSION GIVEN IN CHART NO. 21 AS THE LEFT SIDE AISLE.

EXAMPLE A

SEE BOTTOM STACKING PATTERN ON PAGE 14. THE UNIT LENGTH IS 42" AND THE HEIGHT IS 39-1/2". THE MINIMUM LEFT SIDE AISLE DIMENSION IN CHART NO. 22 IS 46". SUBTRACTING 21" (ONE-HALF) OF THE UNIT LENGTH) FROM 48" LEAVES 27" FOR THE LEFT SIDE AISLE BECAUSE 27" IS GREATER THAN THE 17" SPECIFIED IN CHART NO. 21.

EXAMPLE B

IF THE UNIT HEIGHT IS 24", A STAGGERED STACKING PATTERN IS TO BE USED, AND THE DIMENSION ACROSS THE MAGAZINE IS 48". THE MINIMUM LEFT SIDE AISLE IN CHART NO. 22 IS 23". WE CANNOT SUBTRACT 24" FROM 23", SO WE USE THE MINIMUM LEFT SIDE AISLE FROM CHART 21 FOR A UNIT HEIGHT OF 24", WHICH IS 10".

(CONTINUED AT RIGHT)

EXAMPLE C

SEE THE "STACKING PATTERN H", ON PAGE 15. IN THIS PATTERN THE FIRST AND SECOND TIERS ARE IN VERTICAL ALIGNMENT. THE UNIT LENGTH IS 42" AND THE HEIGHT IS 20". FIND THE UNIT HEIGHT OF 20" IN CHART NO. 22. THE MINIMUM LEFT SIDE AISLE GIVEN IS 18"

STEP 2

LOCATE IN THE LEFT HAND COLUMN OF CHART NO. 23 THE FIGURE WHICH IS EITHER THE EXACT UNIT HEIGHT OR IS THE NEXT EVEN DIMENSION OVER THE UNIT HEIGHT. ALONG THAT LINE, LOCATE THE COLUMN WHICH CONTAINS THE LENGTH OR WIDTH OF THE UNIT TO BE STORED. THE HEADING AT THE BOTTOM OF THAT COLUMN WILL INDICATE THE NUMBER OF ROWS WIDE THAT CAN BE STORED IN THE FIRST TIER (LAYER).

STEP 3

LOCATE IN THE LEFT HAND COLUMN OF CHART NO. 24 THE FIGURE WHICH IS EITHER THE EXACT UNIT HEIGHT OR IS THE NEXT EVEN DIMENSION OVER THE UNIT HEIGHT. ALONG THAT LINE LOCATE THE COLUMN WHICH CONTAINS THE LENGTH OR WIDTH OF THE UNIT TO BE STORED. THE HEADING AT THE BOTTOM OF THAT COLUMN WILL INDICATE THE NUMBER OF ROWS WIDE THAT CAN BE STORED IN THE SECOND TIER.

STEP 4

REPEAT STEP 3 FOR CHARTS 25 THROUGH 29 AS APPLICABLE, FOR THE THIRD THROUGH THE SEVENTH TIER.

STEP 5 (NUMBER OF TYPE "A" AND TYPE "C" STACKS IN THE MAGAZINE)

LOCATE IN THE LEFT HAND COLUMN OF CHART NO. 30 ON PAGE 18 THE LENGTH OR WIDTH, AS APPLICABLE FOR THE ORIENTATION OF THE UNITS BEING STORED. OPPOSITE THAT LENGTH OR WIDTH FIGURE IS SPECIFIED THE APPROXIMATE NUMBER OF TYPE "A" STACKS (FULL STACKS ACROSS THE MAGAZINE) AS WELL AS THE NUMBER OF TYPE "C" STACKS (PARTIAL STACKS AT THE FRONT OF THE MAGAZINE) THAT CAN BE POSITIONED IN EITHER AN 80'-0" OR A 40'-0" LONG MAGAZINE. SEE SPECIAL NOTE 6 ON PAGE 13 FOR THE CRITERIA USED IN DETERMINING THE NUMBER OF TYPE "A" STACKS SPECIFIED WITHIN THE CHART.

STEP 6 (NUMBER OF PALLETS DEEP IN TYPE "C" STACKS)

LOCATE IN THE LEFT HAND COLUMN OF CHART NO. 31 ON PAGE 19 THE LINE WHICH SPECIFIES A PALLET UNIT HEIGHT RANGE THAT CONTAINS THE HEIGHT OF THE UNIT TO BE STORED. ALONG THAT LINE LOCATE THE COLUMN WHICH CONTAINS THE LENGTH OR WIDTH OF THE UNIT, AS APPLICABLE, WHICH IS TO BE POSITIONED ACROSS THE WIDTH OF THE MAGAZINE. THE HEADING AT THE BASE OF THAT COLUMN WILL INDICATE THE NUMBER OF PALLETS DEEP WHICH CAN BE STORED AT EACH SIDE OF THE DOOR OPENING IN THE FIRST TIER OF A TYPE "C" STACK.

STEP 7

REPEAT STEP 6 FOR CHARTS 32 THROUGH 36, AS APPLICABLE, TO DETERMINE THE NUMBER OF PALLETS DEEP WHICH CAN BE STACKED ON THE LEFT SIDE OF THE DOOR IN THE SECOND THROUGH SIXTH LAYERS.

EXAMPLE

THE PALLETIZED UNIT SHOWN IN TYPICAL "STACKING PATTERN E" ON PAGE 14 HAS BEEN SELECTED FOR THE EXAMPLE. THE UNIT IS 40" LONG BY 48" WIDE BY 40" HIGH. A STORAGE PATTERN CAN BE DETERMINED BY FOLLOWING THE DOTTED-LINE EXAMPLE WITHIN CHARTS NO. 21 THROUGH 24 AND CHARTS NO. 30 THROUGH 32 IN CONJUNCTION WITH USING THE STEP-BY-STEP PROCEDURES SPECIFIED ON THIS PAGE AND ON PAGE 17. TO FIND THE MINIMUM LEFT SIDE AISLE LOOK IN THE LEFT HAND COLUMN OF CHART NO. 21, UNDER THE UNIT HEIGHT.

(CONTINUED ON PAGE 17)

UNIT HEIGHT	MINIMUM LEFT SIDE AISLE	UNIT HEIGHT	MINIMUM LEFT SIDE AISLE
52"-54"	25"	35"-37"	15"
51"-52"	24"	33"-35"	14"
50"-51"	23"	31"-33"	13"
48"-50"	22"	28"-31"	12"
47"-48"	21"	25"-28"	11"
45"-47"	20"	23"-25"	10"
43"-45"	19"	21"-23"	9"
41"-43"	18"	18"-21"	8"
39"-41"	17"	15"-18"	7"
37"-39"	16"		6"

THIS CHART IS FOR USE WHEN STACKING PALLETIZED UNITS AS SHOWN IN TYPICAL "STACKING PATTERN E" ON PAGE 14 AND "G" ON PAGE 15.

NOTE:

A LEFT SIDE AISLE GREATER THAN THE MINIMUM DIMENSION GIVEN IN CHART 21 AND CHART 22 MAY BE USED TO ACHIEVE A MAXIMUM STACKING PATTERN.

UNIT HEIGHT	MINIMUM LEFT SIDE AISLE	UNIT HEIGHT	MINIMUM LEFT SIDE AISLE
39"-40"	48"	26"-27"	25"
38"-39"	45"	25"-26"	24"
37"-38"	42"	24"-25"	23"
36"-37"	41"	23"-24"	21"
35"-36"	39"	22"-23"	20"
34"-35"	38"	21"-22"	19"
33"-34"	36"	20"-21"	18"
32"-33"	34"	19"-20"	17"
31"-32"	33"	18"-19"	16"
30"-31"	30"	17"-18"	15"
29"-30"	29"	16"-17"	14"
28"-29"	27"	15"-16"	13"
27"-28"	26"	15"	12"

THIS CHART IS FOR USE WHEN STACKING THE FIRST TWO TIERS IN VERTICAL ALIGNMENT AS SHOWN IN THE TYPICAL "STACKING PATTERN H" ON PAGE 15.

UNIT HEIGHT	CHART NO. 23				
	UNIT SIZE RANGE, LENGTH OR WIDTH				
54"		35"	35"-40"	40"-49"	49"-54"
53"		35"	35"-41"	41"-49"	49"-54"
51"		35"	35"-41"	41"-50"	50"-54"
50"		35"-36"	36"-42"	42"-50"	50"-54"
47"		35"-36"	36"-42"	42"-51"	51"-54"
45"		35"-36"	36"-43"	43"-51"	51"-54"
44"		35"-37"	37"-43"	43"-51"	51"-54"
43"		35"-37"	37"-43"	43"-52"	52"-54"
39"		35"-37"	37"-44"	44"-52"	52"-54"
38"		35"-37"	37"-44"	44"-53"	53"-54"
37"		35"-38"	38"-44"	44"-53"	53"-54"
33"		35"-38"	38"-45"	45"-54"	
30"		35"-39"	39"-45"	45"-54"	
27"		35"-39"	39"-46"	46"-54"	
23"	35"	35"-40"	40"-46"	46"-54"	
15"-19"	35"	35"-40"	40"-47"	47"-54"	
UNIT HEIGHT	8	7	6	5	4
	NUMBER OF ROWS WIDE IN FIRST TIER OF TYPE "A" STACKS				

UNIT HEIGHT	CHART NO. 24					
	UNIT SIZE RANGE, LENGTH OR WIDTH					
54"					35"-37"	37"-54"
53"					35"-41"	41"-54"
52"					35"-43"	43"-54"
51"					35"-46"	46"-54"
50"				35"-36"	36"-48"	48"-54"
49"				35"-37"	37"-50"	50"-54"
48"				35"-39"	39"-53"	53"-54"
47"				35"-41"	41"-54"	
46"				35"-42"	42"-54"	
45"			35"	35"-43"	43"-54"	
44"			35"-36"	36"-45"	45"-54"	
43"			35"-37"	37"-46"	46"-54"	
42"			35"-38"	38"-47"	47"-54"	
41"			35"-39"	39"-49"	49"-54"	
40"			35"-40"	40"-50"	50"-54"	
39"			35"-41"	41"-51"	51"-54"	
38"			35"-41"	41"-52"	52"-54"	
37"		35"	35"-42"	42"-53"	53"-54"	
36"		35"-36"	36"-43"	43"-54"		
35"		35"-36"	36"-44"	44"-54"		
34"		35"-37"	37"-44"	44"-54"		
33"		35"-37"	37"-45"	45"-54"		
32"		35"-38"	38"-46"	46"-54"		
31"		35"-39"	39"-46"	46"-54"		
30"		35"-39"	39"-47"	47"-54"		
29"		35"-40"	40"-48"	48"-54"		
27"	35"	35"-40"	40"-49"	49"-54"		
26"	35"	35"-41"	41"-49"	49"-54"		
25"	35"-36"	36"-42"	42"-50"	50"-54"		
23"	35"-36"	36"-42"	42"-51"	51"-54"		
22"	35"-37"	37"-43"	43"-51"	51"-54"		
21"	35"-37"	37"-43"	43"-52"	52"-54"		
19"	35"-37"	37"-44"	44"-53"	53"-54"		
18"	35"-38"	38"-44"	44"-53"	53"-54"		
16"	35"-38"	38"-45"	45"-54"			
15"	35"-39"	39"-45"	45"-54"			
UNIT HEIGHT	7	6	5	4	3	2
	NUMBER OF ROWS WIDE IN SECOND TIER OF TYPE "A" STACKS					

THE 40" UNIT HEIGHT IS WITHIN THE 39"-41" RANGE AND THE MINIMUM LEFT SIDE AISLE IS INDICATED IN THE ADJACENT RIGHT HAND COLUMN AS 17". TO FIND THE NUMBER OF ROWS WIDE IN THE FIRST TIER LOOK IN THE LEFT HAND COLUMN OF CHART NO. 23. USE THE 43" HEIGHT, AS THE UNIT HEIGHT OF 40" IS GREATER THAN 39" AND THE NEXT HEIGHT LISTED IS 43". USING THE 40" UNIT LENGTH FOLLOW THE ARROWS ALONG DOTTED LINE TO THE RIGHT. THE 40" UNIT LENGTH IS WITHIN THE 37"-43" RANGE. FOLLOW THE ARROWS DOWN TO THE NUMERAL IN THE HEADING OF THAT COLUMN WHICH SPECIFIES THAT 6 UNITS, 40" LONG, CAN BE POSITIONED ACROSS THE WIDTH OF THE MAGAZINE IN THE FIRST TIER. THE WIDTH OF THE MAGAZINE IN THE FIRST TIER. FOLLOWING THE SAME PROCEDURE IN CHART NO. 24 WE GO TO THE SPECIFIED 40" HEIGHT. USING THE 40" UNIT LENGTH FOLLOW THE ARROWS ALONG THE DOTTED LINE TO THE RIGHT. THE 40" UNIT LENGTH IS WITHIN THE 35"-40" RANGE. FOLLOW THE ARROWS DOWN TO THE NUMERAL IN THE HEADING OF THAT COLUMN WHICH SPECIFIES THAT 5 UNITS, 40" LONG, CAN BE POSITIONED ACROSS THE WIDTH OF THE MAGAZINE IN THE SECOND TIER. IN CHART NO. 25 ON PAGE 18 THE LEFT HAND COLUMN ONLY SHOWS UNIT HEIGHTS UP TO 38" WHICH INDICATES THAT THE 40" HIGH UNIT CANNOT BE STACKED OVER TWO TIERS HIGH.

TO FIND THE NUMBER OF TYPE "A" AND TYPE "C" STACKS WHICH CAN BE STORED IN THE MAGAZINE, LOOK AT CHART NO. 30 ON PAGE 18. SINCE WE ARE POSITIONING THE 40" UNIT LENGTH ACROSS THE WIDTH OF THE MAGAZINE, WE NOW LOOK FOR THE UNIT WIDTH OF 48" IN THE LEFT HAND COLUMN. FOLLOWING THE ARROWS TO THE RIGHT INDICATES THAT 17 TYPE "A" STACKS AND 2 TYPE "C" STACKS CAN BE STORED IN AN 80'-0" MAGAZINE AND 7 TYPE "A" STACKS AND 2 TYPE "C" STACKS CAN BE STORED IN A 40'-0" MAGAZINE.

TO FIND THE NUMBER OF PALLETS DEEP IN THE FIRST TIER AT EACH SIDE OF THE DOOR OPENING IN TYPE "C" STACKS, LOOK IN THE LEFT HAND COLUMN OF CHART NO. 31 ON PAGE 19. THE UNIT HEIGHT OF 40" FALLS WITHIN THE RANGE OF 36"-42". FOLLOW THE ARROW ALONG THE DOTTED LINE TO THE COLUMN WHICH CONTAINS THE 40" LENGTH OF THE UNIT. FOLLOW THE ARROW DOWN TO THE NUMERALS IN THE HEADING AT THE BASE OF THAT COLUMN WHICH SPECIFIES THAT 3 UNITS CAN BE POSITIONED AT THE LEFT SIDE OF THE DOOR AND 2 UNITS CAN BE POSITIONED AT THE RIGHT SIDE OF THE DOOR, THOSE ON THE RIGHT SIDE BY USING A PALLET JACK, AFTER COMPLETING ALL THE TIERS ON THE LEFT SIDE. THE NUMBER OF PALLETS DEEP IN THE SECOND, THIRD, AND HIGHER TIERS CAN BE DETERMINED IN A SIMILAR MANNER BY USING THE APPLICABLE CHARTS NO. 32 THROUGH 36. SEE SPECIAL NOTE 5 BELOW.

- FOR ANY FRACTIONAL AND/OR DIMENSIONAL HEIGHT NOT SPECIFIED IN THE UNIT HEIGHT COLUMN, THE NEXT LARGER DIMENSIONAL HEIGHT WILL BE USED. FOR EXAMPLE, IN CHART NUMBER 23, FOR A UNIT WHICH IS 40-5/8" HIGH, USE THE SPECIFIED 43" HEIGHT.
- THE UNIT SIZE RANGE (LENGTH OR WIDTH) COVERS ALL SIZES WITHIN THE RANGE SPECIFIED. FOR EXAMPLE, IN CHART NO. 23, FOR A 40-5/8" HIGH UNIT WHICH IS 37" OR GREATER IN LENGTH, BUT LESS THAN 43", SIX ROWS MAY BE POSITIONED IN THE FIRST TIER. A 40-5/8" HIGH UNIT WHICH IS 43" OR GREATER IN LENGTH OR WIDTH, BUT LESS THAN 52", WILL ALLOW 5 ROWS TO BE POSITIONED IN THE FIRST TIER.
- PALLET UNITS WITHIN THE TYPE "C" STACKS MAY BE STORED EITHER IN THE SAME ORIENTATION AS THE TYPE "A" STACKS IN THE MAGAZINE OR TURNED 90° TO THOSE IN THE TYPE "A" STACKS. BY STUDYING CHARTS 30 THROUGH 36 IT CAN BE DETERMINED WHICH POSITIONING WILL RESULT IN THE GREATER NUMBER OF PALLET UNITS. NOTE THAT THE NUMBER OF TYPE "C" STACKS SPECIFIED IN CHART NO. 30 ON PAGE 18 IS BASED ON THE UNITS BEING IN THE SAME ORIENTATION AS THOSE IN THE TYPE "A" STACKS.

CHART NO. 25						
UNIT HEIGHT	UNIT SIZE RANGE, LENGTH OR WIDTH					
38" MAX					35'-39"	39'-54"
37"					35'-49"	49'-54"
36"				35'-37"	37'-54"	
35"				35'-42"	42'-54"	
34"				35'-46"	46'-54"	
33"			35'-36"	36'-49"	49'-54"	
32"			35'-39"	39'-53"	53'-54"	
31"			35'-41"	41'-54"		
30"		35'	35'-43"	43'-54"		
29"		35'-36"	36'-45"	45'-54"		
28"		35'-38"	38'-47"	47'-54"		
27"		35'-39"	39'-49"	49'-54"		
26"		35'-41"	41'-51"	51'-54"		
25"		35'	35'-42"	42'-52"	52'-54"	
24"		35'-36"	36'-43"	43'-54"		
23"		35'-37"	37'-44"	44'-54"		
22"		35'-37"	37'-45"	45'-54"		
21"		35'-38"	38'-46"	46'-54"		
20"		35'-39"	39'-47"	47'-54"		
19"		35'-40"	40'-48"	48'-54"		
18"	35'	35'-40"	40'-49"	49'-54"		
17"	35'	35'-41"	41'-50"	50'-54"		
16"	35'-36"	36'-42"	42'-50"	50'-54"		
15"	35'-36"	36'-42"	42'-51"	51'-54"		
UNIT HEIGHT	7	6	5	4	3	2
	NUMBER OF ROWS WIDE IN THIRD TIER OF TYPE "A" STACKS					

CHART NO. 29			
UNIT HEIGHT	UNIT SIZE RANGE, LENGTH OR WIDTH		
16" MAX		35'-46"	46'-54"
15"	35'-42"	42'-54"	
UNIT HEIGHT	3	2	1
	NUMBER OF ROWS WIDE IN SEVENTH TIER OF TYPE "A" STACKS		

CHART NO. 30								
UNIT DIMENSION LENGTHWISE IN MAGAZINE	60'-0" X 25'-0" X 10'-0" ARCH TYPE MAGAZINE				40'-0" X 25'-0" X 10'-0" ARCH TYPE MAGAZINE			
	"A" STACKS		"C" STACKS		"A" STACKS		"C" STACKS	
	NO.	MHE AISLE	NO.	SPACE REMAIN	NO.	MHE AISLE	NO.	SPACE REMAIN
54"	15	12'-3"	2	34"	6	12'-9"	2	40"
53"	15	13'-6"	2	51"	6	13'-3"	2	48"
52"	15	14'-9"	3	16"	6	13'-9"	3	4"
51"	15	16'-0"	3	34"	6	14'-3"	3	13"
50"	16	13'-1"	2	52"	6	14'-9"	3	22"
49"	16	14'-5"	3	21"	6	15'-3"	3	31"
48"	17	11'-9"	2	40"	7	11'-9"	2	40"
47"	17	13'-2"	3	12"	7	12'-4"	2	49"
46"	17	14'-7"	3	32"	7	12'-11"	3	12"
45"	18	12'-3"	3	7"	7	13'-6"	3	22"
44"	18	13'-9"	3	28"	7	14'-1"	3	32"
43"	19	11'-8"	3	6"	7	14'-8"	3	42"
42"	19	13'-3"	3	28"	8	11'-9"	3	10"
41"	20	11'-5"	3	9"	8	12'-5"	3	21"
40"	20	13'-1"	3	32"	8	13'-1"	3	32"
39"	21	11'-6"	3	16"	8	13'-9"	3	43"
38"	21	13'-3"	3	40"	9	11'-3"	3	16"
37"	22	11'-11"	3	27"	9	12'-0"	3	28"
36"	22	13'-9"	4	16"	9	12'-9"	3	40"
35"	23	12'-8"	4	7"	9	13'-6"	4	17"

CHART NO. 26					
UNIT HEIGHT	UNIT SIZE RANGE, LENGTH OR WIDTH				
29" MAX					35'-54"
28"				35'-46"	46'-54"
27"			35'-37"	37'-54"	
26"			35'-43"	43'-54"	
25"		35'-36"	36'-48"	48'-54"	
24"		35'-39"	39'-53"	53'-54"	
23"		35'-42"	42'-54"		
22"		35'-36"	36'-45"	45'-54"	
21"		35'-38"	38'-47"	47'-54"	
20"		35'-40"	40'-50"	50'-54"	
19"		35'-41"	41'-52"	52'-54"	
18"	35'-36"	36'-43"	43'-54"		
17"	35'-37"	37'-44"	44'-54"		
16"	35'-38"	38'-46"	46'-54"		
15"	35'-39"	39'-47"	47'-54"		
UNIT HEIGHT	6	5	4	3	2
	NUMBER OF ROWS WIDE IN FOURTH TIER OF TYPE "A" STACKS				

CHART NO. 27					
UNIT HEIGHT	UNIT SIZE RANGE, LENGTH OR WIDTH				
23" MAX				35'-36"	36'-54"
22"				35'-51"	51'-54"
21"			35'-42"	42'-54"	
20"		35'-36"	36'-48"	48'-54"	
19"		35'-40"	40'-54"		
18"		35'	35'-43"	43'-54"	
17"		35'-37"	37'-47"	47'-54"	
16"		35'-40"	40'-50"	50'-54"	
15"	35'	35'-42"	42'-52"	52'-54"	
UNIT HEIGHT	6	5	4	3	2
	NUMBER OF ROWS WIDE IN FIFTH TIER OF TYPE "A" STACKS				

CHART NO. 28				
UNIT HEIGHT	UNIT SIZE RANGE, LENGTH OR WIDTH			
19" MAX			35'-39"	39'-54"
18"			35'-37"	37'-54"
17"			35'-46"	46'-54"
16"		35'-39"	39'-53"	53'-54"
15"	35'	35'-43"	43'-54"	
UNIT HEIGHT	5	4	3	2
	NUMBER OF ROWS WIDE IN SIXTH TIER OF TYPE "A" STACKS			

CHART NO. 31			
UNIT HEIGHT	UNIT SIZE RANGE, LENGTH OR WIDTH		
52'-54'	35'-37'	37'-43'	43'-54'
47'-52'	35'-38'	38'-45'	45'-54'
42'-47'	35'-39'	39'-46'	46'-54'
36'-42'	35'-40'	40'-48'	48'-54'
31'-36'	35'-41'	41'-49'	49'-54'
25'-31'	35'-42'	42'-51'	51'-54'
17'-25'	35'-43'	43'-52'	52'-54'
15'-17'	35'-44'	44'-53'	53'-54'
UNIT HEIGHT	2 AND 3	2 AND 2	2 AND 1
	NUMBER OF PALLETS DEEP IN FIRST TIER OF TYPE "C" STACKS		

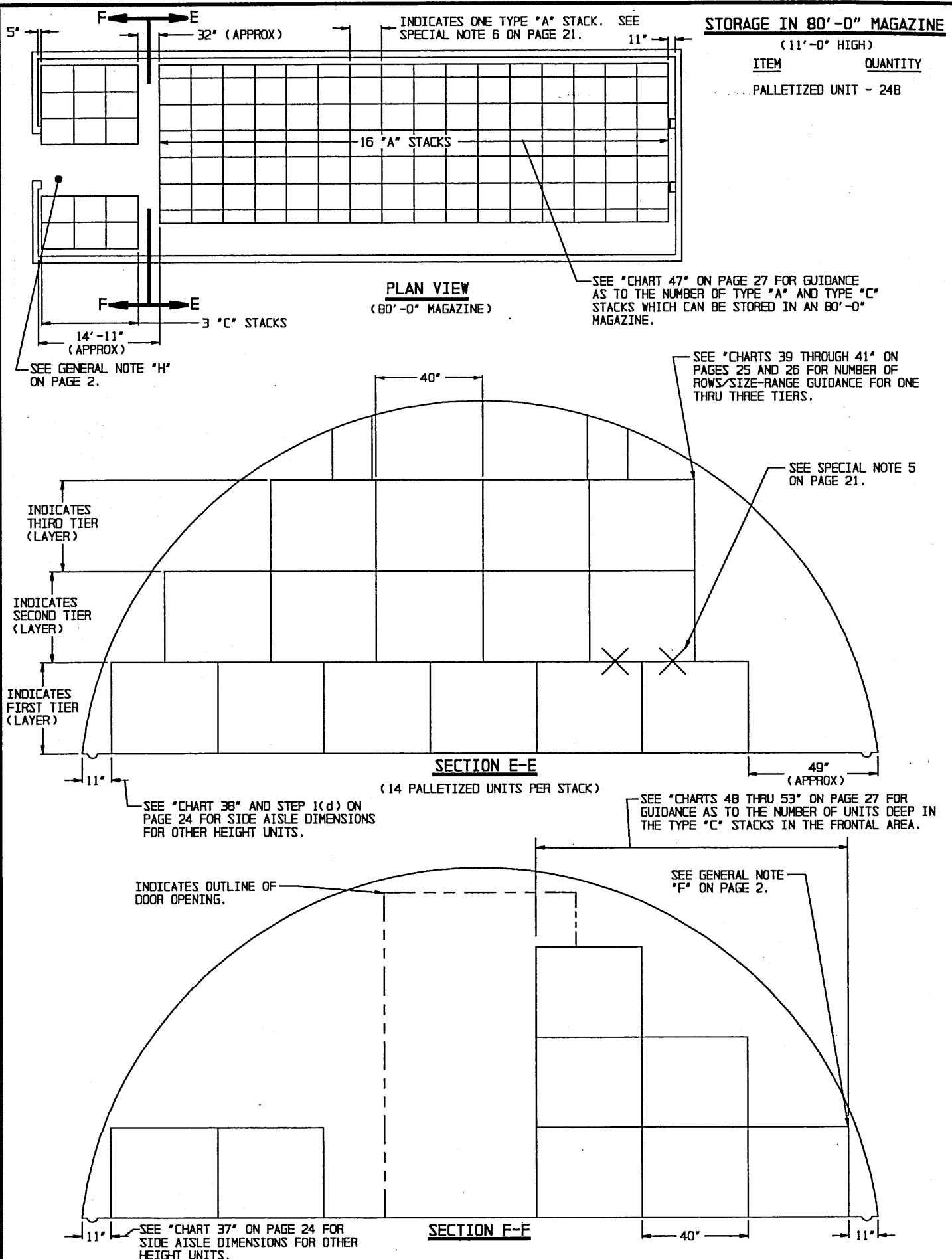
CHART NO. 32			
UNIT HEIGHT	UNIT SIZE RANGE, LENGTH OR WIDTH		
53' MAX			35'
52'-53'			35'-37'
51'-52'			35'-41'
50'-51'			35'-45'
49'-50'			35'-48'
48'-49'			35'-51'
42'-48'			35'-54'
41'-42'		35'	35'-54'
40'-41'		35'	37'-54'
39'-40'		35'-38'	38'-54'
38'-39'		35'-39'	38'-54'
37'-38'		35'-40'	40'-54'
36'-37'		35'-41'	41'-54'
35'-36'		35'-42'	42'-54'
33'-35'		35'-43'	43'-54'
32'-33'		35'-44'	44'-54'
31'-32'		35'-45'	45'-54'
30'-31'		35'-46'	46'-54'
29'-30'		35'-47'	47'-54'
27'-29'		35'-48'	48'-54'
26'-27'		35'-49'	48'-54'
24'-26'		35'-50'	50'-54'
23'-24'		35'-51'	51'-54'
21'-23'		35'-52'	52'-54'
19'-21'		35'-53'	53'-54'
17'-19'	35'-36'	36'-54'	
15'-17'	35'-37'	37'-54'	
UNIT HEIGHT	3	2	1
	NUMBER OF PALLETS DEEP IN SECOND TIER OF TYPE "C" STACKS		

CHART NO. 33		
UNIT HEIGHT	UNIT SIZE RANGE, LENGTH OR WIDTH	
35' MAX		35'-39'
34'-35'		35'-45'
33'-34'		35'-49'
32'-33'		35'-54'
28'-32'	35'	35'-54'
27'-28'	35'-37'	37'-54'
26'-27'	35'-39'	39'-54'
25'-26'	35'-40'	40'-54'
24'-25'	35'-42'	42'-54'
23'-24'	35'-43'	43'-54'
22'-23'	35'-44'	44'-54'
21'-22'	35'-46'	46'-54'
20'-21'	35'-47'	47'-54'
19'-20'	35'-48'	48'-54'
18'-19'	35'-49'	49'-54'
17'-18'	35'-50'	50'-54'
16'-17'	35'-51'	51'-54'
15'-16'	35'-52'	52'-54'
UNIT HEIGHT	2	1
	NUMBER OF PALLETS DEEP IN THIRD TIER OF TYPE "C" STACKS	

CHART NO. 34		
UNIT HEIGHT	UNIT SIZE RANGE, LENGTH OR WIDTH	
26' MAX		35'-41'
25'-26'		35'-48'
24'-25'		35'-54'
21'-24'	35'	35'-54'
20'-21'	35'-38'	38'-54'
19'-20'	35'-40'	40'-54'
18'-19'	35'-42'	42'-54'
17'-18'	35'-43'	43'-54'
16'-17'	35'-45'	45'-54'
15'-16'	35'-47'	47'-54'
UNIT HEIGHT	2	1
	NUMBER OF PALLETS DEEP IN FOURTH TIER OF TYPE "C" STACKS	

CHART NO. 35		
UNIT HEIGHT	UNIT SIZE RANGE, LENGTH OR WIDTH	
20'-21'		35'-39'
19'-20'		35'-48'
17'-19'		35'-54'
16'-17'	35	35'-54'
15'-16'	35'-38'	38'-54'
15'	35'-40'	40'-54'
UNIT HEIGHT	2	1
	NUMBER OF PALLETS DEEP IN FIFTH TIER OF TYPE "C" STACKS	

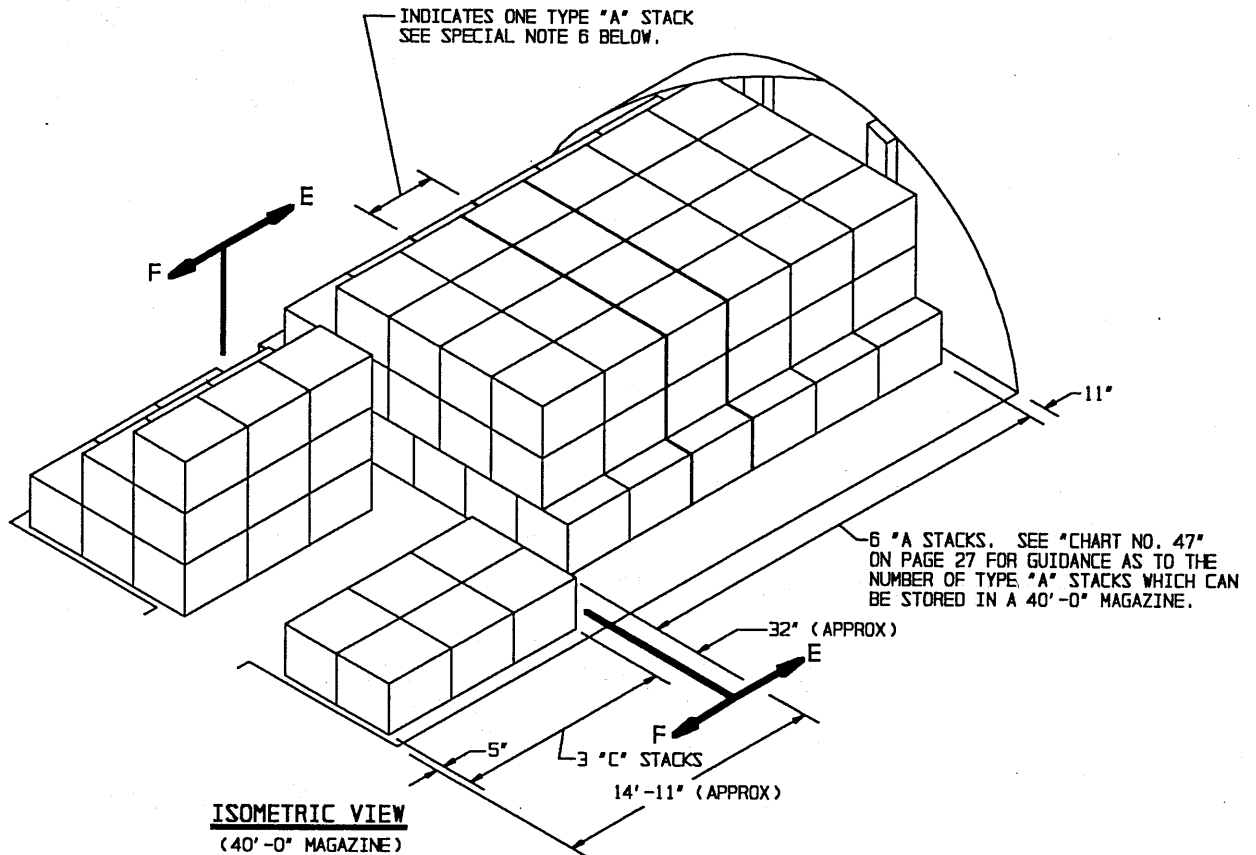
CHART NO. 36	
UNIT HEIGHT	UNIT SIZE RANGE, LENGTH OR WIDTH
16'-17'	35'-45'
15'-16'	35'-54'
15'	35'-54'
UNIT HEIGHT	1
	NUMBER OF PALLETS DEEP IN SIXTH TIER OF TYPE "C" STACKS



STORAGE IN 40'-0" MAGAZINE

(11'-0" HIGH)

ITEM	QUANTITY
PALLETIZED UNIT - - -	114



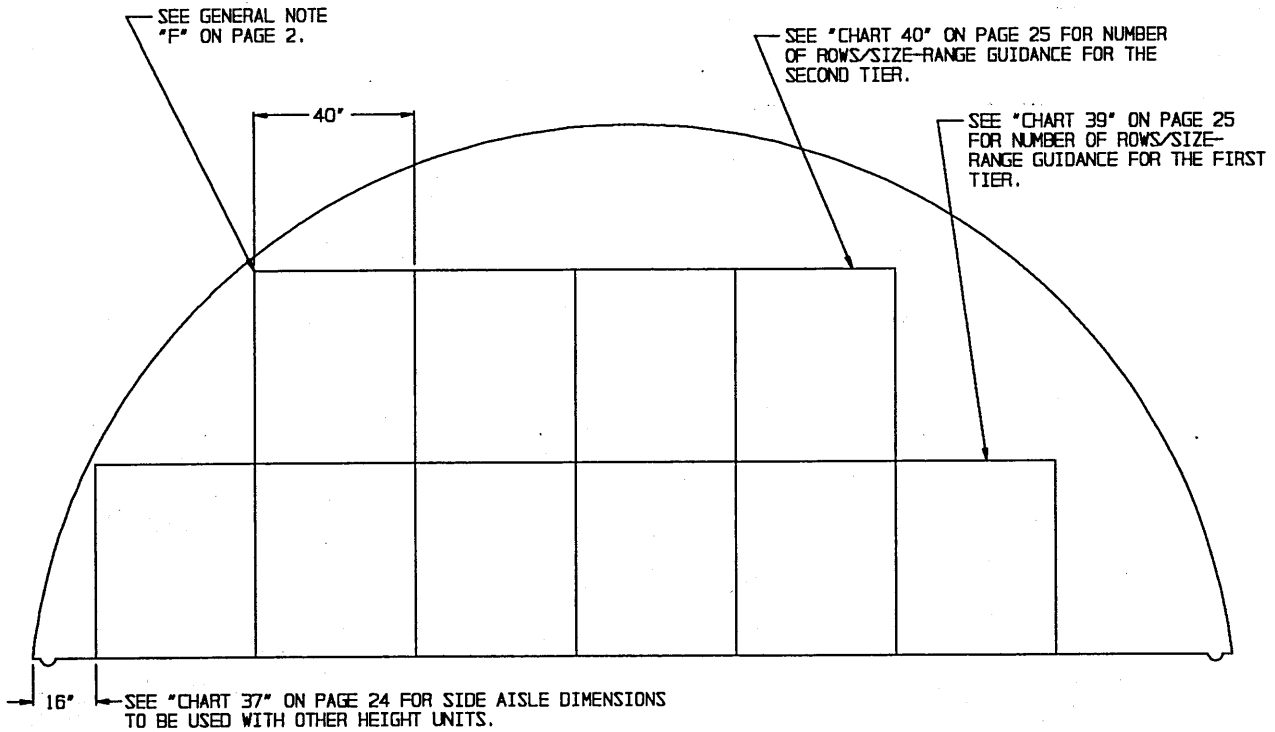
ISOMETRIC VIEW
(40'-0" MAGAZINE)

(SPECIAL NOTES CONTINUED)

SPECIAL NOTES:

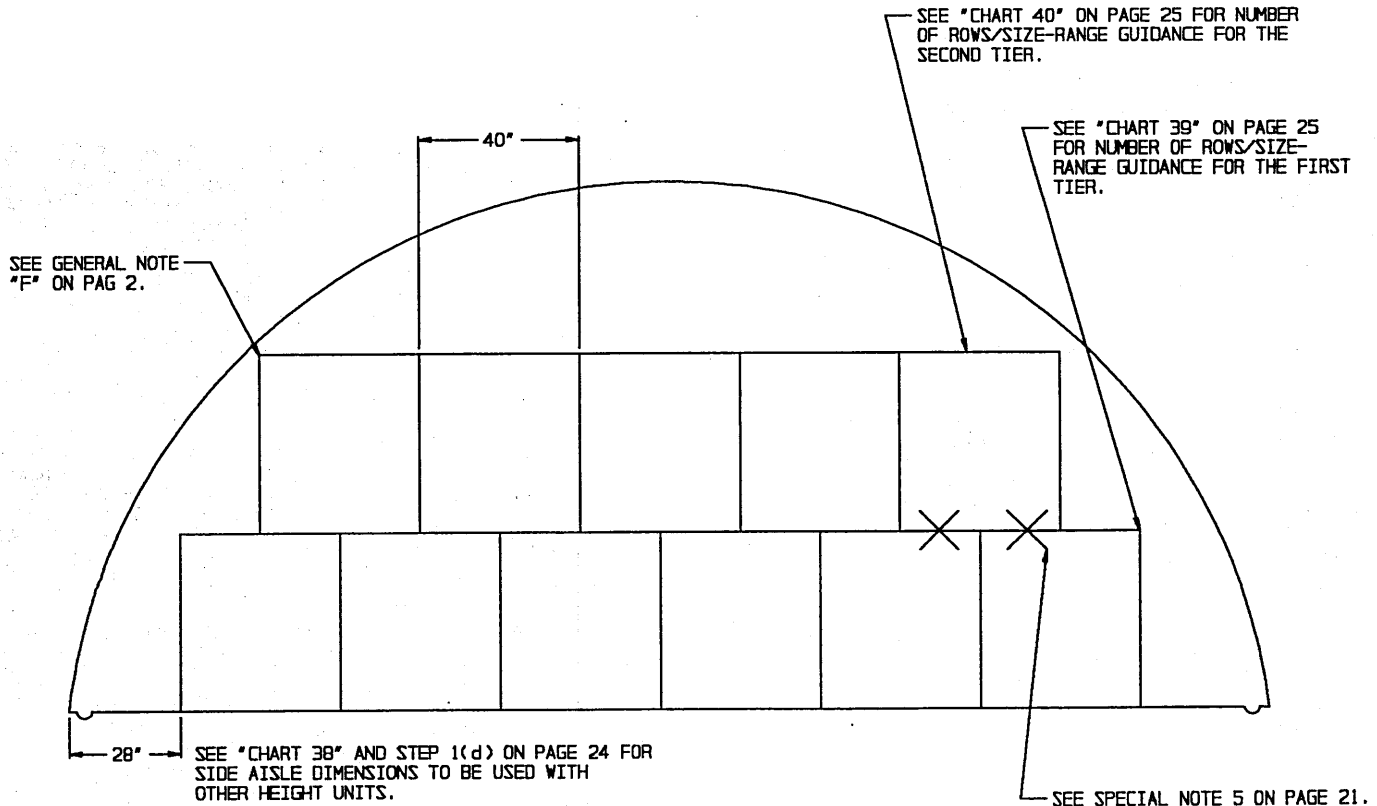
- THE STACKING PATTERNS SHOWN ON PAGES 20 THROUGH 23 DEPICT THE PALLETIZED UNIT LENGTH POSITIONED ACROSS THE MAGAZINE. HOWEVER, IT MAY BE MORE ADVANTAGEOUS TO STACK THE PALLETIZED UNITS WITH THE WIDTH ACROSS THE MAGAZINE.
- WHEN PLACING UNITS IN A STACK WHERE A STAGGERED PATTERN IS BEING USED, SUCH AS TYPICALLY SHOWN IN SECTION E-E ON PAGE 20 AND "STACKING PATTERN K" ON PAGE 22, CARE WILL BE USED TO INSURE THAT EACH UNIT IS LEVEL AND STABLE. IF ALL OF THE BOTTOM DECKBOARDS OF A PALLET ARE NOT FULLY SUPPORTED, ONE INCH THICK LUMBER MUST BE POSITIONED UNDER EACH UNSUPPORTED BOTTOM DECKBOARD TO PROVIDE A STABLE UNIT. SEE THE FILLER DETAIL ON PAGE 93 FOR ADDITIONAL GUIDANCE.
- THE NUMBER OF TYPE "A" STACKS SPECIFIED FOR A MAGAZINE IS BASED ON HAVING A MATERIAL HANDLING EQUIPMENT OPERATING AREA (DISTANCE FROM THE FACE OF THE LAST TYPE "A" STACK TO THE MAGAZINE FRONT WALL) OF 7'-7" PLUS THE LENGTH OR WIDTH OF THE PALLET UNIT, AS APPLICABLE, OR THE LENGTH OF THE FORKLIFT TRUCK TINES (40") WHICHEVER IS THE GREATEST. ADDITIONAL TYPE "A" STACKS MAY BE STORED IF THE AVAILABLE MATERIALS HANDLING EQUIPMENT PERMITS.
- IF DESIRED, AND IF NOT IN VIOLATION OF SURVEILLANCE REQUIREMENTS/PROCEDURES, ONE (1) SURVEILLANCE "CONTROL UNIT" SAMPLE MAY BE WITHHELD FROM EACH STORED LOT. IF THE MAGAZINE CONTAINS ONLY ONE (1) LOT IT IS RECOMMENDED THAT THIS "CONTROL UNIT" BE PLACED JUST INSIDE THE DOOR WHERE IT IS EASILY ACCESSIBLE. IF THE MAGAZINE CONTAINS SEVERAL LOTS, THE "CONTROL UNIT" SAMPLES SHOULD BE PLACED ADJACENT TO THE MHE OPERATING AISLE FOR ACCESSIBILITY.
- THE TYPICAL PALLETIZED UNIT SHOWN HAS OVERALL DIMENSIONS OF 40" LONG BY 48" WIDE BY 34-1/2" HIGH. THE QUANTITY OF UNITS, THE NUMBER OF STACKS, ROWS, AND TIERS (LAYERS) WILL VARY, DEPENDENT UPON THE SIZE OF THE UNIT BEING STORED. SEE THE SPECIAL NOTES AND CHARTS ON PAGES 24 THROUGH 27 FOR GUIDANCE. AS MANY UNITS AS POSSIBLE WILL BE STORED WITHIN THE MAGAZINE.
- THE STORAGE VIEWS ON PAGE 20 AND ABOVE DEPICT PALLETIZED UNITS STACKED IN STAGGERED/VERTICAL ALIGNMENT, USING A MINIMUM WIDTH SIDE AISLE AT THE LEFT SIDE OF THE MAGAZINE. THE TYPICAL STACKING PATTERN VIEWS ON PAGES 22 AND 23 DEPICT PALLETIZED UNITS STACKED IN VERTICAL AND/OR STAGGERED PATTERN, USING A MINIMUM WIDTH AISLE AT THE LEFT SIDE OF THE MAGAZINE. CHARTS NO. 39 THROUGH 46 ON PAGES 25 AND 26 DEPICT THE MAXIMUM NUMBER OF ROWS PER TIER ACROSS THE WIDTH OF THE MAGAZINE. THE PALLET UNITS IN A STACK WILL BE STORED IN VERTICAL ALIGNMENT IF A CHART FOR THE TIER INDICATES EITHER THE SAME QUANTITY OR TWO LESS ROWS WIDE THAN IS SPECIFIED BY THE CHART FOR THE NEXT LOWER TIER. THE PALLET UNITS IN A TIER WILL BE CENTERED (STAGGERED) ON THE UNITS IN THE NEXT LOWER TIER IF A CHART FOR THE TIER INDICATES A QUANTITY OF ONE LESS ROW WIDE THAN IS SPECIFIED FOR THE NEXT LOWER TIER. HOWEVER, IT SHOULD BE NOTED THAT SOME PALLET UNIT CONFIGURATIONS WILL NOT PROVIDE A STABLE STACK WHEN USING THE STAGGERED PATTERN, AND, THEREFORE, THE VERTICAL ALIGNMENT PATTERN MUST BE USED. ALSO, THE STAGGERED STACKING PATTERN CANNOT BE USED WHEN STORING MULTIPLE LOTS WHICH REQUIRE ADJACENT ROWS TO BE SEPARATED. CHART 47 ON PAGE 27 SPECIFIES THE NUMBER OF TYPE "A" AND TYPE "C" STACKS WHICH CAN BE STORED IN 80'-0" AND 40'-0" LONG MAGAZINES. CHART 48 ON PAGE 27 SPECIFIES THE NUMBER OF PALLETS DEEP WHICH CAN BE STORED ON EACH SIDE OF THE MAGAZINE IN THE BOTTOM TIER OF THE TYPE "C" STACKS IN THE FRONTAL AREA. NOTE THAT THOSE ON THE RIGHT SIDE MUST BE STORED BY USING A PALLET JACK AFTER COMPLETING ALL THE TIERS ON THE LEFT SIDE. CHARTS 49 THROUGH 53 ON PAGE 27 SPECIFY THE NUMBER OF PALLETS DEEP WHICH CAN BE STORED IN THE UPPER TIERS ON THE LEFT SIDE.
- REFER TO PAGES 86 AND 87 FOR GUIDANCE IN THE STORAGE OF MULTIPLE LOTS.

(CONTINUED AT LEFT)



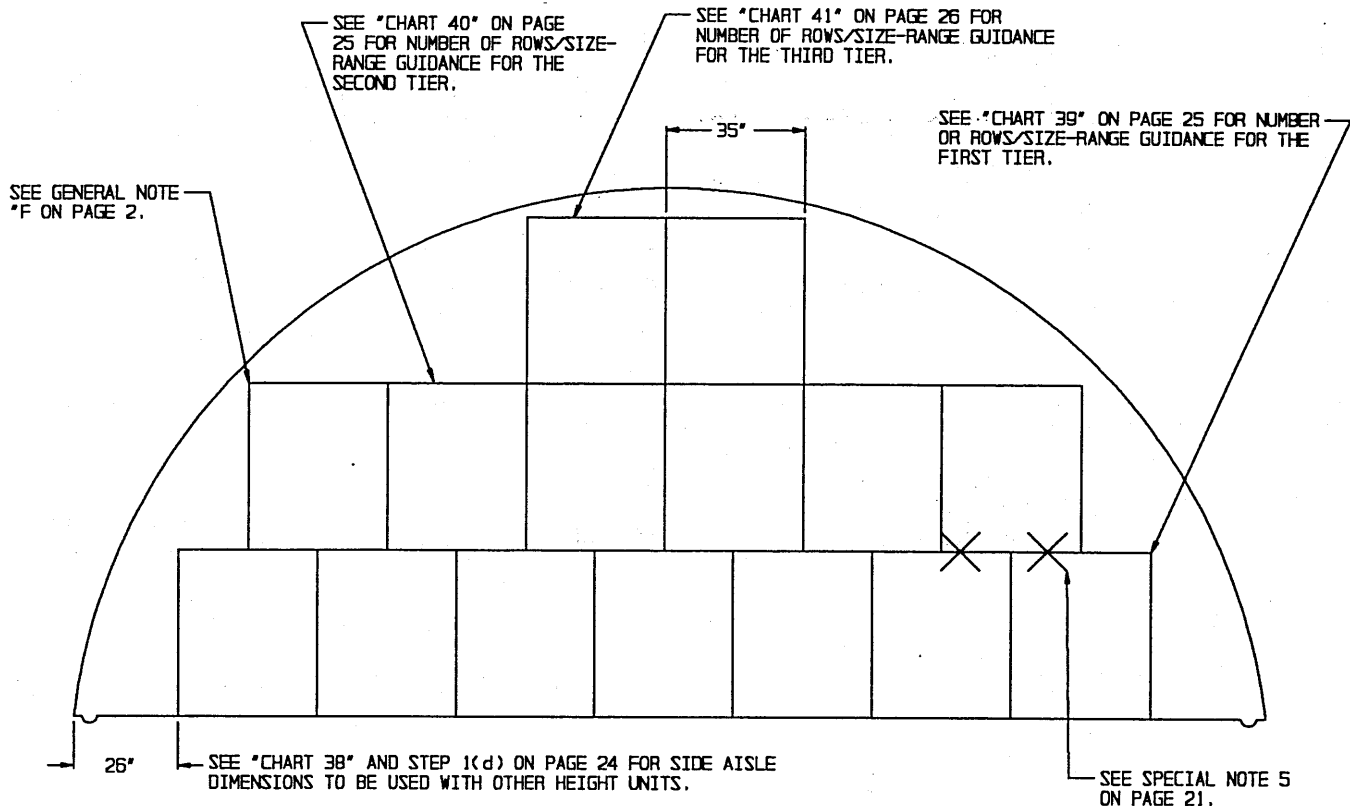
STACKING PATTERN J (40" X 48" PALLET)

THE PALLETIZED UNIT SHOWN IS 40" LONG BY 48" WIDE BY 48-1/2" HIGH. TWO-TIER STORAGE IS APPLICABLE FOR ALL PALLETIZED UNITS WHICH ARE OVER 42" IN HEIGHT.



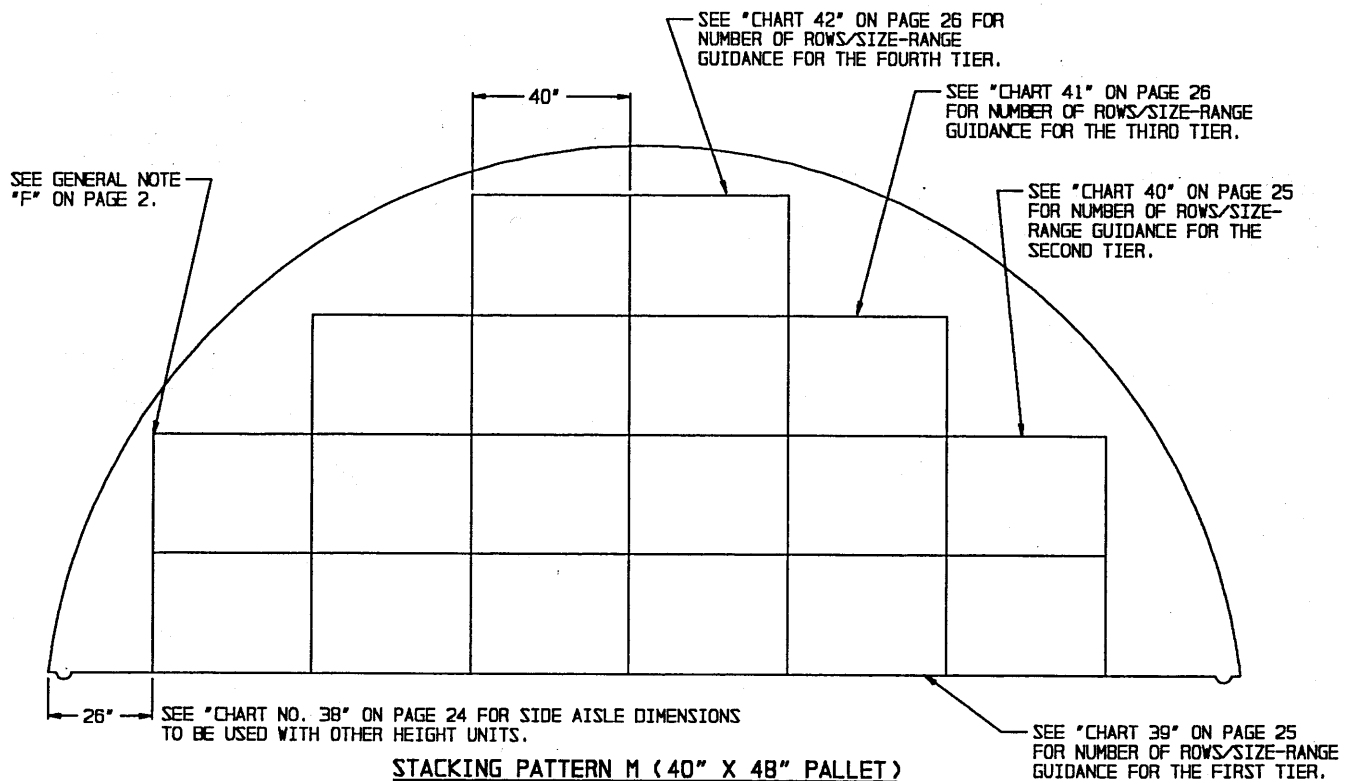
STACKING PATTERN K (40" X 48" PALLET)

THE PALLETIZED UNIT SHOWN IS 40" LONG BY 48" WIDE BY 45" HIGH. TWO-TIER STORAGE IS APPLICABLE FOR ALL PALLETIZED UNITS WHICH ARE OVER 42" IN HEIGHT.



STACKING PATTERN L (35" X 45-1/2" PALLET)

THE PALLETIZED UNIT SHOWN IS 35" LONG BY 45-1/2" WIDE BY 42" HIGH. THREE-TIER STORAGE IS APPLICABLE FOR ALL PALLETIZED UNITS WHICH ARE OVER 32" BUT NOT MORE THAN 42" IN HEIGHT.



STACKING PATTERN M (40" X 48" PALLET)

THE PALLETIZED UNIT SHOWN IS 40" LONG BY 48" WIDE BY 30-1/4" HIGH. FOUR-TIER STORAGE IS APPLICABLE FOR ALL PALLETIZED UNITS WHICH ARE OVER 25" BUT NOT MORE THAN 32" IN HEIGHT.

SPECIAL NOTES:

(SPECIAL NOTES CONTINUED)

- THE CHARTS ON THIS PAGES AND ON PAGE 25 THROUGH 27 ARE PRESENTED AS GUIDANCE IN THE DEVELOPMENT OF A PATTERN FOR THE STORAGE OF PALLETIZED UNITS OF AMMUNITION AND COMPONENTS IN 25'-0" WIDE BY 11'-0" HIGH ARCH TYPE MAGAZINES. TO A CERTAIN EXTENT, THE CHARTS MAY ALSO BE USED IN CALCULATING THE QUANTITY OF UNITS WHICH CAN BE STORED. NOTICE: THE CHARTS ARE FOR GUIDANCE PURPOSES ONLY. VARIATIONS IN PALLETIZED UNIT OVERALL SIZES, THE COMPACTNESS OF PLACEMENT WITHIN A MAGAZINE, AS WELL AS VARIANCES IN THE INSIDE DIMENSIONS OF THE ARCH TYPE MAGAZINE CAN CAUSE DISCREPANCIES WITHIN THE CHARTS.
- THE FOLLOWING STEP-BY-STEP PROCEDURES ARE PRESENTED AS GUIDANCE IN USING THE DEPICTED CHARTS. SEE THE "EXAMPLE" ON THIS PAGE AND ON PAGE 25.

STEP 1

- THE STORAGE VIEWS ON PAGES 20 THRU 23 DEPICT VARIOUS STACKING PATTERNS. A PATTERN WILL BE ESTABLISHED BY USING THE DIMENSIONAL DATA SET FORTH IN THE CHARTS.
- WHEN USING THE STACKING PATTERN SHOWN IN TYPICAL "STACKING PATTERN J" ON PAGE 22, LOCATE IN CHART 37 THE HEIGHT OF THE PALLETIZED UNIT TO BE STORED. OPPOSITE THAT HEIGHT IS SPECIFIED A MINIMUM LEFT SIDE AISLE DIMENSION WHICH WILL LOCATE THE FIRST TIER OF UNITS ACROSS THE WIDTH OF THE MAGAZINE.
- WHEN USING THE STACKING PATTERN SHOWN IN THE TYPICAL "STACKING PATTERN M" ON PAGE 23, LOCATE IN CHART NO. 38 THE HEIGHT OF THE PALLETIZED UNIT TO BE STORED. OPPOSITE THAT HEIGHT IS SPECIFIED A MINIMUM LEFT SIDE AISLE DIMENSION WHICH WILL LOCATE THE FIRST AND SECOND TIER OF UNITS ACROSS THE WIDTH OF THE MAGAZINE.
- WHEN USING THE STACKING PATTERN SHOWN IN "SECTION E-E ON PAGE 20, TYPICAL "STACKING PATTERN K" ON PAGE 22 AND THE TYPICAL "STACKING PATTERN L" ON PAGE 23 (WHICH SHOWS THE SECOND TIER STAGGERED WITH THE PALLETIZED UNITS CENTERED ON THE JOINTS OF THE FIRST TIER).

- FIND THE UNIT HEIGHT IN ONE OF THE COLUMNS OF CHART NO. 38.
- LOOK IN THE COLUMN ADJACENT TO THE RIGHT FOR THE MINIMUM LEFT SIDE AISLE FOR UNITS STACKED IN VERTICAL ALIGNMENT.
- SUBTRACT 1/2 OF THE UNIT WIDTH OR LENGTH (DIM ACROSS MAGAZINE) AND THIS IS THE MINIMUM LEFT SIDE AISLE WHEN STAGGERING.

NOTE:

THE MINIMUM LEFT SIDE AISLE MUST NEVER BE LESS THAN THE DIMENSION GIVEN FOR THE UNIT HEIGHT IN CHART NO. 37. IF ONE-HALF OF THE UNIT LENGTH OR WIDTH (DIMENSION ACROSS THE MAGAZINE) SUBTRACTED FROM THE MINIMUM LEFT SIDE AISLE GIVEN IN CHART NO. 38 IS LESS THAN THE DIMENSION GIVEN IN CHART NO. 37, USE THE MINIMUM DIMENSION GIVEN IN CHART NO. 38 AS THE LEFT SIDE AISLE.

(CONTINUED AT RIGHT)

EXAMPLE A

SEE BOTTOM STACKING PATTERN ON PAGE 22. THE UNIT LENGTH IS 40" AND THE HEIGHT IS 45" THE MINIMUM LEFT SIDE AISLE DIMENSION IN CHART NO. 38 IS 48". SUBTRACTING 20" (ONE-HALF OF THE UNIT LENGTH) FROM 48" LEAVES 28". USE 28" FOR THE LEFT SIDE AISLE BECAUSE 28" IS GREATER THAN THE 15" SPECIFIED IN CHART NO. 37.

EXAMPLE B

IF THE UNIT HEIGHT IS 30", A STAGGERED STACKING PATTERN IS TO BE USED, AND THE DIMENSION ACROSS THE MAGAZINE IS 48", THE MINIMUM LEFT SIDE AISLE IN CHART NO. 38 IS 23". WE CANNOT SUBTRACT 24" FROM 23", SO WE USE THE MINIMUM LEFT SIDE AISLE FROM CHART 37 FOR A UNIT HEIGHT OF 30", WHICH IS 9".

EXAMPLE C

SEE THE "STACKING PATTERN M", ON PAGE 23. IN THIS PATTERN THE FIRST AND SECOND TIERS ARE IN VERTICAL ALIGNMENT. THE UNIT LENGTH IS 40" AND THE HEIGHT IS 32". FIND THE UNIT HEIGHT OF 32" IN CHART NO. 38. THE MINIMUM LEFT SIDE AISLE GIVEN IS 26" **STEP 2**

LOCATE IN THE LEFT HAND COLUMN OF CHART NO. 39 THE FIGURE WHICH IS EITHER THE EXACT UNIT HEIGHT OR IS THE NEXT EVEN DIMENSION OVER THE UNIT HEIGHT. ALONG THAT LINE, LOCATE THE COLUMN WHICH CONTAINS THE LENGTH OR WIDTH OF THE UNIT TO BE STORED. THE HEADING AT THE BOTTOM OF THAT COLUMN WILL INDICATE THE NUMBER OF ROWS WIDE THAT CAN BE STORED IN THE FIRST TIER (LAYER).

STEP 3

LOCATE IN THE LEFT HAND COLUMN OF CHART NO. 40 THE FIGURE WHICH IS EITHER THE EXACT UNIT HEIGHT OR IS THE NEXT EVEN DIMENSION OVER THE UNIT HEIGHT. ALONG THAT LINE LOCATE THE COLUMN WHICH CONTAINS THE LENGTH OR WIDTH OF THE UNIT TO BE STORED. THE HEADING AT THE BOTTOM OF THAT COLUMN WILL INDICATE THE NUMBER OF ROWS WIDE THAT CAN BE STORED IN THE SECOND TIER.

STEP 4

REPEAT STEP 3 FOR CHARTS 41 THROUGH 46 AS APPLICABLE, FOR THE THIRD THROUGH THE EIGHTH TIER.

STEP 5 (NUMBER OF TYPE "A" AND TYPE "C" STACKS IN THE MAGAZINE)

LOCATE IN THE LEFT HAND COLUMN OF CHART NO. 47 ON PAGE 27 THE LENGTH OR WIDTH, AS APPLICABLE FOR THE ORIENTATION OF THE UNITS BEING STORED. OPPOSITE THAT LENGTH OR WIDTH FIGURE IS SPECIFIED THE APPROXIMATE NUMBER OF TYPE "A" STACKS (FULL STACKS ACROSS THE MAGAZINE) AS WELL AS THE NUMBER OF TYPE "C" STACKS (PARTIAL STACKS AT THE FRONT OF THE MAGAZINE) THAT CAN BE POSITIONED IN EITHER AN 80'-0" OR A 40'-0" LONG MAGAZINE. SEE SPECIAL NOTE 6 ON PAGE 21 FOR THE CRITERIA USED IN DETERMINING THE NUMBER OF TYPE "A" STACKS SPECIFIED WITHIN THE CHART.

(CONTINUED ON PAGE 25)

UNIT HEIGHT	MINIMUM LEFT SIDE AISLE
52'-54'	19"
51'-52'	18"
49'-51'	17"
47'-48'	16"
45'-47'	15"
42'-45'	14"
39'-42'	13"
36'-39'	12"
33'-36'	11"
31'-33'	10"
28'-31'	9"
24'-28'	8"
21'-24'	7"
15'-21'	6"

THIS CHART IS FOR USE WHEN STACKING PALLETIZED UNITS AS SHOWN IN TYPICAL "STACKING PATTERN J" ON PAGE 22.

NOTE:

A LEFT SIDE AISLE GREATER THAN THE MINIMUM DIMENSION GIVEN IN CHART 37 AND CHART 38 MAY BE USED TO ACHIEVE A MAXIMUM STACKING PATTERN.

UNIT HEIGHT	MINIMUM LEFT SIDE AISLE	UNIT HEIGHT	MINIMUM LEFT SIDE AISLE
53'-54'	69"	34'-35'	29"
52'-53'	66"	33'-34'	27"
51'-52'	64"	32'-33'	26"
50'-51'	61"	31'-32'	24"
49'-50'	58"	30'-31'	23"
48'-49'	56"	29'-30'	22"
47'-48'	54"	28'-29'	21"
46'-47'	51"	27'-28'	20"
45'-46'	48"	26'-27'	19"
44'-45'	47"	25'-26'	18"
43'-44'	45"	24'-25'	17"
42'-43'	42"	23'-24'	16"
41'-42'	41"	22'-23'	15"
40'-41'	39"	21'-22'	14"
39'-40'	37"	19'-21'	13"
38'-39'	35"	18'-19'	12"
37'-38'	33"	16'-18'	11"
36'-37'	32"	15'-16'	10"
35'-36'	30"	15'	9"

THIS CHART IS FOR USE WHEN STACKING THE FIRST TWO TIERS IN VERTICAL ALIGNMENT AS SHOWN IN THE TYPICAL "STACKING PATTERN M" ON PAGE 23.

UNIT HEIGHT	CHART NO. 39				
	UNIT SIZE RANGE, LENGTH OR WIDTH				
54"		35'-36"	36'-43"	43'-51"	51'-54"
53"		35'-37"	37'-43"	43'-51"	51'-54"
52"		35'-37"	37'-43"	43'-52"	52'-54"
48"		35'-37"	37'-44"	44'-52"	52'-54"
47"		35'-37"	37'-44"	44'-53"	53'-54"
46"		35'-38"	38'-44"	44'-53"	53'-54"
42"		35'-38"	38'-45"	45'-54"	
39"		35'-39"	39'-45"	45'-54"	
35"		35'-39"	39'-46"	46'-54"	
28"	35'	35'-40"	40'-46"	46'-54"	
25"	35'	35'-40"	40'-47"	47'-54"	
18"	35'	35'-41"	41'-47"	47'-54"	
15'-16"	35'-36"	36'-41"	41'-48"	48'-54"	
UNIT HEIGHT	8	7	6	5	4
	NUMBER OF ROWS WIDE IN FIRST TIER OF TYPE "A" STACKS				

STEP 6 (NUMBER OF PALLETS DEEP IN TYPE "C" STACKS)

LOCATE IN THE LEFT HAND COLUMN OF CHART NO. 48 ON PAGE 27 THE LINE WHICH SPECIFIES A PALLET UNIT HEIGHT RANGE THAT CONTAINS THE HEIGHT OF THE UNIT TO BE STORED. ALONG THAT LINE LOCATE THE COLUMN WHICH CONTAINS THE LENGTH OR WIDTH OF THE UNIT, AS APPLICABLE, WHICH IS TO BE POSITIONED ACROSS THE WIDTH OF THE MAGAZINE. THE HEADING AT THE BASE OF THAT COLUMN WILL INDICATE THE NUMBER OF PALLETS DEEP WHICH CAN BE STORED AT EACH SIDE OF THE DOOR OPENING IN THE FIRST TIER OF A TYPE "C" STACK.

STEP 7

REPEAT STEP 6 FOR CHARTS 49 THROUGH 53, AS APPLICABLE, TO DETERMINE THE NUMBER OF PALLETS DEEP WHICH CAN BE STACKED ON THE LEFT SIDE OF THE DOOR IN THE SECOND THROUGH SIXTH LAYERS.

EXAMPLE

THE PALLETIZED UNIT SHOWN IN TYPICAL "STACKING PATTERN J" ON PAGE 22 HAS BEEN SELECTED FOR THE EXAMPLE. THE UNIT IS 40" LONG BY 48" WIDE BY 48-1/2" HIGH. A STORAGE PATTERN CAN BE DETERMINED BY FOLLOWING THE DOTTED-LINE EXAMPLE WITHIN CHARTS NO. 37 THROUGH 40 AND CHARTS NO. 47 THROUGH 49 IN CONJUNCTION WITH USING THE STEP-BY-STEP PROCEDURES SPECIFIED ON THIS PAGE. TO FIND THE MINIMUM LEFT SIDE AISLE LOOK IN THE LEFT HAND COLUMN OF CHART NO. 37, UNDER THE UNIT HEIGHT. THE 48-1/2" UNIT HEIGHT IS WITHIN THE 48"-51" RANGE, AND THE MINIMUM LEFT SIDE AISLE IS INDICATED IN THE RIGHT HAND COLUMN AS 17". TO FIND THE NUMBER OF ROWS WIDE IN THE FIRST TIER LOOK IN THE LEFT HAND COLUMN OF CHART NO. 39. USE THE 52" HEIGHT, AS THE UNIT HEIGHT OF 48-1/2" IS GREATER THAN 48" AND THE NEXT HEIGHT LISTED IS 52". USING THE 40" UNIT LENGTH FOLLOW THE ARROWS ALONG THE DOTTED LINE TO THE RIGHT. THE 40" UNIT LENGTH IS WITHIN THE 37"-43" RANGE. FOLLOW THE ARROWS DOWN TO THE NUMERAL IN THE HEADING OF THAT COLUMN WHICH SPECIFIES THAT 6 UNITS, 40" LONG, CAN BE POSITIONED ACROSS THE WIDTH OF THE MAGAZINE IN THE FIRST TIER. FOLLOWING THE SAME PROCEDURE IN CHART NO. 40 WE GO TO THE 49" HEIGHT, AS THE UNIT HEIGHT OF 48-1/2" IS GREATER THAN 48" AND THE NEXT HEIGHT LISTED IS 49". USING THE 40" UNIT LENGTH FOLLOW THE ARROWS ALONG THE DOTTED LINE TO THE RIGHT. THE 40" UNIT LENGTH IS WITHIN THE 37"-46" RANGE. FOLLOW THE ARROWS DOWN TO THE NUMERAL IN THE HEADING OF THAT COLUMN WHICH SPECIFIES THAT 4 UNITS, 40" LONG, CAN BE POSITIONED ACROSS THE WIDTH OF THE MAGAZINE IN THE SECOND TIER. IN CHART NO. 41 ON PAGE 26 THE LEFT HAND COLUMN ONLY SHOWS UNIT HEIGHTS UP TO 42" WHICH INDICATES THAT THE 48-1/2" HIGH UNIT CANNOT BE STACKED OVER TWO TIERS HIGH.

TO FIND THE NUMBER OF TYPE "A" AND TYPE "C" STACKS WHICH CAN BE STORED IN THE MAGAZINE, LOOK AT CHART NO. 47 ON PAGE 27. SINCE WE ARE POSITIONING THE 40" UNIT LENGTH ACROSS THE WIDTH OF THE MAGAZINE, WE NOW LOOK FOR THE UNIT WIDTH OF 48" IN THE LEFT HAND COLUMN. FOLLOWING THE ARROWS TO THE RIGHT INDICATES THAT 16 TYPE "A" STACKS AND 3 TYPE "C" STACKS CAN BE STORED IN AN 80'-0" MAGAZINE AND 6 TYPE "A" STACKS AND 3 TYPE "C" STACKS CAN BE STORED IN A 40'-0" MAGAZINE. TO FIND THE NUMBER OF PALLETS DEEP AT EACH SIDE OF THE DOOR OPENING IN TYPE "C" STACKS, LOOK IN THE LEFT HAND COLUMN OF CHART NO. 48 ON PAGE 27. THE UNIT HEIGHT OF 48-1/2" FALLS WITHIN THE RANGE OF 48"-52". FOLLOW THE ARROW ALONG THE DOTTED LINE TO THE COLUMN WHICH CONTAINS THE 48" WIDTH OF THE UNIT. FOLLOW THE ARROW DOWN TO THE NUMERALS IN THE HEADING AT THE BASE OF THAT COLUMN WHICH SPECIFIES THAT 2 UNITS CAN BE POSITIONED AT THE LEFT SIDE OF THE DOOR, AND 2 UNITS CAN BE POSITIONED AT THE RIGHT SIDE OF THE DOOR, THOSE ON THE RIGHT SIDE BY USING A PALLET JACK. AFTER COMPLETING ALL THE TIERS ON THE LEFT SIDE. THE NUMBER OF PALLETS DEEP IN THE SECOND, THIRD, AND HIGHER TIERS CAN BE DETERMINED IN A SIMILAR MANNER BY USING THE APPLICABLE CHARTS NO. 49 THROUGH 53. SEE SPECIAL NOTE 5 BELOW.

UNIT HEIGHT	CHART NO. 40					
	UNIT SIZE RANGE, LENGTH OR WIDTH					
54"				35'-39"	39'-52"	52'-54"
53"				35'-40"	40'-54"	
52"				35'-42"	42'-54"	
51"			35'	35'-43"	43'-54"	
50"			35'-36"	36'-45"	45'-54"	
49"			35'-37"	37'-46"	46'-54"	
48"			35'-38"	38'-47"	47'-54"	
47"			35'-38"	38'-48"	48'-54"	
46"			35'-39"	39'-49"	49'-54"	
45"			35'-40"	40'-50"	50'-54"	
44"			35'-41"	41'-51"	51'-54"	
43"		35'	35'-42"	42'-52"	52'-54"	
42"		35'	35'-42"	42'-53"	53'-54"	
41"		35'-36"	36'-43"	43'-54"		
40"		35'-37"	37'-44"	44'-54"		
39"		35'-37"	37'-45"	45'-54"		
38"		35'-38"	38'-45"	45'-54"		
37"		35'-38"	38'-46"	46'-54"		
36"		35'-39"	39'-47"	47'-54"		
34"		35'-40"	40'-48"	48'-54"		
32"	35'	35'-41"	41'-49"	49'-54"		
30"	35'	35'-41"	41'-50"	50'-54"		
29"	35'-36"	36'-42"	42'-50"	50'-54"		
28"	35'-36"	36'-42"	42'-51"	51'-54"		
26"	35'-37"	37'-43"	43'-52"	52'-54"		
24"	35'-37"	37'-44"	44'-52"	52'-54"		
23"	35'-38"	38'-44"	44'-53"	53'-54"		
21"	35'-38"	38'-45"	45'-54"			
19"	35'-39"	39'-45"	45'-54"			
15'-17"	35'-39"	39'-46"	46'-54"			
UNIT HEIGHT	7	6	5	4	3	2
	NUMBER OF ROWS WIDE IN SECOND TIER OF TYPE "A" STACKS					

- FOR ANY FRACTIONAL AND/OR DIMENSIONAL HEIGHT NOT SPECIFIED IN THE UNIT HEIGHT COLUMN, THE NEXT LARGER DIMENSIONAL HEIGHT WILL BE USED. FOR EXAMPLE, IN CHART NUMBER 39, FOR A UNIT WHICH IS 40-5/8" HIGH, USE THE SPECIFIED 42" HEIGHT.
- THE UNIT SIZE RANGE (LENGTH OR WIDTH) COVERS ALL SIZES WITHIN THE RANGE SPECIFIED. FOR EXAMPLE, IN CHART NO. 39, FOR A 40-5/8" HIGH UNIT WHICH IS 38" OR GREATER IN LENGTH OR WIDTH, BUT LESS THAN 45", SIX ROWS MAY BE POSITIONED IN THE FIRST TIER. A 40-5/8" HIGH UNIT WHICH IS 45" OR GREATER IN LENGTH OR WIDTH, BUT LESS THAN 54", WILL ALLOW 5 ROWS TO BE POSITIONED IN THE FIRST TIER.
- PALLET UNITS WITHIN THE TYPE "C" STACKS MAY BE STORED EITHER IN THE SAME ORIENTATION AS THE TYPE "A" STACKS IN THE MAGAZINE OR TURNED 90° TO THOSE IN THE TYPE "A" STACK. BY STUDYING CHARTS 47 THROUGH 53 IT CAN BE DETERMINED WHICH POSITIONING WILL RESULT IN THE GREATER NUMBER OF PALLET UNITS. NOTE THAT THE NUMBER OF TYPE "C" STACKS SPECIFIED IN CHART NO. 47 ON PAGE 27 IS BASED ON THE UNITS BEING IN THE SAME ORIENTATION AS THOSE IN THE TYPE "A" STACKS.

CHART NO. 41							
UNIT HEIGHT	UNIT SIZE RANGE, LENGTH OR WIDTH						
42" MAX					35'-47"	47'-54"	
41'				35'-37"	35'-48"	48'-54"	
40"				35'-41"	37'-54"		
39"				35'-45"	41'-54"		
38"				35'-45"	45'-54"		
37"			35'-37"	37'-49"	49'-54"		
36"			35'-39"	39'-52"	52'-54"		
35"			35'-41"	41'-54"			
34"		35'	35'-43"	43'-54"			
33"			35'-36"	36'-45"	45'-54"		
32"			35'-38"	38'-47"	47'-54"		
31"			35'-39"	39'-49"	49'-54"		
30"			35'-40"	40'-50"	50'-54"		
29"			35'-41"	41'-52"	52'-54"		
28"		35'	35'-42"	42'-53"	53'-54"		
27"		35'-36"	36'-44"	44'-54"			
26"		35'-37"	37'-45"	45'-54"			
25"		35'-38"	38'-46"	46'-54"			
24"		35'-39"	39'-47"	47'-54"			
23"		35'-40"	40'-47"	47'-54"			
22"		35'-40"	40'-48"	48'-54"			
21"	35'	35'-41"	41'-49"	49'-54"			
20"	35'	35'-41"	41'-50"	50'-54"			
19"	35'-36"	36'-42"	42'-50"	50'-54"			
18"	35'-36"	36'-43"	43'-51"	51'-54"			
17"	35'-37"	37'-43"	43'-52"	52'-54"			
16"	35'-37"	37'-44"	44'-52"	52'-54"			
15"	35'-38"	38'-44"	44'-53"	53'-54"			
UNIT HEIGHT	7	6	5	4	3	2	1
UNIT HEIGHT	NUMBER OF ROWS WIDE IN THIRD TIER OF TYPE "A" STACKS						

CHART NO. 44					
UNIT HEIGHT	UNIT SIZE RANGE, LENGTH OR WIDTH				
21" MAX			35'-37"	35'-42'	42'-54"
20"			35'-48"	37'-54"	
19"			35'-45"	45'-54"	
18"		35'-39"	39'-52"	52'-54"	
17"	35'	35'-43"	43'-54"		
16"	35'-38"	38'-47"	47'-54"		
15"	35'-40"	40'-50"	50'-54"		
UNIT HEIGHT	5	4	3	2	1
UNIT HEIGHT	NUMBER OF ROWS WIDE IN SIXTH TIER OF TYPE "A" STACKS				

CHART NO. 45				
UNIT HEIGHT	UNIT SIZE RANGE, LENGTH OR WIDTH			
18" MAX			35'-42'	42'-54"
17"		35'-39"	39'-54"	
16"	35'-36"	36'-48"	48'-54"	
15"	35'-41"	41'-54"		
UNIT HEIGHT	4	3	2	1
UNIT HEIGHT	NUMBER OF ROWS WIDE IN SEVENTH TIER OF TYPE "A" STACKS			

CHART NO. 46			
UNIT HEIGHT	UNIT SIZE RANGE, LENGTH OR WIDTH		
18" MAX			35'-54"
15"	35'-37"	37'-54"	
UNIT HEIGHT	3	2	1
UNIT HEIGHT	NUMBER OF ROWS WIDE IN EIGHTH TIER OF TYPE "A" STACKS		

CHART NO. 42							
UNIT HEIGHT	UNIT SIZE RANGE, LENGTH OR WIDTH						
32" MAX					35'-46"	35'-54"	
31"				35'-37"	37'-54"	46'-54"	
30"				35'-43"	43'-54"		
29"				35'-36"	36'-48"		
28"			35'-36"	36'-48"	48'-54"		
27"			35'-38"	38'-52"	52'-54"		
26"			35'-42"	42'-54"			
25"		35'-36"	36'-45"	45'-54"			
24"		35'-38"	38'-47"	47'-54"			
23"		35'-39"	39'-49"	49'-54"			
22"		35'-41"	41'-51"	51'-54"			
21"		35'	35'-42"	42'-53"	53'-54"		
20"		35'-37"	37'-44"	44'-54"			
19"		35'-38"	38'-45"	45'-54"			
18"		35'-39"	39'-47"	47'-54"			
17"		35'-40"	40'-48"	48'-54"			
16"	35'	35'-41"	41'-49"	49'-54"			
15"	35'	35'-41"	41'-50"	50'-54"			
UNIT HEIGHT	7	6	5	4	3	2	1
UNIT HEIGHT	NUMBER OF ROWS WIDE IN FOURTH TIER OF TYPE "A" STACKS						

CHART NO. 43						
UNIT HEIGHT	UNIT SIZE RANGE, LENGTH OR WIDTH					
25" MAX				35'-44"	44'-54"	
24"				35'-37"	37'-54"	
23"				35'-44"	44'-54"	
22"			35'-37"	37'-50"	50'-54"	
21"			35'-41"	41'-54"		
20"		35'-36"	36'-45"	45'-54"		
19"		35'-38"	38'-48"	48'-54"		
18"		35'-40"	40'-50"	50'-54"		
17"	35'	35'-42"	42'-53"	53'-54"		
16"	35'-37"	37'-44"	44'-54"			
15"	35'-38"	38'-46"	46'-54"			
UNIT HEIGHT	6	5	4	3	2	1
UNIT HEIGHT	NUMBER OF ROWS WIDE IN FIFTH TIER OF TYPE "A" STACKS					

CHART NO. 47								
UNIT DIMENSION LENGTHWISE IN MAGAZINE	80'-0" X 25'-0" X 11'-0" ARCH TYPE MAGAZINE				40'-0" X 25'-0" X 11'-0" ARCH TYPE MAGAZINE *			
	"A" STACKS		"C" STACKS		"A" STACKS		"C" STACKS	
	NO.	MHE AISLE	NO.	SPACE REMAIN	NO.	MHE AISLE	NO.	SPACE REMAIN
54"	14	15'-11"	3	26"	5	16'-5"	3	32"
53"	15	12'-8"	2	46"	6	12'-5"	2	40"
52"	15	13'-11"	3	8"	6	12'-11"	2	48"
51"	15	15'-2"	3	26"	6	13'-5"	2	56"
50"	16	12'-3"	2	44"	6	13'-11"	3	14"
49"	16	13'-7"	3	13"	6	14'-5"	3	23"
48"	16	14'-11"	3	32"	6	14'-11"	3	32"
47"	17	12'-4"	2	51"	7	11'-6"	2	41"
46"	17	13'-9"	3	24"	7	12'-1"	2	50"
45"	18	11'-5"	2	44"	7	12'-8"	3	14"
44"	18	12'-11"	3	20"	7	13'-3"	3	24"
43"	18	14'-5"	3	41"	7	13'-10"	3	34"
42"	19	12'-5"	3	20"	7	14'-5"	3	44"
41"	19	14'-0"	3	42"	8	11'-7"	3	13
40"	20	12'-3"	3	24"	8	12'-3"	3	24"
39"	20	13'-11"	4	8"	8	12'-11"	3	35"
38"	21	12'-5"	3	32"	8	13'-7"	4	8"
37"	22	11'-1"	3	19"	9	11'-2"	3	20"
36"	22	12'-11"	4	8"	9	11'-11"	3	32"
35"	23	11'-10"	3	34"	9	12'-8"	4	9"

* MAGAZINE HAVING PILASTERS

CHART NO. 50			
UNIT HEIGHT	UNIT SIZE RANGE, LENGTH OR WIDTH		
38"-39"			35"-38"
37"-38"			35"-44"
36"-37"			35"-49"
32"-36"			35"-54"
31"-32"		35'	35"-54"
30"-31"		35'-37"	37"-54"
29"-30"		35'-38"	38"-54"
28"-29"		35'-40"	40"-54"
27"-28"		35'-41"	41"-54"
26"-27"		35'-42"	42"-54"
25"-26"		35'-44"	44"-54"
24"-25"		35'-45"	45"-54"
23"-24"		35'-46"	46"-54"
22"-23"		35'-47"	47"-54"
21"-22"		35'-48"	48"-54"
20"-21"		35'-49"	49"-54"
19"-20"		35'-50"	50"-54"
18"-19"		35'-51"	51"-54"
17"-18"		35'-52"	52"-54"
16"-17"	35'	35'-53"	53"-54"
15"-16"	35'-36"	36"-54"	
UNIT HEIGHT	3	2	1
	NUMBER OF PALLETS DEEP IN THIRD TIER OF TYPE "C" STACKS		

CHART NO. 48			
UNIT HEIGHT	UNIT SIZE RANGE, LENGTH OR WIDTH		
52"-54"	35"-38"	38"-54"	
48"-52"	35"-39"	39"-54"	
42"-48"	35"-40"	40"-54"	
31"-42"	35"-41"	41"-54"	
24"-31"	35"-42"	42"-54"	
15"-24"	35"-43"	43"-54"	
UNIT HEIGHT	3 AND 2	2 AND 2	
	NUMBER OF PALLETS DEEP IN FIRST TIER OF TYPE "C" STACKS		

CHART NO. 51			
UNIT HEIGHT	UNIT SIZE RANGE, LENGTH OR WIDTH		
28"-29"			35"-40"
27"-28"			35"-48"
24"-27"			35"-54"
23"-24"	35'		35"-54"
22"-23"	35'-37"		
21"-22"	35'-38"		
20"-21"	35'-41"		
19"-20"	35'-43"		
18"-19"	35'-45"		
17"-18"	35'-46"		
16"-17"	35'-48"		
15"-16"	35'-49"		
15"	35'-50"		
UNIT HEIGHT	2	1	
	NUMBER OF PALLETS DEEP IN FOURTH TIER OF TYPE "C" STACKS		

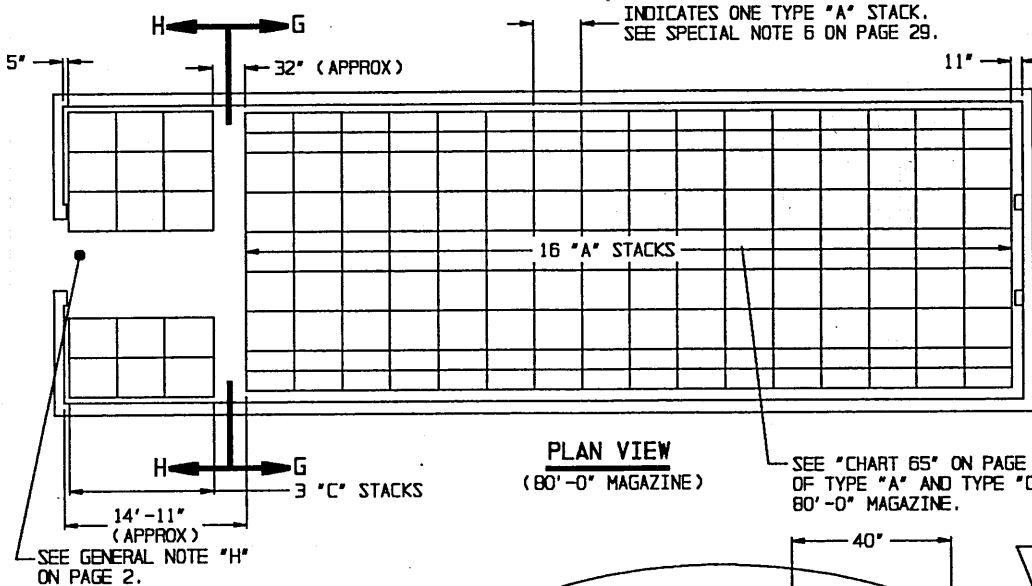
CHART NO. 49			
UNIT HEIGHT	UNIT SIZE RANGE, LENGTH OR WIDTH		
48"-54"			35"-54"
47"-48"		35'	35"-54"
46"-47"		35'-36"	36"-54"
45"-46"		35'-37"	37"-54"
44"-45"		35'-38"	38"-54"
43"-44"		35'-39"	39"-54"
42"-43"		35'-40"	40"-54"
41"-42"		35'-41"	41"-54"
40"-41"		35'-42"	42"-54"
39"-40"		35'-43"	43"-54"
38"-39"		35'-44"	44"-54"
36"-38"		35'-45"	45"-54"
35"-36"		35'-46"	46"-54"
34"-35"		35'-47"	47"-54"
32"-34"		35'-48"	48"-54"
31"-32"		35'-49"	49"-54"
29"-31"		35'-50"	50"-54"
27"-29"		35'-51"	51"-54"
25"-27"		35'-52"	52"-54"
24"-25"	35'	35'-53"	53"-54"
21"-24"	35'-36"	36"-54"	
17"-21"	35'-37"	37"-54"	
15"-17"	35'-38"	38"-54"	
UNIT HEIGHT	3	2	1
	NUMBER OF PALLETS DEEP IN SECOND TIER OF TYPE "C" STACKS		

CHART NO. 52			
UNIT HEIGHT	UNIT SIZE RANGE, LENGTH OR WIDTH		
23"			35"-42"
22"			35"-51"
20"			35"-54"
19"	35'-36"		36"-54"
18"	35'-38"		38"-54"
17"	35'-41"		41"-54"
16"	35'-43"		43"-54"
15"	35'-45"		45"-54"
UNIT HEIGHT	2	1	
	NUMBER OF PALLETS DEEP IN FIFTH TIER OF TYPE "C" STACKS		

CHART NO. 53			
UNIT HEIGHT	UNIT SIZE RANGE, LENGTH OR WIDTH		
19"			35"-44"
18"			35"-54"
16"	35'		35"-54"
15"	35'-38"		38"-54"
UNIT HEIGHT	2	1	
	NUMBER OF PALLETS DEEP IN SIXTH TIER OF TYPE "C" STACKS		

STORAGE IN 80'-0" MAGAZINE
(12'-1-3/4" HIGH)

ITEM	QUANTITY
PALLETIZED UNIT	--- 328

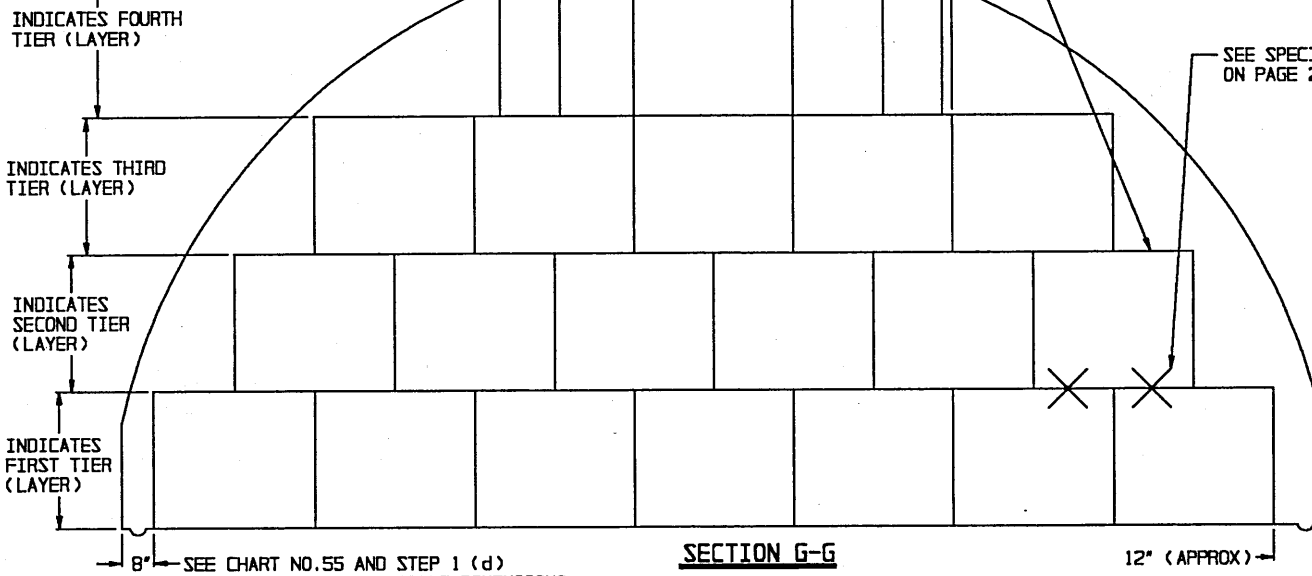


PLAN VIEW
(80'-0" MAGAZINE)

SEE "CHART 65" ON PAGE 35 FOR GUIDANCE AS TO THE NUMBER OF TYPE "A" AND TYPE "C" STACKS WHICH CAN BE STORED IN AN 80'-0" MAGAZINE.

SEE "CHARTS 56 THROUGH 59" ON PAGES 32 THRU 34 FOR NUMBER OF ROWS/SIZE-RANGE GUIDANCE FOR ONE THRU FOUR TIERS.

SEE SPECIAL NOTE 5 ON PAGE 29.

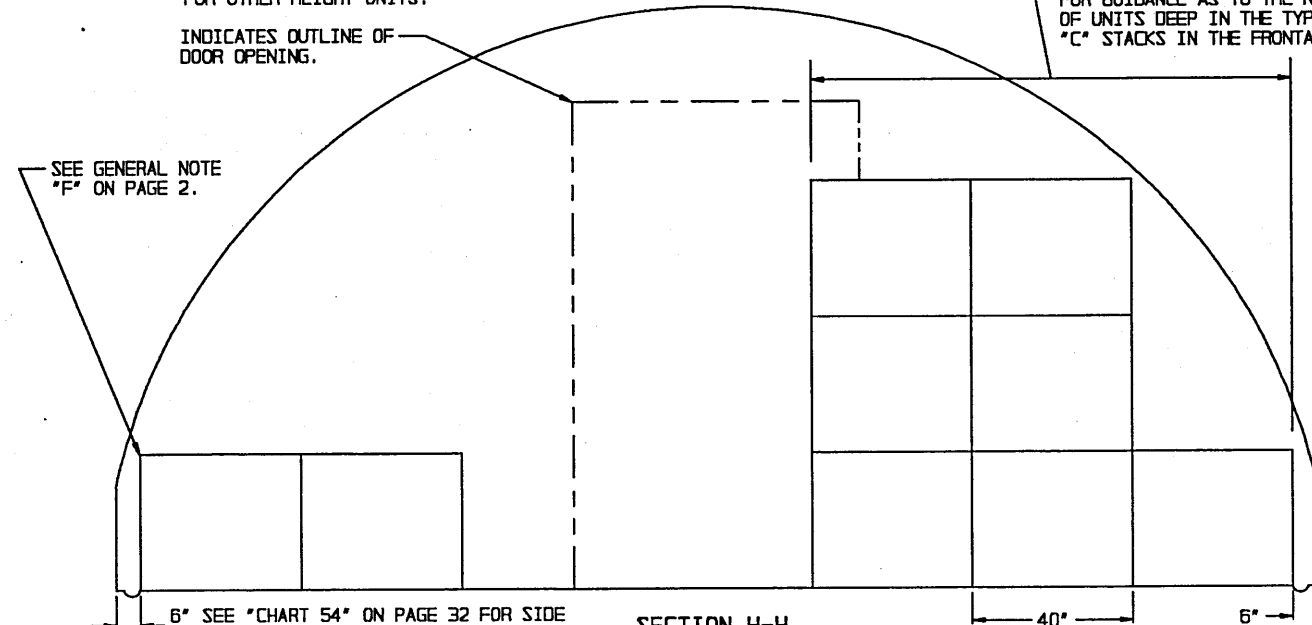


SECTION G-G

(19 PALLETIZED UNITS PER STACK)

INDICATES OUTLINE OF DOOR OPENING.

SEE GENERAL NOTE "F" ON PAGE 2.



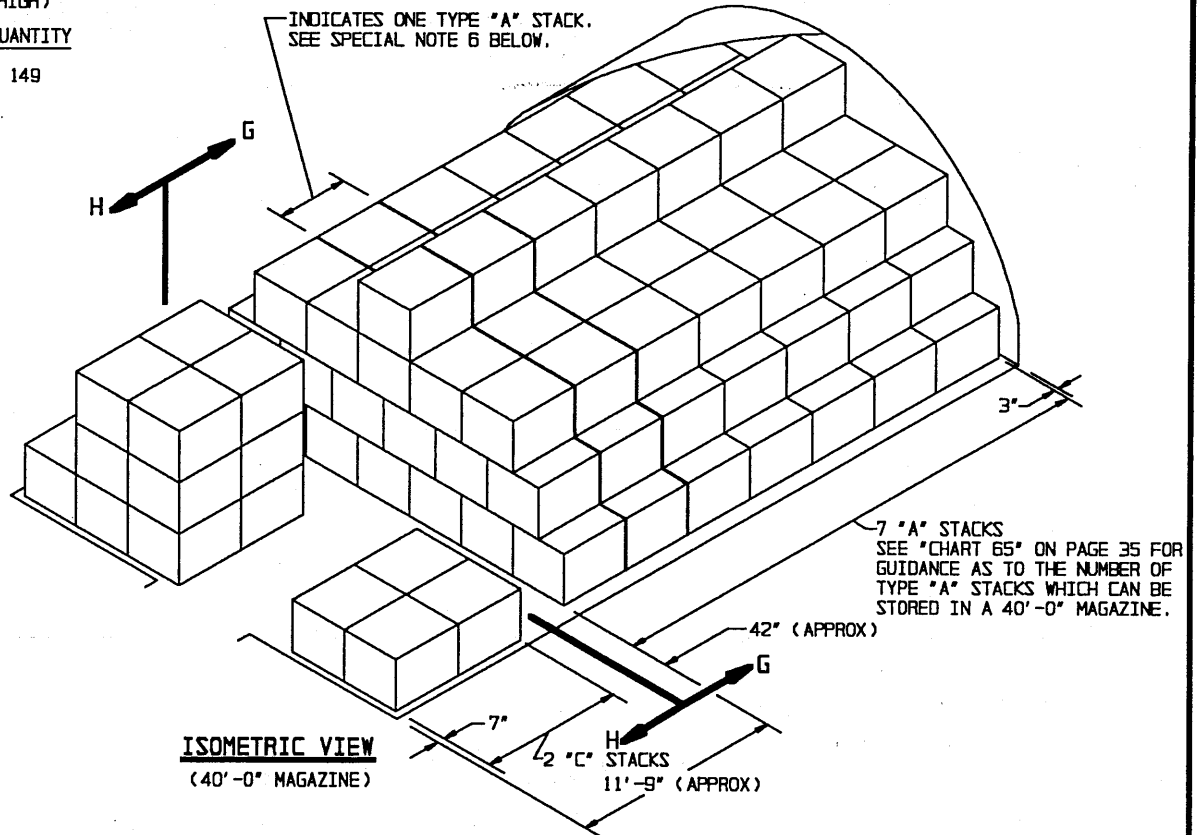
SECTION H-H

6" SEE "CHART 54" ON PAGE 32 FOR SIDE AISLE DIMENSIONS FOR OTHER HEIGHT UNITS.

STORAGE IN 40'-0" MAGAZINE

(12'-1-3/4" HIGH)

ITEM	QUANTITY
PALLETIZED UNIT - -	149



SPECIAL NOTES:

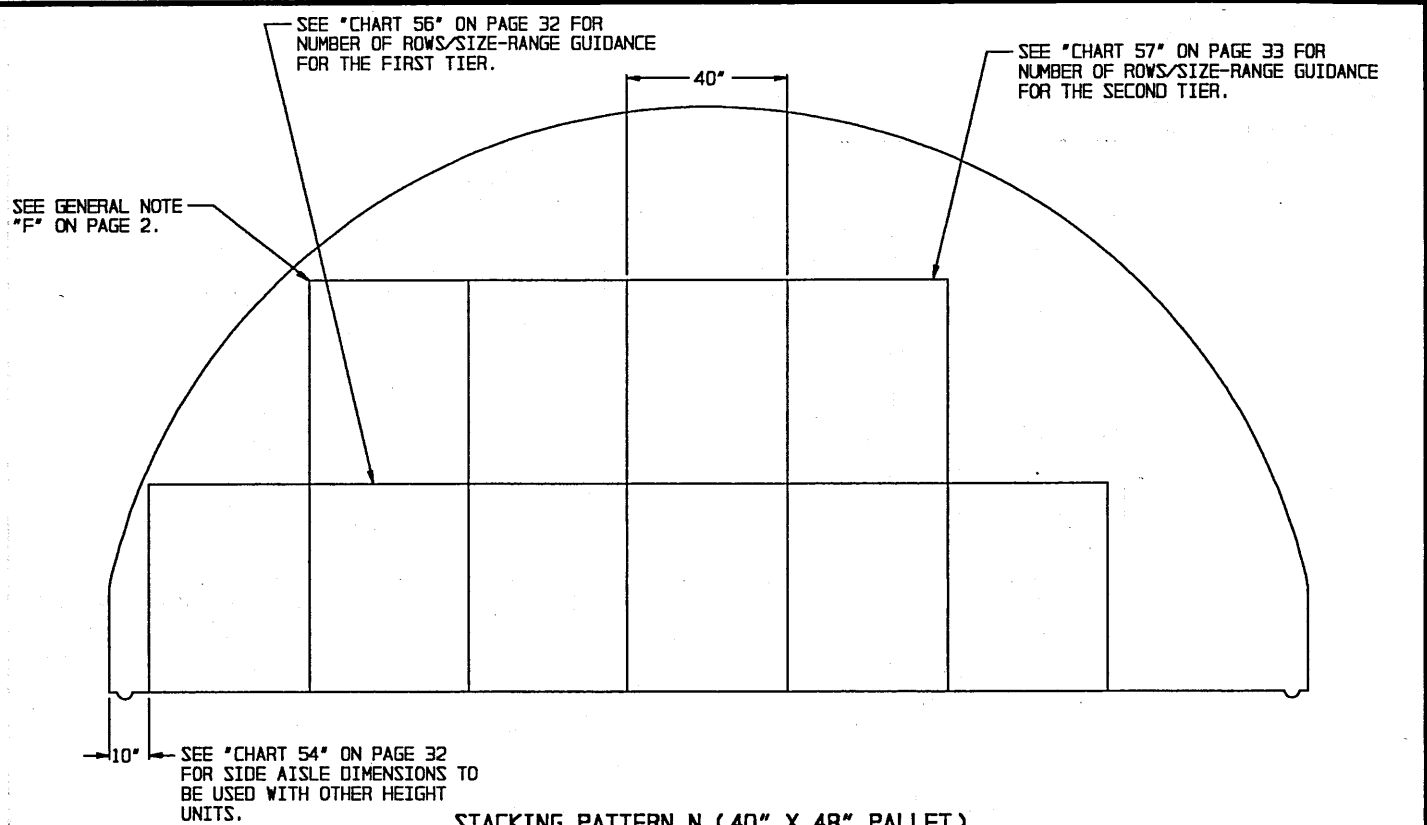
1. THE TYPICAL PALLETIZED UNIT SHOWN HAS OVERALL DIMENSIONS OF 40' LONG BY 48" WIDE BY 34-1/2" HIGH. THE QUANTITY OF UNITS, THE NUMBER OF STACKS, ROWS, AND TIERS (LAYERS) WILL VARY, DEPENDENT UPON THE SIZE OF THE UNIT BEING STORED. SEE THE SPECIAL NOTES AND CHARTS ON PAGES 32 THROUGH 35 FOR GUIDANCE. AS MANY UNITS AS POSSIBLE WILL BE STORED WITHIN THE MAGAZINE.
2. THE STORAGE VIEWS ON PAGE 28 AND ABOVE DEPICT PALLETIZED UNITS STACKED IN STAGGERED ALIGNMENT, USING A MINIMUM WIDTH SIDE AISLE AT THE LEFT SIDE OF THE MAGAZINE. THE TYPICAL STACKING PATTERN VIEWS ON PAGES 30 AND 31 DEPICT PALLETIZED UNITS STACKED IN VERTICAL AND/OR STAGGERED PATTERN, USING A MINIMUM WIDTH SIDE AISLE AT THE LEFT SIDE OF THE MAGAZINE. CHARTS 56 THROUGH 64 ON PAGES 32 THROUGH 34 DEPICT THE MAXIMUM NUMBER OF ROWS PER TIER ACROSS THE WIDTH OF THE MAGAZINE. THE PALLET UNITS IN A STACK WILL BE STORED IN VERTICAL ALIGNMENT IF A CHART FOR THE TIER INDICATES EITHER THE SAME QUANTITY OR TWO LESS ROWS WIDE THAN IS SPECIFIED BY THE CHART FOR THE NEXT LOWER TIER. THE PALLET UNITS IN A TIER WILL BE CENTERED (STAGGERED) ON THE UNITS IN THE NEXT LOWER TIER IF A CHART FOR THE TIER INDICATES A QUANTITY OF ONE LESS ROW WIDE THAN IS SPECIFIED FOR THE NEXT LOWER TIER. HOWEVER, IT SHOULD BE NOTED THAT SOME PALLET UNIT CONFIGURATIONS WILL NOT PROVIDE A STABLE STACK WHEN USING THE STAGGERED PATTERN, AND, THEREFORE, THE VERTICAL ALIGNMENT PATTERN MUST BE USED. ALSO, THE STAGGERED STACKING PATTERN CANNOT BE USED WHEN STORING MULTIPLE LOTS WHICH REQUIRE ADJACENT ROWS TO BE SEPARATED. CHART 65 ON PAGE 35 SPECIFIES THE NUMBER OF TYPE "A" AND TYPE "C" STACKS WHICH CAN BE STORED IN 80'-0" AND 40'-0" LONG MAGAZINES. CHARTS 66 THROUGH 71 ON PAGE 35 SPECIFY THE NUMBER OF PALLETS DEEP WHICH CAN BE STORED IN THE TIERS OF THE TYPE "C" STACKS IN THE FRONTAL AREA OF THE MAGAZINE.
3. REFER TO PAGES 86 AND 87 FOR GUIDANCE IN THE STORAGE OF MULTIPLE LOTS.
4. THE STACKING PATTERNS SHOWN ON PAGES 28 THROUGH 31 DEPICT THE PALLETIZED UNIT LENGTH POSITIONED ACROSS THE MAGAZINE. HOWEVER, IT MAY BE MORE ADVANTAGEOUS TO STACK THE PALLETIZED UNITS WITH THE WIDTH ACROSS THE MAGAZINE.

(CONTINUED AT RIGHT)

(SPECIAL NOTES CONTINUED)

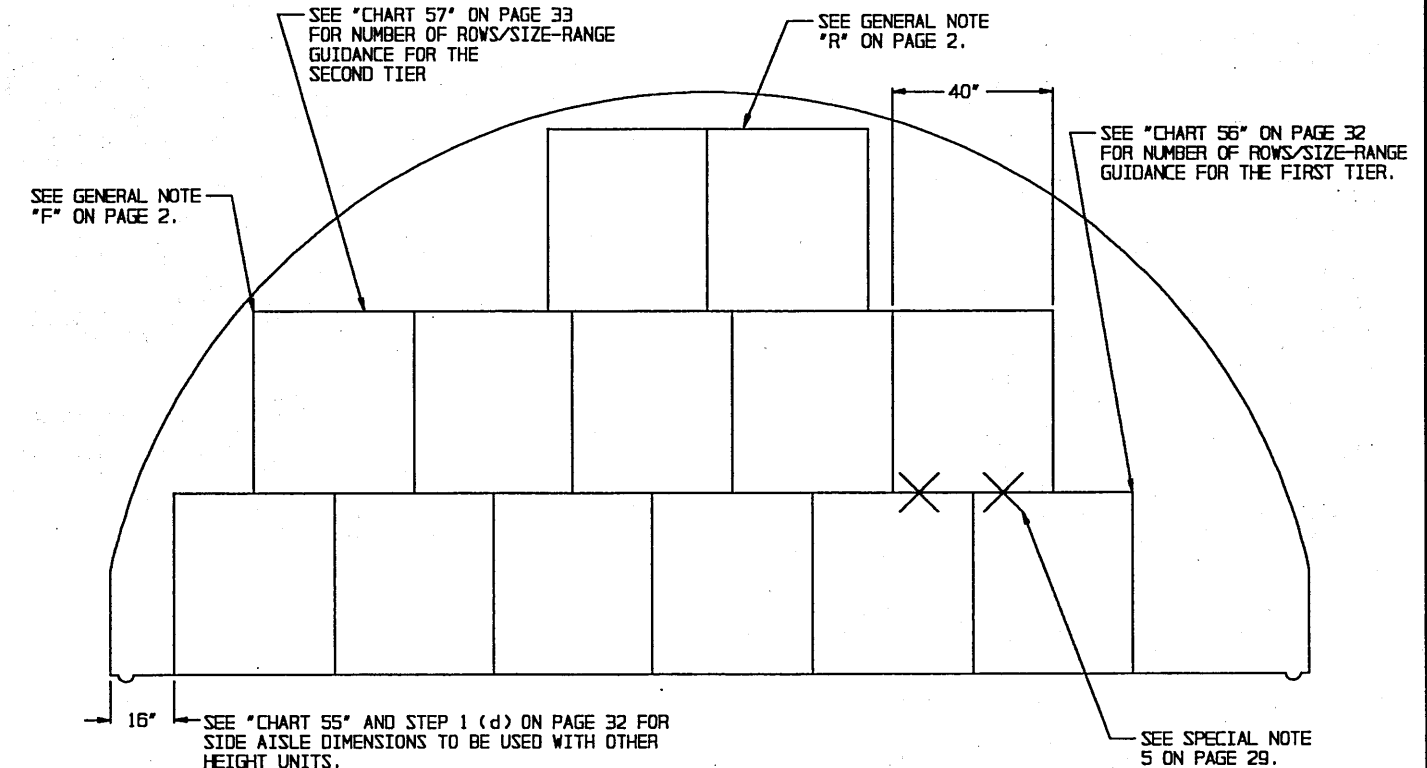
5. WHEN PLACING UNITS IN A STACK WHERE A STAGGERED PATTERN IS BEING USED, SUCH AS TYPICALLY SHOWN IN "SECTION G-G" ON PAGE 28 AND "STACKING PATTERN O" ON PAGE 30, CARE WILL BE USED TO INSURE THAT EACH UNIT IS LEVEL AND STABLE. IF ALL OF THE BOTTOM DECKBOARDS OF A PALLET ARE NOT FULLY SUPPORTED, ONE INCH THICK LUMBER MUST BE POSITIONED UNDER EACH UNSUPPORTED BOTTOM DECKBOARD TO PROVIDE A STABLE UNIT. SEE THE FILLER DETAIL ON PAGE 93 FOR ADDITIONAL GUIDANCE.
6. THE NUMBER OF TYPE "A" STACKS SPECIFIED FOR A MAGAZINE IS BASED ON HAVING A MATERIAL HANDLING EQUIPMENT OPERATING AREA (DISTANCE FROM THE FACE OF THE LAST TYPE "A" STACK TO THE MAGAZINE FRONT WALL) OF 7'-7" PLUS THE LENGTH OR WIDTH OF THE PALLET UNIT, AS APPLICABLE, OR THE LENGTH OF THE FORKLIFT TRUCK TINES (40') WHICHEVER IS THE GREATEST. ADDITIONAL TYPE "A" STACKS MAY BE STORED IF THE AVAILABLE MATERIAL HANDLING EQUIPMENT PERMITS.
7. IF DESIRED, AND IF NOT IN VIOLATION OF SURVEILLANCE REQUIREMENTS/PROCEDURES, ONE (1) SURVEILLANCE "CONTROL UNIT" SAMPLE MAY BE WITHHELD FROM EACH STORED LOT. IF THE MAGAZINES CONTAINS ONLY ONE (1) LOT IT IS RECOMMENDED THAT THIS "CONTROL UNIT" BE PLACED JUST INSIDE THE DOOR WHERE IT IS EASILY ACCESSIBLE. IF THE MAGAZINE CONTAINS SEVERAL LOTS, THE "CONTROL UNIT" SAMPLES SHOULD BE PLACED ADJACENT TO THE MHE OPERATING AISLE FOR ACCESSIBILITY.

TYPICAL STORAGE PROCEDURES
IN 80'-0" AND 40'-0" L X 25'-0" W X 12'-1-3/4" H ARCH TYPE MAGAZINES



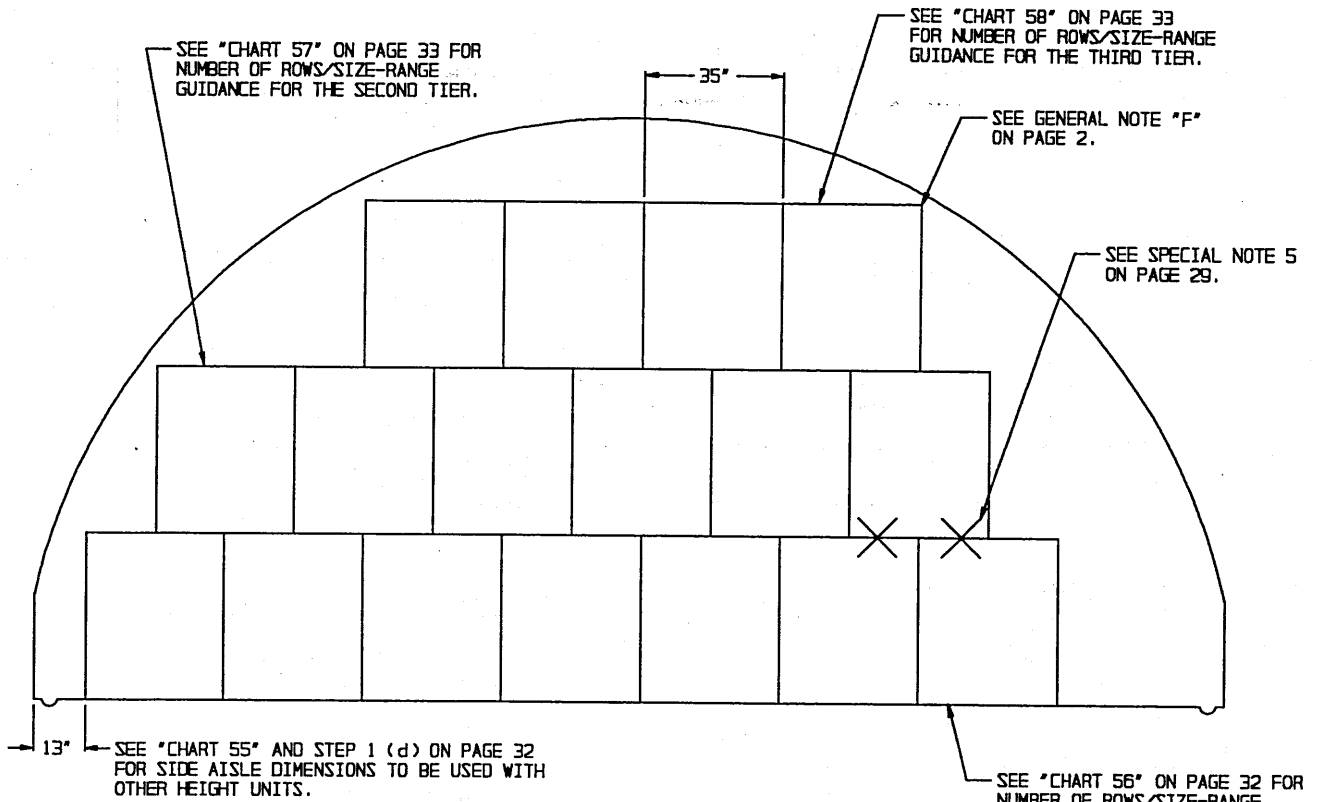
STACKING PATTERN N (40" X 48" PALLET)

THE PALLETIZED UNIT SHOWN IS 40" LONG BY 48" WIDE BY 52-3/4" HIGH. TWO-TIER STORAGE IS APPLICABLE FOR ALL PALLETIZED UNITS WHICH ARE OVER 47" IN HEIGHT.



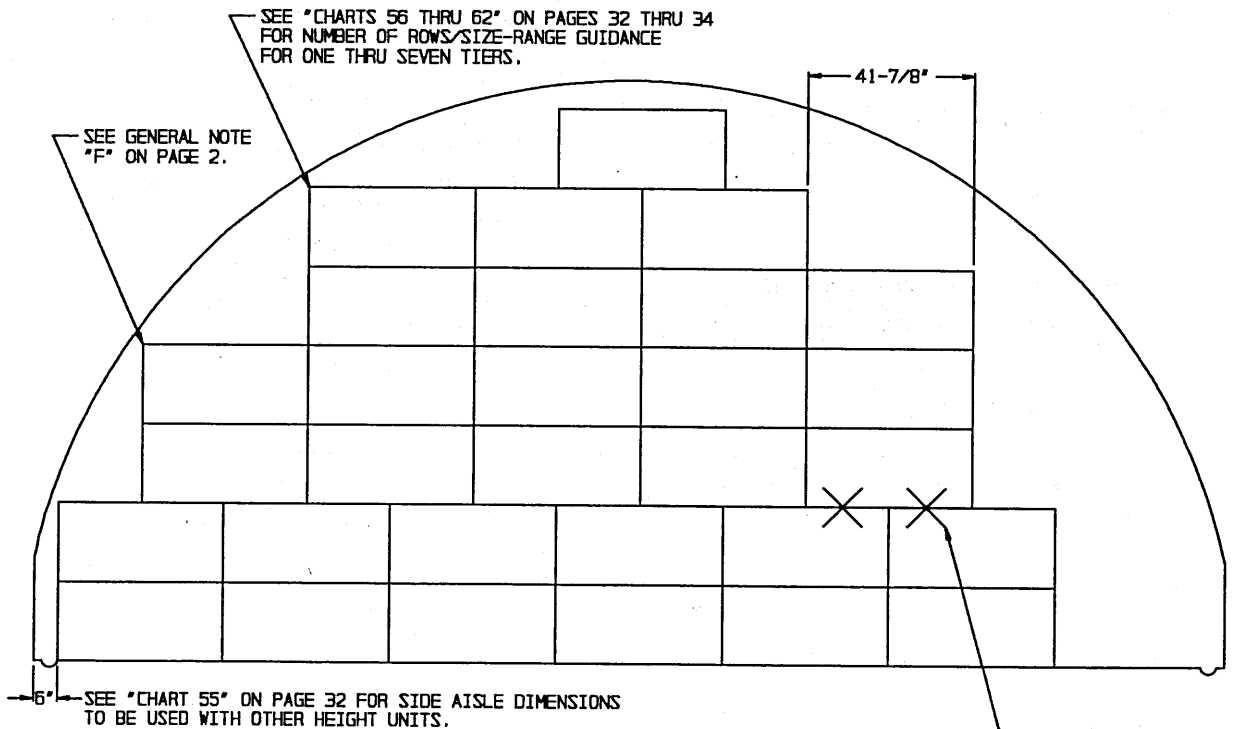
STACKING PATTERN O (40" X 48" PALLET)

THE PALLETIZED UNIT SHOWN IS 40" LONG BY 48" WIDE BY 46" HIGH. THREE-TIER STORAGE IS APPLICABLE FOR ALL PALLETIZED UNITS WHICH ARE OVER 35" BUT NOT MORE THAN 47" IN HEIGHT.



STACKING PATTERN P (35" X 45-1/2" PALLET)

THE PALLETIZED UNIT SHOWN IS 35" LONG BY 45-1/2" WIDE BY 42" HIGH. THREE-TIER STORAGE IS APPLICABLE FOR ALL PALLETIZED UNITS WHICH ARE OVER 35" BUT NOT MORE THAN 47" IN HEIGHT.



STACKING PATTERN O (40" X 48" PALLET)

THE PALLETIZED UNIT SHOWN IS 41-7/8" LONG BY 48" WIDE BY 20" HIGH. SEVEN-TIER STORAGE IS APPLICABLE FOR ALL PALLETIZED UNITS WHICH ARE OVER 17" BUT NOT MORE THAN 20" IN HEIGHT.

SPECIAL NOTES:

1. THE CHARTS ON THIS PAGE AND ON PAGES 33 THROUGH 35 ARE PRESENTED AS GUIDANCE IN THE DEVELOPMENT OF A PATTERN FOR THE STORAGE OF PALLETIZED UNITS OF AMMUNITION AND COMPONENTS IN 25'-0" WIDE BY 12'-1-3/4" HIGH ARCH TYPE MAGAZINES. TO A CERTAIN EXTENT, THE CHARTS MAY ALSO BE USED IN CALCULATING THE QUANTITY OF UNITS WHICH CAN BE STORED. NOTICE: THE CHARTS ARE FOR GUIDANCE PURPOSES ONLY. VARIATIONS IN PALLETIZED UNIT OVERALL SIZES, THE COMPACTNESS OF PLACEMENT WITHIN A MAGAZINE, AS WELL AS VARIANCES IN THE INSIDE DIMENSIONS OF THE MAGAZINE CAN CAUSE DISCREPANCIES WITHIN THE CHARTS.
2. THE FOLLOWING STEP-BY-STEP PROCEDURES ARE PRESENTED AS GUIDANCE IN USING THE DEPICTED CHARTS. SEE THE "EXAMPLE" ON THIS PAGE.

STEP 1

- a. THE STORAGE VIEWS ON PAGES 28 THRU 31 DEPICT VARIOUS STACKING PATTERNS. A PATTERN WILL BE ESTABLISHED BY USING THE DIMENSIONAL DATA SET FORTH IN THE CHARTS.
- b. WHEN USING THE STACKING PATTERN SHOWN IN TYPICAL "STACKING PATTERN N" ON PAGE 30, LOCATE IN CHART 54 THE HEIGHT OF THE PALLETIZED UNIT TO BE STORED. OPPOSITE THAT HEIGHT IS SPECIFIED A MINIMUM LEFT SIDE AISLE DIMENSION WHICH WILL LOCATE THE FIRST TIER OF UNITS ACROSS THE WIDTH OF THE MAGAZINE.
- c. WHEN USING THE STACKING PATTERN SHOWN IN THE TYPICAL "STACKING PATTERN O" ON PAGE 31, LOCATE IN CHART 55 THE HEIGHT OF THE PALLETIZED UNIT TO BE STORED. OPPOSITE THAT HEIGHT IS SPECIFIED A MINIMUM LEFT SIDE AISLE DIMENSION WHICH WILL LOCATE THE FIRST AND SECOND TIER OF UNITS ACROSS THE WIDTH OF THE MAGAZINE.
- d. WHEN USING THE STACKING PATTERN SHOWN IN "SECTION G-G" ON PAGE 28, TYPICAL "STACKING PATTERN O" ON PAGE 30 OR TYPICAL "STACKING PATTERN P" ON PAGE 31 (WHICH SHOW THE SECOND TIER STAGGERED WITH THE PALLETIZED UNITS CENTERED ON THE JOINTS OF THE FIRST TIER).

- (1) FIND THE UNIT HEIGHT IN ONE OF THE COLUMNS OF CHART 55.
- (2) LOOK IN THE COLUMN ADJACENT TO THE RIGHT FOR THE MINIMUM LEFT SIDE AISLE.
- (3) SUBTRACT 1/2 OF THE UNIT WIDTH OR LENGTH (DIM ACROSS MAGAZINE) AND THIS IS THE MINIMUM LEFT SIDE AISLE WHEN STAGGERING.

NOTE:

THE MINIMUM LEFT SIDE AISLE MUST NEVER BE LESS THAN THE DIMENSION GIVEN FOR THE UNIT HEIGHT IN CHART 54. IF ONE-HALF OF THE UNIT LENGTH OR WIDTH (DIMENSION ACROSS THE MAGAZINE) SUBTRACTED FROM THE MINIMUM LEFT SIDE AISLE GIVEN IN CHART 55 IS LESS THAN THE DIMENSION GIVEN IN CHART 54, USE THE MINIMUM DIMENSION GIVEN IN CHART 54 AS THE LEFT SIDE AISLE.

EXAMPLE A

SEE BOTTOM STACKING PATTERN ON PAGE 30. THE UNIT LENGTH IS 40" AND THE HEIGHT IS 46". THE MINIMUM LEFT SIDE AISLE DIMENSION IN CHART 55 IS 36". SUBTRACTING 20" (ONE-HALF THE UNIT LENGTH) FROM 36" LEAVES 16". USE 16" FOR THE LEFT SIDE AISLE BECAUSE 16" IS GREATER THAN THE 8" SPECIFIED IN CHART 54.

(CONTINUED AT RIGHT)

EXAMPLE B

IF THE UNIT HEIGHT IS 30", A STAGGERED STACKING PATTERN IS TO BE USED, AND THE DIMENSION ACROSS THE MAGAZINE IS 48", THE MINIMUM LEFT SIDE AISLE IN CHART 55 IS 15". WE CANNOT SUBTRACT 24" FROM 15", SO WE USE THE MINIMUM LEFT SIDE AISLE FROM CHART 54 FOR A UNIT HEIGHT OF 30", WHICH IS 6".

EXAMPLE C

SEE THE "STACKING PATTERN O", ON PAGE 31. IN THIS PATTERN THE FIRST AND SECOND TIERS ARE IN VERTICAL ALIGNMENT AND THE THIRD AND FOURTH TIERS ARE IN VERTICAL ALIGNMENT BUT STAGGERED ON THE FIRST AND SECOND TIERS. THE UNIT LENGTH IS 41-7/8" AND THE HEIGHT IS 20". FIND THE UNIT HEIGHT OF 20" IN CHART 55. THE MINIMUM LEFT SIDE AISLE GIVEN IS 6". USE 6" FOR THE LEFT SIDE AISLE.

STEP 2

LOCATE IN THE LEFT HAND COLUMN OF CHART 56 THE FIGURE WHICH IS EITHER THE EXACT UNIT HEIGHT OR IS THE NEXT EVEN DIMENSION OVER THE UNIT HEIGHT. ALONG THAT LINE, LOCATE THE COLUMN WHICH CONTAINS THE LENGTH OR THE WIDTH OF THE UNIT TO BE STORED. THE HEADING AT THE BOTTOM OF THAT COLUMN WILL INDICATE THE NUMBER OF ROWS WIDE THAT CAN BE STORED IN THE FIRST TIER (LAYER).

STEP 3

LOCATE IN THE LEFT HAND COLUMN OF CHART 57 THE FIGURE WHICH IS EITHER THE EXACT UNIT HEIGHT OR IS THE NEXT EVEN DIMENSION OVER THE UNIT HEIGHT. ALONG THAT LINE LOCATE THE COLUMN WHICH CONTAINS THE LENGTH OR THE WIDTH OF THE UNIT TO BE STORED. THE HEADING AT THE BOTTOM OF THAT COLUMN WILL INDICATE THE NUMBER OF ROWS WIDE THAT CAN BE STORED IN THE SECOND TIER.

STEP 4

REPEAT STEP 3 FOR CHARTS 58 THROUGH 64 AS APPLICABLE, FOR THE THIRD THROUGH THE NINTH TIER.

STEP 5 (NUMBER OF TYPE "A" AND TYPE "C" STACKS IN THE MAGAZINE)

LOCATE IN THE LEFT HAND COLUMN OF CHART 65 ON PAGE 35 THE LENGTH OR WIDTH, AS APPLICABLE FOR THE ORIENTATION OF THE UNITS BEING STORED. OPPOSITE THAT LENGTH OR WIDTH FIGURE IS SPECIFIED THE APPROXIMATE NUMBER OF TYPE "A" STACKS (FULL STACKS ACROSS THE MAGAZINE) AS WELL AS THE NUMBER OF TYPE "C" STACKS (PARTIAL STACKS AT THE FRONT OF THE MAGAZINE) THAT CAN BE POSITIONED IN EITHER AN 80'-0" OR A 40'-0" LONG MAGAZINE. SEE SPECIAL NOTE 6 ON PAGE 29 FOR THE CRITERIA USED IN DETERMINING THE NUMBER OF TYPE "A" STACKS SPECIFIED WITHIN THE CHART.

STEP 6 (NUMBER OF PALLETS DEEP IN TYPE "C" STACKS)

LOCATE IN THE LEFT HAND COLUMN OF CHART 66 ON PAGE 35 THE LINE WHICH SPECIFIES A PALLET UNIT HEIGHT RANGE THAT CONTAINS THE HEIGHT OF THE UNIT TO BE STORED. ALONG THAT LINE LOCATE THE COLUMN WHICH CONTAINS THE LENGTH OR THE WIDTH OF THE UNIT AS APPLICABLE, WHICH IS TO BE POSITIONED ACROSS THE WIDTH OF THE MAGAZINE. THE HEADING AT THE BASE OF THAT COLUMN WILL INDICATE THE NUMBER OF PALLETS DEEP WHICH CAN BE STORED AT EACH SIDE OF THE DOOR OPENING IN THE FIRST TIER OF A TYPE "C" STACK.

(CONTINUED ON PAGE 33)

CHART NO. 54	
UNIT HEIGHT	MINIMUM LEFT SIDE AISLE
51" - 54"	10"
48" - 51"	9"
45" - 48"	8"
42" - 45"	7"
15" - 42"	6"

THIS CHART IS FOR USE WHEN STACKING PALLETIZED UNITS AS SHOWN IN TYPICAL "STACKING PATTERN N" ON PAGE 30. A LEFT SIDE AISLE GREATER THAN THE MINIMUM DIMENSION GIVEN IN CHART 54 AND CHART 55 MAY BE USED TO ACHIEVE A MAXIMUM STACKING PATTERN.

CHART NO. 55			
UNIT HEIGHT	MINIMUM LEFT SIDE AISLE	UNIT HEIGHT	MINIMUM LEFT SIDE AISLE
53" - 54"	51"	35" - 37"	21"
51" - 53"	48"	32" - 35"	18"
50" - 51"	45"	29" - 32"	15"
48" - 50"	42"	27" - 29"	12"
47" - 49"	39"	26" - 27"	11"
45" - 47"	36"	25" - 26"	10"
43" - 45"	33"	24" - 25"	9"
41" - 43"	30"	23" - 24"	8"
39" - 41"	27"	21" - 23"	7"
37" - 39"	24"	15" - 21"	6"

THIS CHART IS FOR USE WHEN STACKING THE FIRST TWO TIERS IN VERTICAL ALIGNMENT AS SHOWN IN TYPICAL "STACKING PATTERN O" ON PAGE 31.

UNIT HEIGHT	CHART NO. 56			
	UNIT SIZE RANGE, LENGTH OR WIDTH			
54"	35" - 39"	39" - 45"	45" - 54"	
51"	35" - 39"	39" - 46"	46" - 54"	
47"	35"	35" - 39"	39" - 46"	46" - 54"
46"	35"	35" - 40"	40" - 46"	46" - 54"
44"		35" - 40"	40" - 47"	47" - 54"
36"	35" - 36"	36" - 40"	40" - 47"	47" - 54"
15" - 34"	35" - 36"	36" - 41"	41" - 48"	48" - 54"
UNIT HEIGHT	8	7	6	5
	NUMBER OF ROWS WIDE IN FIRST TIER			

CHART NO. 57						
UNIT HEIGHT	UNIT SIZE RANGE, LENGTH OR WIDTH					
54"				35'-38"	38'-48"	48'-54"
53 1/4"				35'-39"	38'-49"	48'-54"
52"				35'-40"	40'-50"	50'-54"
51"				35'-41"	41'-51"	51'-54"
50"			35'	35'-42"	42'-52"	52'-54"
49"			35'	35'-42"	42'-53"	53'-54"
48"			35'-36"	36'-43"	43'-54"	
47"			35'-37"	37'-44"	44'-54"	
46"			35'-37"	37'-45"	45'-54"	
45"			35'-38"	38'-45"	45'-54"	
44"			35'-38"	38'-46"	46'-54"	
43"			35'-39"	39'-47"	47'-54"	
41"			35'-40"	40'-48"	48'-54"	
40"		35'	35'-40"	40'-49"	49'-54"	
39"		35'	35'-41"	41'-49"	49'-54"	
37"		35'-36"	36'-42"	42'-50"	50'-54"	
35"		35'-36"	36'-42"	42'-51"	51'-54"	
34"		35'-37"	37'-43"	43'-51"	51'-54"	
33"		35'-37"	37'-43"	43'-52"	52'-54"	
32"		35'-37"	37'-44"	44'-52"	52'-54"	
31"		35'-38"	38'-44"	44'-53"	53'-54"	
29"		35'-38"	38'-45"	45'-54"		
27"		35'-39"	39'-45"	45'-54"		
25"		35'-39"	39'-46"	46'-54"		
23"		35'-40"	40'-46"	46'-54"		
22"		35'	35'-40"	40'-47"	47'-54"	
18"		35'	35'-40"	40'-48"	48'-54"	
15'-17"	35'-36"	36'-41"	41'-48"	48'-54"		
UNIT HEIGHT	8	7	6	5	4	3
	NUMBER OF ROWS WIDE IN SECOND TIER OF TYPE "A" STACKS					

STEP 7

REPEAT STEP 6 FOR CHARTS 67 THROUGH 71, AS APPLICABLE, TO DETERMINE THE NUMBER OF PALLETS DEEP WHICH CAN BE STACKED ON THE LEFT SIDE OF THE DOOR IN THE SECOND THROUGH SIXTH TIERS.

EXAMPLE

THE PALLETIZED UNIT SHOWN IN TYPICAL "STACKING PATTERN N" ON PAGE 30 HAS BEEN SELECTED FOR THE EXAMPLE. THE UNIT IS 40' LONG BY 48" WIDE BY 52-3/4" HIGH. A STORAGE PATTERN CAN BE DETERMINED BY FOLLOWING THE DOTTED-LINE EXAMPLE WITHIN CHARTS 54 THROUGH 57 AND CHARTS 65 THROUGH 67 IN CONJUNCTION WITH USING THE STEP-BY-STEP PROCEDURES SPECIFIED ON THIS PAGE. TO FIND THE MINIMUM LEFT SIDE AISLE LOOK IN THE LEFT HAND COLUMN OF CHART 54, UNDER THE UNIT HEIGHT. THE 52-3/4" UNIT HEIGHT IS WITHIN THE 51"-54" RANGE AND THE MINIMUM LEFT SIDE AISLE IS INDICATED IN THE RIGHT HAND COLUMN AS 10'. TO FIND THE NUMBER OF ROWS WIDE IN THE FIRST TIER LOOK IN THE LEFT HAND COLUMN OF CHART 56. USE THE 54" HEIGHT, AS THE UNIT HEIGHT OF 52-3/4" IS GREATER THAN 51" AND THE NEXT HEIGHT LISTED IS 54". USING THE 40' UNIT LENGTH FOLLOW THE ARROWS ALONG THE DOTTED LINE TO THE RIGHT. THE 40' UNIT LENGTH IS WITHIN THE 39"-45" RANGE. FOLLOW THE ARROWS DOWN TO THE NUMERAL IN THE HEADING OF THAT COLUMN WHICH SPECIFIES THAT 6 UNITS, 40' LONG, CAN BE POSITIONED ACROSS THE WIDTH OF THE MAGAZINE IN THE FIRST TIER. FOLLOWING THE SAME PROCEDURE IN CHART 57 WE GO TO THE 53" HEIGHT, AS THE UNIT HEIGHT OF 52-3/4" IS GREATER THAN 52" AND THE NEXT HEIGHT LISTED IS 53". USING THE 40' UNIT LENGTH FOLLOW THE ARROWS ALONG THE DOTTED LINE TO THE RIGHT. THE 40' UNIT LENGTH IS WITHIN THE 39"-49" RANGE. FOLLOW THE ARROWS DOWN TO THE NUMERAL IN THE HEADING OF THAT COLUMN WHICH SPECIFIES THAT 4 UNITS, 40' LONG CAN BE POSITIONED ACROSS THE WIDTH OF THE MAGAZINE IN THE SECOND TIER. IN CHART 5 THE LEFT HAND COLUMN ONLY SHOWS UNIT HEIGHTS UP TO 47" WHICH INDICATES THAT THE 52-3/4" HIGH UNIT CANNOT BE STACKED OVER TWO TIERS HIGH.

TO FIND THE NUMBER OF TYPE "A" AND TYPE "C" STACKS WHICH CAN BE STORED IN THE MAGAZINE, LOOK AT CHART 65 ON PAGE 35. SINCE WE ARE POSITIONING THE 40' UNIT LENGTH ACROSS THE WIDTH OF THE MAGAZINE, WE NOW LOOK FOR THE UNIT WIDTH OF 48" IN THE LEFT HAND COLUMN. FOLLOWING THE ARROWS TO THE RIGHT INDICATES THAT 16 TYPE "A" STACKS AND 3 TYPE "C" STACKS CAN BE STORED IN AN 80'-0" MAGAZINE AND 7 TYPE "A" STACKS AND 2 TYPE "C" STACKS CAN BE STORED IN A 40'-0" MAGAZINE.

TO FIND THE NUMBER OF PALLETS DEEP AT EACH SIDE OF THE DOOR OPENING IN TYPE "C" STACKS, LOOK IN THE LEFT HAND COLUMN OF CHART 66 ON PAGE 35. THE UNIT HEIGHT OF 52-3/4" FALLS WITHIN THE RANGE OF 51"-54" FOLLOW THE ARROW ALONG THE DOTTED LINE TO THE COLUMN WHICH CONTAINS THE 48" WIDTH OF THE UNIT. FOLLOW THE ARROW DOWN TO THE NUMERALS IN THE HEADING AT THE BASE OF THAT COLUMN WHICH SPECIFIES THAT 2 UNITS CAN BE POSITIONED AT THE LEFT SIDE OF THE DOOR AND 2 UNITS CAN BE POSITIONED AT THE RIGHT SIDE OF THE DOOR THOSE ON THE RIGHT SIDE BY USING A PALLET JACK, AFTER COMPLETING ALL THE TIERS ON THE LEFT SIDE. THE NUMBER OF PALLETS DEEP IN THE SECOND, THIRD, AND HIGHER TIERS, CAN BE DETERMINED IN A SIMILAR MANNER BY USING THE APPLICABLE CHARTS 67 THROUGH 71. SEE SPECIAL NOTE 5 ON PAGE 33.

- FOR ANY FRACTIONAL AND/OR DIMENSIONAL HEIGHT NOT SPECIFIED IN THE UNIT HEIGHT COLUMN, THE NEXT LARGER DIMENSIONAL HEIGHT WILL BE USED. FOR EXAMPLE, IN CHART 56, FOR A UNIT WHICH IS 40-5/8" HIGH, USE THE SPECIFIED 44" HEIGHT.
- THE UNIT SIZE RANGE (LENGTH OR WIDTH) COVERS ALL SIZES WITHIN THE RANGE SPECIFIED. FOR EXAMPLE, IN CHART 56, FOR A 40-5/8" HIGH UNIT WHICH IS 40" OR GREATER IN LENGTH BUT LESS THAN 47" OR GREATER IN WIDTH, BUT LESS THAN 54", WILL ALLOW 5-ROWS TO BE POSITIONED IN THE FIRST TIER.
- PALLET UNITS WITHIN THE TYPE "C" STACKS MAY BE STORED EITHER IN THE SAME ORIENTATION AS THE TYPE "A" STACKS IN THE MAGAZINE OR TURNED 90° TO THOSE IN THE TYPE "A" STACKS. BY STUDYING CHARTS 65 THROUGH 71 IT CAN BE DETERMINED WHICH POSITIONING WILL RESULT IN THE GREATER NUMBER OF PALLET UNITS. NOTE THAT THE NUMBER OF TYPE "C" STACKS SPECIFIED IN CHART 65 ON PAGE 35 IS BASED ON THE UNITS BEING IN THE SAME ORIENTATION AS THOSE IN THE TYPE "A" STACKS.

CHART NO. 58								
UNIT HEIGHT	UNIT SIZE RANGE, LENGTH OR WIDTH							
47" MAX						35'-43"	43'-54"	
45"						35'	35'-51"	
44"						35'-39"	39'-54"	
43"						35'-43"	43'-54"	
42"					35'	35'-47"	47'-54"	
41"					35'-37"	37'-50"	50'-54"	
40"					35'-40"	40'-54"		
39"					35'-43"	43'-54"		
38"				35'	35'-44"	44'-54"		
37"			35'-37"	37'-46"	46'-54"			
36"			35'-38"	38'-48"	48'-54"			
35"			35'-40"	40'-50"	50'-54"			
34"			35'-41"	41'-51"	51'-54"			
33"			35'-42"	42'-53"	53'-54"			
32"		35'-36"	36'-43"	43'-54"				
31"		35'-37"	37'-44"	44'-54"				
30"		35'-38"	38'-45"	45'-54"				
29"		35'-39"	39'-46"	46'-54"				
28"		35'-39"	39'-47"	47'-54"				
27"		35'-40"	40'-48"	48'-54"				
26"		35'	35'-41"	41'-49"	49'-54"			
25"		35'	35'-41"	41'-50"	50'-54"			
24"		35'-36"	36'-42"	42'-50"	50'-54"			
23"		35'-36"	36'-43"	43'-51"	51'-54"			
22"		35'-37"	37'-43"	43'-52"	52'-54"			
21"		35'-37"	37'-44"	44'-53"	53'-54"			
20"		35'-38"	38'-44"	44'-53"	53'-54"			
19"		35'-38"	38'-45"	45'-54"				
18"		35'-39"	39'-45"	45'-54"				
17"		35'-39"	39'-46"	46'-54"				
15"	35'	35'-40"	40'-46"	46'-54"				
UNIT HEIGHT	8	7	6	5	4	3	2	1
	NUMBER OF ROWS WIDE IN THIRD TIER OF TYPE "A" STACKS							

UNIT HEIGHT	CHART NO. 59 UNIT SIZE RANGE, LENGTH OR WIDTH						
35" MAX						35'-36"	36'-54"
34"						35'-49"	49'-54"
33"					35'-39"	39'-54"	
32"					35'-45"	45'-54"	
31"				35'-36"	36'-49"	49'-54"	
30"				35'-40"	40'-54"		
29"				35'-43"	43'-54"		
28"			35'-36"	36'-45"	45'-54"		
27"			35'-38"	38'-48"	48'-54"		
26"			35'-40"	40'-50"	50'-54"		
25"		35'	35'-42"	42'-52"	52'-54"		
24"		35'-36"	36'-43"	43'-54"			
23"		35'-37"	37'-45"	45'-54"			
22"		35'-38"	38'-46"	46'-54"			
21"		35'-39"	39'-47"	47'-54"			
20"	35'	45'-40"	40'-49"	49'-54"			
19"	35'	35'-41"	41'-50"	50'-54"			
18"	35'-36"	36'-42"	42'-50"	50'-54"			
17"	35'-37"	37'-43"	43'-51"	51'-54"			
16"	35'-37"	37'-44"	44'-52"	52'-54"			
15"	35'-38"	38'-44"	44'-53"	53'-54"			
UNIT HEIGHT	7	6	5	4	3	2	1
	NUMBER OF ROWS WIDE IN FOURTH TIER OF TYPE "A" STACKS						

UNIT HEIGHT	CHART NO. 60 UNIT SIZE RANGE, LENGTH OR WIDTH						
28" MAX						35'-36"	36'-54"
27"						35'-51"	51'-54"
26"					35'-42"	42'-54"	
25"				35'-36"	36'-48"	48'-54"	
24"				35'-40"	40'-54"		
23"			35'	35'-44"	44'-54"		
22"			35'-37"	37'-47"	47'-54"		
21"			35'-40"	40'-50"	50'-54"		
20"		35'	35'-42"	42'-52"	52'-54"		
19"		35'-36"	36'-44"	44'-54"			
18"		35'-38"	38'-45"	45'-54"			
17"		35'-39"	39'-47"	47'-54"			
16"	35'	35'-40"	40'-49"	49'-54"			
15"	35'	35'-41"	41'-50"	50'-54"			
UNIT HEIGHT	7	6	5	4	3	2	1
	NUMBER OF ROWS WIDE IN FIFTH TIER OF TYPE "A" STACKS						

UNIT HEIGHT	CHART NO. 61 UNIT SIZE RANGE, LENGTH OR WIDTH					
23" MAX					35'-43"	43'-54"
22"				35'-39"	39'-54"	
21"			35'	35'-47"	47'-54"	
20"			35'-40"	40'-54"		
19"		35'	35'-44"	44'-54"		
18"		35'-38"	38'-48"	48'-54"		
17"		35'-39"	41'-51"	51'-54"		
16"	35'-36"	36'-43"	43'-54"			
15"	35'-38"	38'-45"	45'-54"			
UNIT HEIGHT	6	5	4	3	2	1
	NUMBER OF ROWS WIDE IN SIXTH TIER OF TYPE "A" STACKS					

UNIT HEIGHT	CHART NO. 62 UNIT SIZE RANGE, LENGTH OR WIDTH				
20" MAX			35'-37"	35'-36"	36'-54"
19"			37'-54"	37'-54"	
18"		35'	35'-47"	47'-54"	
17"		35'-41"	41'-54"		
16"	35'-36"	36'-45"	45'-54"		
15"	35'-40"	40'-50"	50'-54"		
UNIT HEIGHT	5	4	3	2	1
	NUMBER OF ROWS WIDE IN SEVENTH TIER OF TYPE "A" STACKS				

UNIT HEIGHT	CHART NO. 63 UNIT SIZE RANGE, LENGTH OR WIDTH			
17" MAX			35'-49"	49'-54"
16"		35'-45"	45'-54"	
15"	35'-40"	40'-54"		
UNIT HEIGHT	4	3	2	1
	NUMBER OF ROWS WIDE IN EIGHTH TIER OF TYPE "A" STACKS			

UNIT HEIGHT	CHART NO. 64 UNIT SIZE RANGE, LENGTH OR WIDTH	
15" MAX	35'-49"	49'-54"
UNIT HEIGHT	2	1
	NUMBER OF ROWS WIDE IN NINTH TIER OF TYPE "A" STACKS	

CHART NO. 65 NUMBER OF STACKS IN MAGAZINE								
UNIT DIMENSION LENGTHWISE IN MAGAZINE	80'-0" X 25'-0" X 12'-1-3/4" ARCH TYPE MAGAZINE *				40'-0" X 25'-0" X 12'-1-3/4" ARCH TYPE MAGAZINE **			
	"A" STACKS		"C" STACKS		"A" STACKS		"C" STACKS	
	NO.	MHE AISLE	NO.	SPACE REMAIN	NO.	MHE AISLE	NO.	SPACE REMAIN
54"	14	15'-11"	3	26"	6	12'-9"	2	42"
53"	15	12'-8"	2	46"	6	13'-3"	2	50"
52"	15	13'-11"	2	8"	6	13'-9"	2	6"
51"	15	15'-2"	3	26"	6	14'-3"	2	15"
50"	16	12'-3"	2	44"	6	14'-9"	3	24"
49"	16	13'-7"	3	13"	6	15'-3"	3	33"
48"	16	14'-11"	3	32"	7	11'-9"	2	42"
47"	17	12'-4"	2	51"	7	12'-4"	2	51"
46"	17	13'-9"	3	24"	7	12'-11"	2	14"
45"	18	11'-5"	2	44"	7	13'-6"	3	24"
44"	18	12'-11"	3	20"	7	14'-1"	3	34"
43"	18	14'-5"	3	41"	7	14'-8"	3	44"
42"	19	12'-5"	3	20"	8	11'-9"	2	12"
41"	19	14'-0"	3	42"	8	12'-5"	3	23"
40"	20	12'-3"	3	24"	8	13'-1"	3	34"
39"	20	13'-11"	3	8"	8	13'-9"	3	6"
38"	21	12'-5"	3	32"	9	11'-3"	3	18"
37"	22	11'-1"	3	19"	9	12'-0"	3	30"
36"	22	12'-11"	3	8"	9	12'-9"	3	6"
35"	23	11'-10"	3	34"	9	13'-6"	4	19"

* MAGAZINE HAVING PILASTERS
** MAGAZINE W/O PILASTERS

CHART NO. 66		
UNIT HEIGHT	UNIT SIZE RANGE, LENGTH OR WIDTH	
51"-54"	35"-41"	41"-54"
42"-51"	35"-42"	42"-54"
15"-42"	35"-43"	43"-54"
UNIT HEIGHT	3 AND 2	2 AND 2
UNIT HEIGHT	NUMBER OF PALLETS DEEP IN FIRST TIER OF TYPE "C" STACKS	

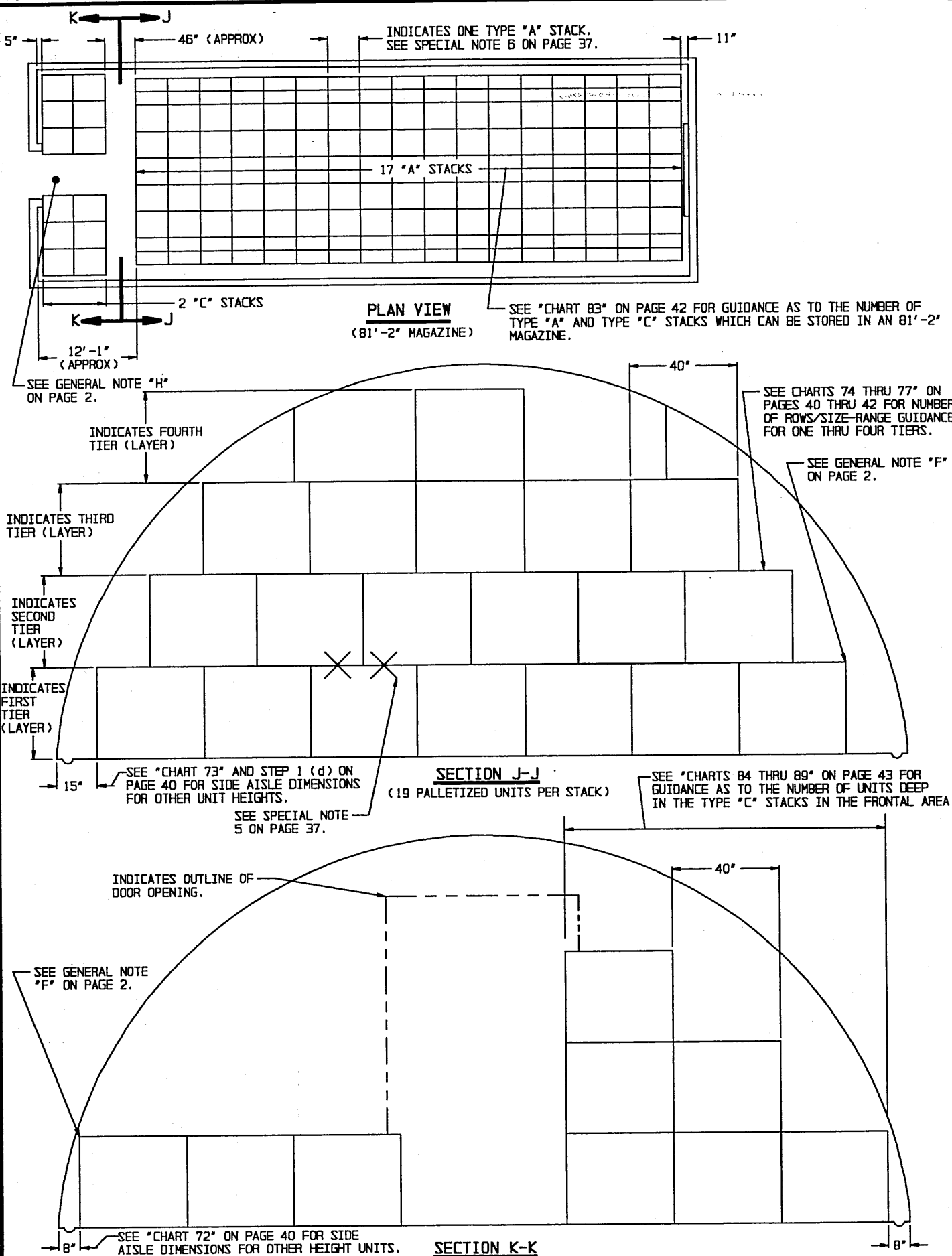
CHART NO. 67			
UNIT HEIGHT	UNIT SIZE RANGE, LENGTH OR WIDTH		
53"-54"	35"-36"	36"-54"	
52"-53"	35"-37"	37"-54"	
51"-52"	35"-38"	38"-54"	
50"-51"	35"-39"	39"-54"	
49"-50"	35"-40"	40"-54"	
48"-49"	35"-41"	41"-54"	
47"-48"	35"-42"	42"-54"	
46"-47"	35"-43"	43"-54"	
45"-46"	35"-44"	44"-54"	
44"-45"	35"-45"	45"-54"	
42"-44"	35"-46"	46"-54"	
41"-42"	35"-47"	47"-54"	
40"-41"	35"-48"	48"-54"	
38"-40"	35"-49"	49"-54"	
37"-38"	35"-50"	50"-54"	
35"-37"	35"-51"	51"-54"	
34"-35"	35"-52"	52"-54"	
33"-34"	35"-52"	52"-54"	
31"-33"	35"-53"	53"-54"	
29"-31"	35"-36"	36"-54"	
25"-29"	35"-37"	37"-54"	
22"-25"	35"-38"	38"-54"	
17"-22"	35"-39"	39"-54"	
15"-17"	35"-40"	40"-54"	
UNIT HEIGHT	3	2	1
UNIT HEIGHT	NUMBER OF PALLETS DEEP IN SECOND TIER OF TYPE "C" STACKS		

CHART NO. 68			
UNIT HEIGHT	UNIT SIZE RANGE, LENGTH OR WIDTH		
42"-43"			35"-41"
41"-42"			35"-46"
40"-41"			35"-51"
36"-40"			35"-54"
35"-36"	35"-36"		36"-54"
34"-35"	35"-38"		38"-54"
33"-34"	35"-39"		39"-54"
32"-33"	35"-41"		41"-54"
31"-32"	35"-42"		42"-54"
30"-31"	35"-43"		43"-54"
29"-30"	35"-45"		45"-54"
28"-29"	35"-46"		46"-54"
27"-28"	35"-47"		47"-54"
26"-27"	35"-48"		48"-54"
25"-26"	35"-49"		49"-54"
24"-25"	35"-50"		50"-54"
23"-24"	35"-51"		51"-54"
22"-23"	35"-52"		52"-54"
21"-22"	35"-53"		53"-54"
19"-21"	35"-36"	36"-54"	
17"-19"	35"-37"	37"-54"	
15"-17"	35"-38"	38"-54"	
UNIT HEIGHT	3	2	1
UNIT HEIGHT	NUMBER OF PALLETS DEEP IN THIRD TIER OF TYPE "C" STACKS		

CHART NO. 69			
UNIT HEIGHT	UNIT SIZE RANGE, LENGTH OR WIDTH		
31"-32"			35"-43"
27"-31"			35"-49"
26"-27"	35"-36"		36"-54"
25"-26"	35"-38"		
24"-25"	35"-40"		
23"-24"	35"-42"		
22"-23"	35"-44"		
21"-22"	35"-46"		
20"-21"	35"-47"		
19"-20"	35"-49"		
18"-19"	35"-50"		
17"-18"	35"-51"		
16"-17"	35"-52"		
15"-16"	35"-53"		
15"	35"-36"	36"-54"	
UNIT HEIGHT	3	2	1
UNIT HEIGHT	NUMBER OF PALLETS DEEP IN FOURTH TIER OF TYPE "C" STACKS		

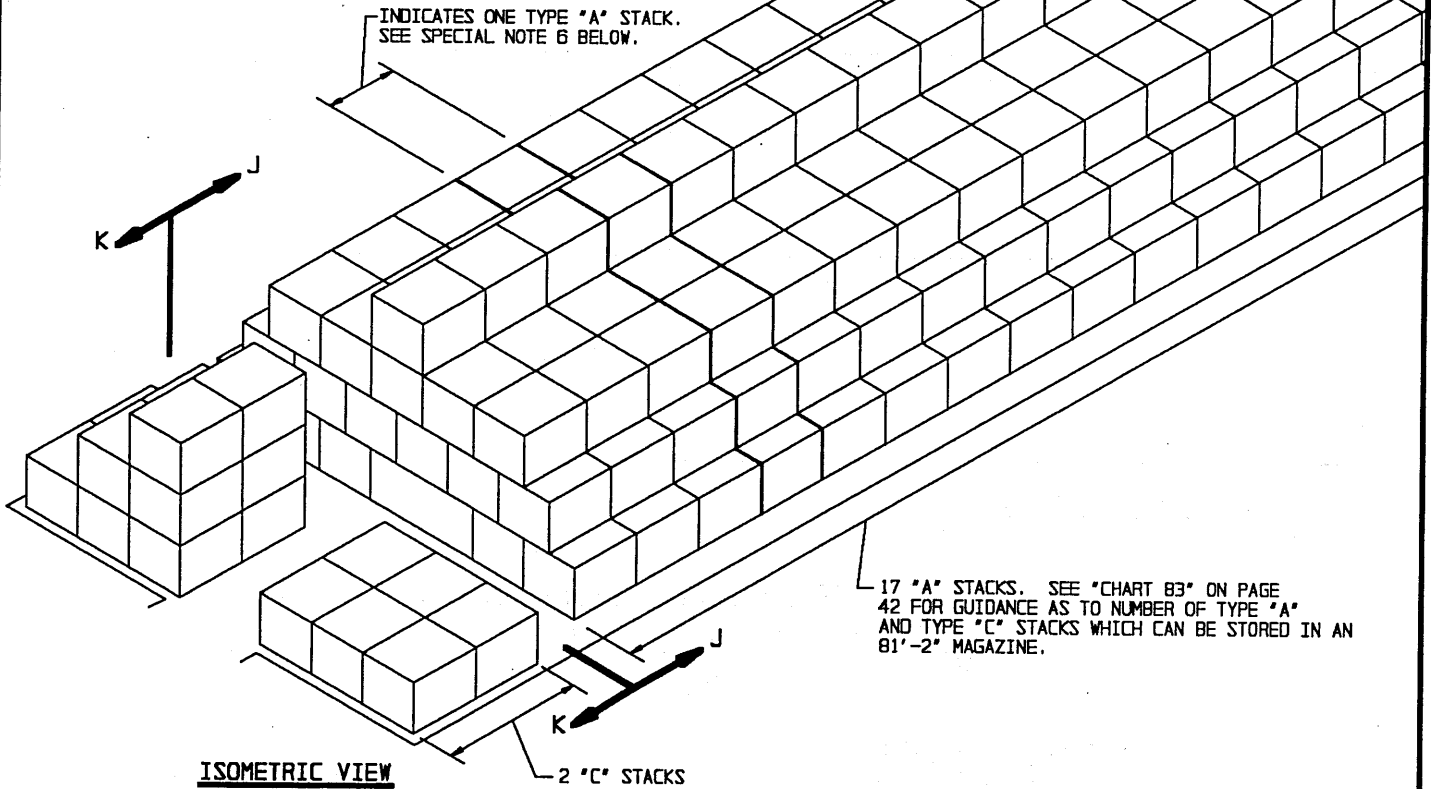
CHART NO. 70			
UNIT HEIGHT	UNIT SIZE RANGE, LENGTH OR WIDTH		
25"-26"			35"-39"
24"-25"			35"-48"
22"-24"			35"-54"
21"-22"			35"-54"
20"-21"	35"		
19"-20"	35"-38"		
18"-19"	35"-40"		
17"-18"	35"-43"		
16"-17"	35"-45"		
15"-16"	35"-47"		
15"	35"-49"		
15"	35"-50"		
UNIT HEIGHT	2		1
UNIT HEIGHT	NUMBER OF PALLETS DEEP IN FIFTH TIER OF TYPE "C" STACKS		

CHART NO. 71			
UNIT HEIGHT	UNIT SIZE RANGE, LENGTH OR WIDTH		
21"			35"-46"
20"			35"-54"
18"	35"-36"		36"-54"
17"	35"-39"		39"-54"
16"	35"-42"		42"-54"
15"	35"-45"		45"-54"
UNIT HEIGHT	2		1
UNIT HEIGHT	NUMBER OF PALLETS DEEP IN SIXTH TIER OF TYPE "C" STACKS		



STORAGE IN 81'-2" MAGAZINE

ITEM	QUANTITY
PALLETIZED UNIT - - -	341



ISOMETRIC VIEW
(81'-2" MAGAZINE)

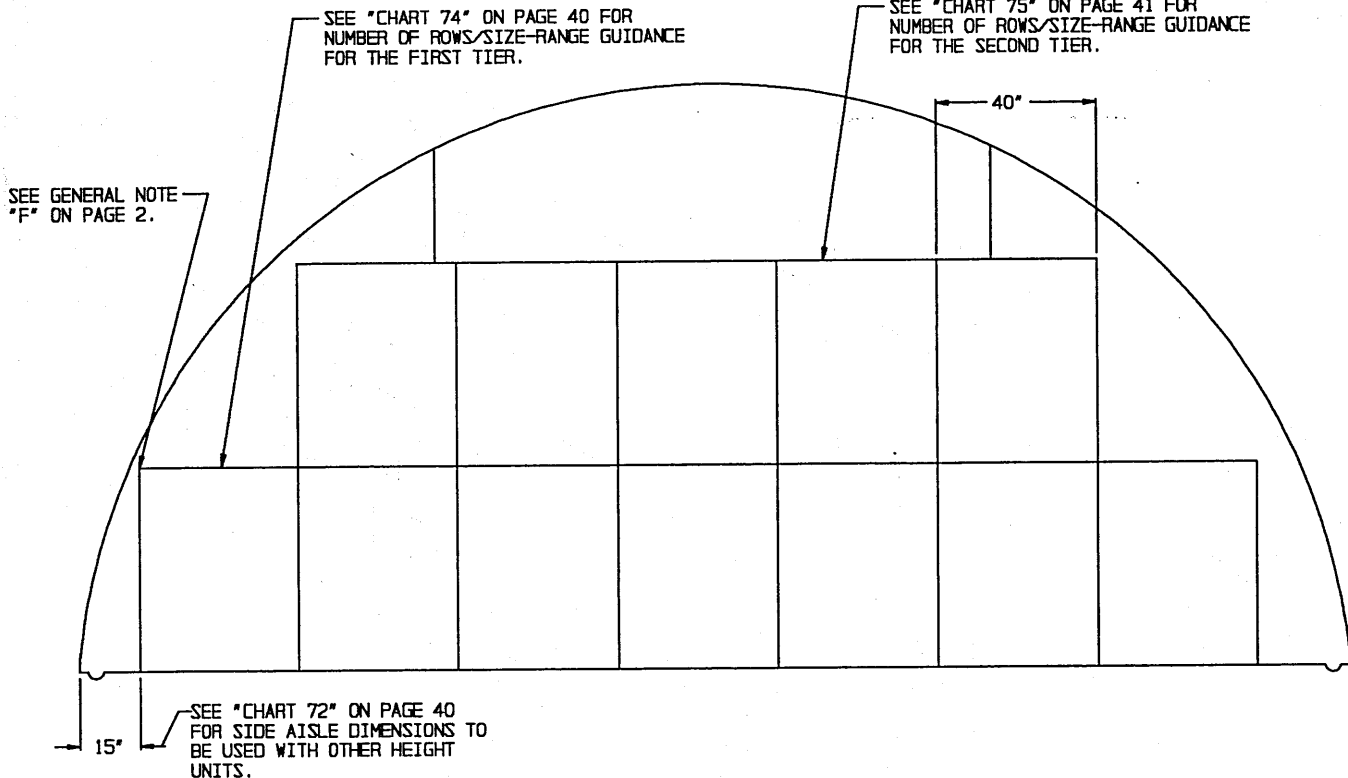
SPECIAL NOTES:

1. THE TYPICAL PALLETIZED UNIT SHOWN HAS OVERALL DIMENSIONS OF 40" LONG BY 48" WIDE BY 34-1/2" HIGH. THE QUANTITY OF UNITS, THE NUMBER OF STACKS, ROWS, AND TIERS (LAYERS) WILL VARY, DEPENDENT UPON THE SIZE OF THE UNIT BEING STORED. SEE THE SPECIAL NOTES AND CHARTS ON PAGES 40 THROUGH 43 FOR GUIDANCE. AS MANY UNITS AS POSSIBLE WILL BE STORED WITHIN THE MAGAZINE.
2. THE STORAGE VIEWS ON PAGE 36 AND ABOVE DEPICT PALLETIZED UNITS STACKED IN STAGGERED ALIGNMENT USING A MINIMUM SIDE AISLE AT THE LEFT SIDE OF THE MAGAZINE. THE TYPICAL STACKING PATTERN VIEWS ON PAGES 38 AND 39 DEPICT PALLETIZED UNITS STACKED IN VERTICAL AND/OR STAGGERED PATTERN, USING A MINIMUM WIDTH SIDE AISLE AT THE LEFT SIDE OF THE MAGAZINE. CHARTS 74 THROUGH 82 ON PAGES 40 THROUGH 42 DEPICT THE MAXIMUM NUMBER OF ROWS PER TIER ACROSS THE WIDTH OF THE MAGAZINE. THE PALLET UNITS IN A STACK WILL BE STORED IN VERTICAL ALIGNMENT IF A CHART FOR THE TIER INDICATES EITHER THE SAME QUANTITY OR TWO LESS ROWS WIDE THAN IS SPECIFIED BY THE CHART FOR THE NEXT LOWER TIER. THE PALLET UNITS IN A TIER WILL BE CENTERED (STAGGERED) ON THE UNITS IN THE NEXT LOWER TIER IF A CHART FOR THE TIER INDICATES A QUANTITY OF ONE LESS ROW WIDE THAN IS SPECIFIED FOR THE NEXT LOWER TIER. HOWEVER, IT SHOULD BE NOTED THAT SOME PALLET UNIT CONFIGURATIONS WILL NOT PROVIDE A STABLE STACK WHEN USING THE STAGGERED PATTERN, AND, THEREFORE, THE VERTICAL ALIGNMENT PATTERN MUST BE USED. ALSO, THE STAGGERED STACKING PATTERN CANNOT BE USED WHEN STORING MULTIPLE LOTS WHICH REQUIRE ADJACENT ROWS TO BE SEPARATED. CHART 83 ON PAGE 42 SPECIFIES THE NUMBER OF TYPE "A" AND TYPE "C" STACKS WHICH CAN BE STORED IN 81'-2" LONG MAGAZINES. CHARTS 84 THROUGH 89 ON PAGE 43 SPECIFY THE NUMBER OF PALLET DEEP WHICH CAN BE STORED IN THE TIERS OF THE TYPE "C" STACKS IN THE FRONTAL AREA OF THE MAGAZINE.
3. REFER TO PAGES 86 AND 87 FOR GUIDANCE IN THE STORAGE OF MULTIPLE LOTS.

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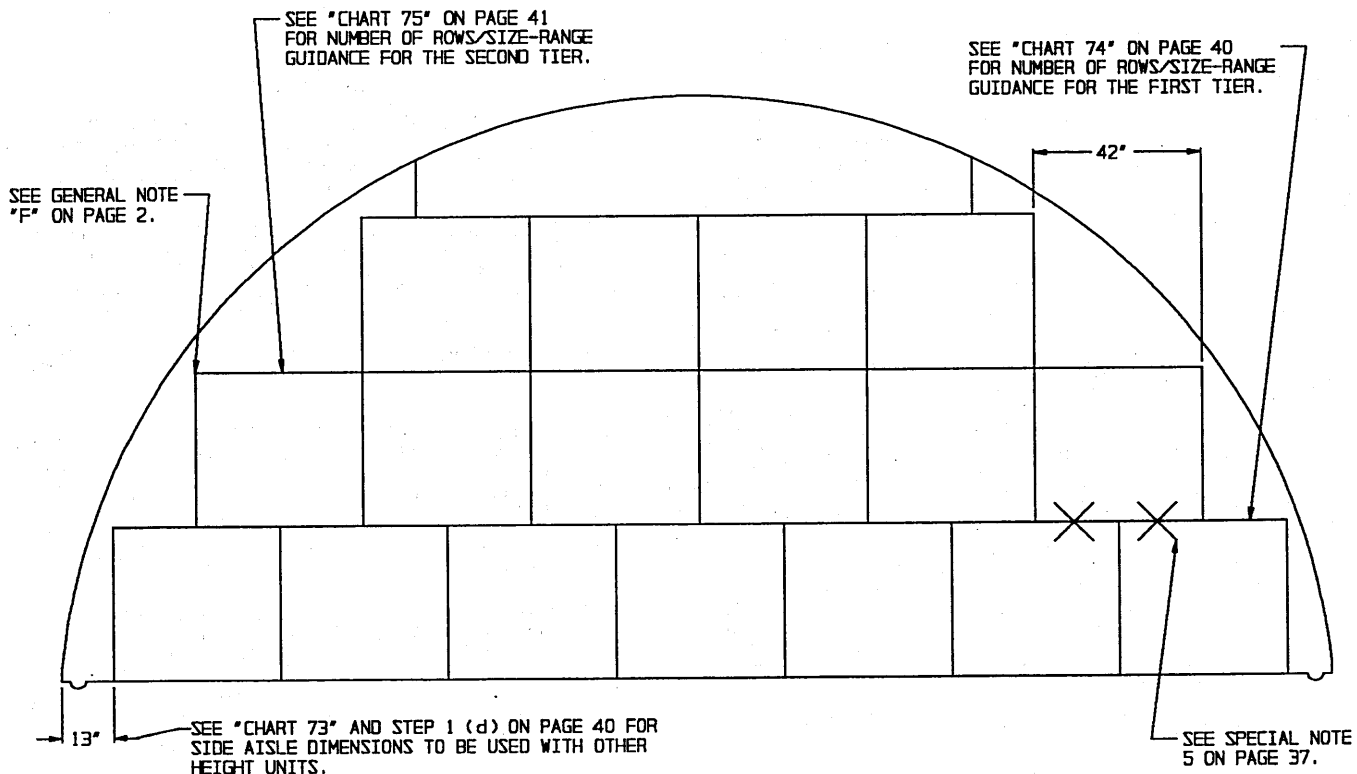
(SPECIAL NOTES CONTINUED)

4. THE STACKING PATTERNS SHOWN ON PAGES 36 THROUGH 39 DEPICT THE PALLETIZED UNIT LENGTH POSITIONED ACROSS THE MAGAZINE. HOWEVER, IT MAY BE MORE ADVANTAGEOUS TO STACK THE PALLETIZED UNITS WITH THE WIDTH ACROSS THE MAGAZINE.
5. WHEN PLACING UNITS IN A STACK WHERE A STAGGERED PATTERN IS BEING USED, SUCH AS TYPICALLY SHOWN IN "SECTION J-J" ON PAGE 36 AND "STACKING PATTERN S" ON PAGE 38, CARE WILL BE USED TO INSURE THAT EACH UNIT IS LEVEL AND STABLE. IF ALL OF THE BOTTOM DECKBOARDS OF A PALLET ARE NOT FULLY SUPPORTED, ONE INCH THICK LUMBER MUST BE POSITIONED UNDER EACH UNSUPPORTED BOTTOM DECKBOARD TO PROVIDE A STABLE UNIT. SEE THE FILLER DETAIL ON PAGE 93 FOR ADDITIONAL GUIDANCE.
6. THE NUMBER OF TYPE "A" STACKS SPECIFIED FOR A MAGAZINE IS BASED ON HAVING A MATERIAL HANDLING EQUIPMENT OPERATING AREA (DISTANCE FROM THE FACE OF THE LAST TYPE "A" STACK TO THE MAGAZINE FRONT WALL) OF 7'-7" PLUS THE LENGTH OR WIDTH OF THE PALLET UNIT, AS APPLICABLE, OR THE LENGTH OF THE FORKLIFT TRUCK TINES (40"), WHICH EVER IS THE GREATEST. ADDITIONAL TYPE "A" STACKS MAY BE STORED IF THE AVAILABLE MATERIALS HANDLING EQUIPMENT PERMITS.
7. IF DESIRED, AND IF NOT IN VIOLATION OF SURVEILLANCE REQUIREMENTS/PROCEDURES, ONE (1) SURVEILLANCE "CONTROL UNIT" SAMPLE MAY BE WITHHELD FROM EACH STORED LOT. IF THE MAGAZINE CONTAINS ONLY ONE (1) LOT, IT IS RECOMMENDED THAT THIS "CONTROL UNIT" BE PLACED JUST INSIDE THE DOOR WHERE IT IS EASILY ACCESSIBLE. IF THE MAGAZINE CONTAINS SEVERAL LOTS, THE "CONTROL UNIT" SAMPLES SHOULD BE PLACED ADJACENT TO THE MHE OPERATING AISLE FOR ACCESSIBILITY.



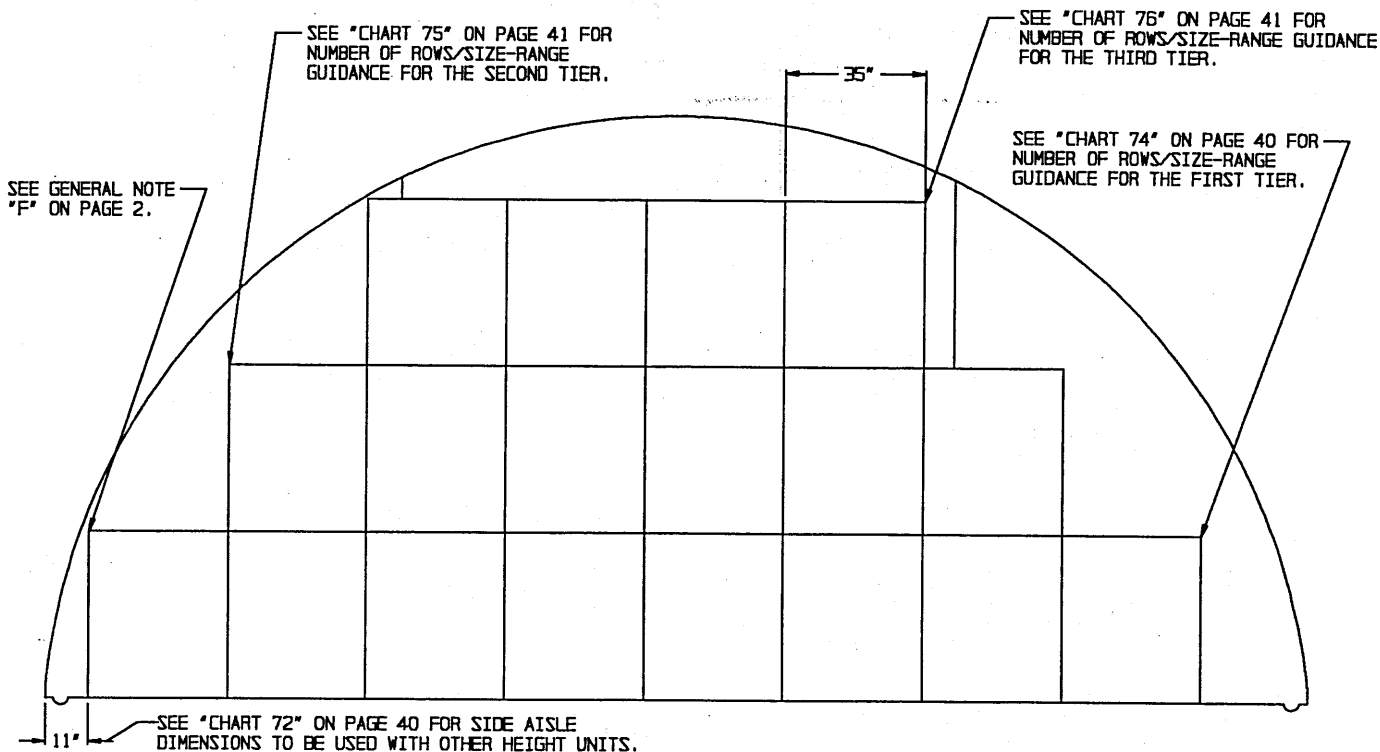
STACKING PATTERN R (40" X 48" PALLET)

THE PALLETIZED UNIT SHOWN IS 40" LONG BY 48" WIDE BY 52-3/4" HIGH. TWO-TIER STORAGE IS APPLICABLE FOR ALL PALLETIZED UNITS WHICH ARE OVER 47" IN HEIGHT.



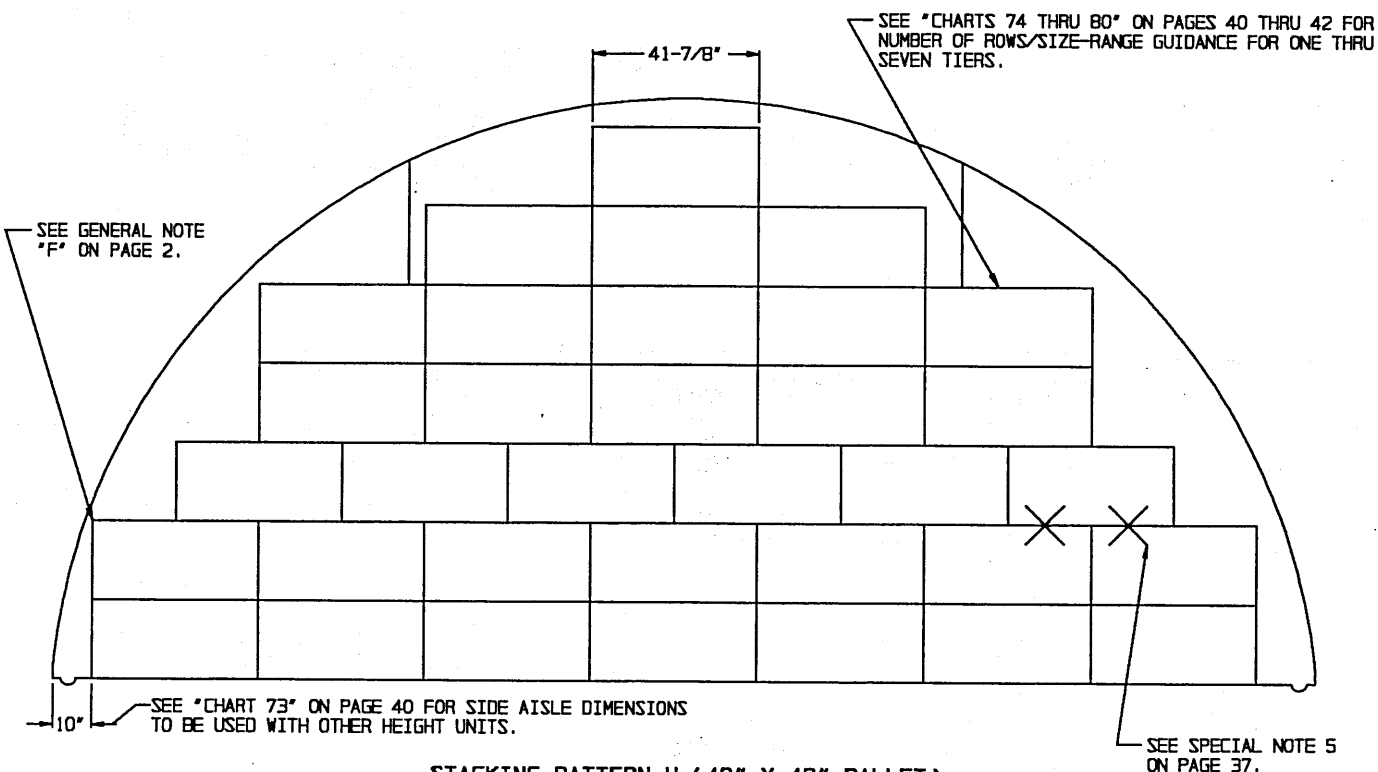
STACKING PATTERN S (40" X 48" PALLET)

THE PALLETIZED UNIT SHOWN IS 42" LONG BY 48" WIDE BY 39" HIGH. THREE-TIER STORAGE IS APPLICABLE FOR ALL PALLETIZED UNITS WHICH ARE OVER 35" BUT NOT MORE THAN 47" IN HEIGHT.



STACKING PATTERN T (35" X 45-1/2" PALLET)

THE PALLETIZED UNIT SHOWN IS 35" LONG BY 45-1/2" WIDE BY 42" HIGH. THREE-TIER STORAGE IS APPLICABLE FOR ALL PALLETIZED UNITS WHICH ARE OVER 35" BUT NOT MORE THAN 47" IN HEIGHT.



STACKING PATTERN U (40" X 48" PALLET)

THE PALLETIZED UNIT SHOWN IS 41-7/8" LONG BY 48" WIDE BY 20" HIGH. SEVEN-TIER STORAGE IS APPLICABLE FOR ALL PALLETIZED UNITS WHICH ARE OVER 17" BUT NOT MORE THAN 20" IN HEIGHT.

SPECIAL NOTES:

1. THE CHARTS ON THIS PAGE AND ON PAGES 41 THROUGH 43 ARE PRESENTED AS GUIDANCE IN THE DEVELOPMENT OF A PATTERN FOR THE STORAGE OF PALLETIZED UNITS OF AMMUNITION AND COMPONENTS IN 26'-6" WIDE BY 12'-1-3/4" HIGH ARCH TYPE MAGAZINES. TO A CERTAIN EXTENT, THE CHARTS MAY ALSO BE USED IN CALCULATING THE QUANTITY OF UNITS WHICH CAN BE STORED. **NOTICE:** THE CHARTS ARE FOR GUIDANCE PURPOSES ONLY. VARIATIONS IN PALLETIZED UNIT OVERALL SIZES, THE COMPACTNESS OF PLACEMENT WITHIN A MAGAZINE, AS WELL AS VARIANCES IN THE INSIDE DIMENSIONS OF THE MAGAZINE CAN CAUSE DISCREPANCIES WITHIN THE CHARTS.
2. THE FOLLOWING STEP-BY-STEP PROCEDURES ARE PRESENTED AS GUIDANCE IN USING THE DEPICTED CHARTS. SEE THE "EXAMPLE" ON THIS PAGE AND ON PAGE 41.

STEP 1

- a. THE STORAGE VIEWS ON PAGES 36 THRU 39 DEPICT VARIOUS STACKING PATTERNS. A PATTERN WILL BE ESTABLISHED BY USING THE DIMENSIONAL DATA SET FORTH IN THE CHARTS.
 - b. WHEN USING THE STACKING PATTERN SHOWN IN TYPICAL "STACKING PATTERNS R" ON PAGE 38 OR "T" ON PAGE 39, LOCATE IN CHART 72 THE HEIGHT OF THE PALLETIZED UNIT TO BE STORED. OPPOSITE THAT HEIGHT IS SPECIFIED A MINIMUM LEFT SIDE AISLE DIMENSION WHICH WILL LOCATE THE FIRST TIER OF UNITS ACROSS THE WIDTH OF THE MAGAZINE.
 - c. WHEN USING THE STACKING PATTERN SHOWN IN THE TYPICAL "STACKING PATTERN U" ON PAGE 39, LOCATE IN CHART 73 THE HEIGHT OR THE PALLETIZED UNIT TO BE STORED. OPPOSITE THAT HEIGHT IS SPECIFIED A MINIMUM LEFT SIDE AISLE DIMENSION WHICH WILL LOCATE THE FIRST AND SECOND TIERS OF UNITS ACROSS THE WIDTH OF THE MAGAZINE.
 - d. WHEN USING THE STACKING PATTERN SHOWN IN "SECTION J-J" ON PAGE 36 AND TYPICAL "STACKING PATTERN S" ON PAGE 38 (WHICH SHOW THE SECOND TIER STAGGERED WITH THE PALLETIZED UNITS CENTERED ON THE JOINTS OF THE FIRST TIER).
- (1) FIND THE UNIT HEIGHT IN ONE OF THE COLUMNS OF CHART 73.
 - (2) LOOK IN THE COLUMN ADJACENT TO THE RIGHT FOR THE MINIMUM LEFT SIDE AISLE.
 - (3) SUBTRACT 1/2 OF THE UNIT WIDTH OR LENGTH (DIM ACROSS MAGAZINE) AND THIS IS THE MINIMUM LEFT SIDE AISLE WHEN STAGGERING.

NOTE:

THE MINIMUM LEFT SIDE AISLE MUST NEVER BE LESS THAN THE DIMENSION GIVEN FOR THE UNIT HEIGHT IN CHART 72. IF ONE-HALF OF THE UNIT LENGTH OR WIDTH (DIMENSION ACROSS THE MAGAZINE) SUBTRACTED FROM THE MINIMUM LEFT SIDE AISLE GIVEN IN CHART 73 IS LESS THAN THE DIMENSION GIVEN IN CHART 72, USE THE MINIMUM DIMENSION GIVEN IN CHART 72 AS THE LEFT SIDE AISLE.

(CONTINUED AT RIGHT)

EXAMPLE A

SEE BOTTOM STACKING PATTERN ON PAGE 38. THE UNIT LENGTH IS 42" AND THE HEIGHT IS 39". THE MINIMUM LEFT SIDE AISLE DIMENSION IN CHART 73 IS 33". SUBTRACTING 21" (ONE-HALF THE UNIT LENGTH) FROM 33" LEAVES 11". USE 11" FOR THE LEFT SIDE AISLE BECAUSE 11" IS GREATER THAN THE 9" SPECIFIED IN CHART 72.

EXAMPLE B

IF THE UNIT HEIGHT IS 30", A STAGGERED STACKING PATTERN IS TO BE USED, AND THE DIMENSION ACROSS THE MAGAZINE IS 48" THE MINIMUM LEFT SIDE AISLE IN CHART 73 IS 21". WE CANNOT SUBTRACT 24" FROM 21", SO WE USE THE MINIMUM LEFT SIDE AISLE FROM CHART 72 FOR A UNIT HEIGHT OF 30", WHICH IS 6".

EXAMPLE C

SEE THE "STACKING PATTERN U", ON PAGE 39. IN THIS PATTERN THE FIRST AND SECOND TIERS ARE IN VERTICAL ALIGNMENT AND THE THIRD TIER IS STAGGERED ON THE FIRST AND SECOND TIERS. THE UNIT LENGTH IS 41'-7/8" AND THE HEIGHT IS 20". FIND THE UNIT HEIGHT OF 20" IN CHART 73. THE MINIMUM LEFT SIDE AISLE GIVEN IS 10".

STEP 2

LOCATE IN THE LEFT HAND COLUMN OF CHART 74 THE FIGURE WHICH IS EITHER THE EXACT UNIT HEIGHT OR IS THE NEXT EVEN DIMENSION OVER THE UNIT HEIGHT. ALONG THAT LINE, LOCATE THE COLUMN WHICH CONTAINS THE LENGTH OR THE WIDTH OF THE UNIT TO BE STORED. THE HEADING AT THE BOTTOM OF THAT COLUMN WILL INDICATE THE NUMBER OF ROWS WIDE THAT CAN BE STORED IN THE FIRST TIER (LAYER).

STEP 3

LOCATE IN THE LEFT HAND COLUMN OF CHART 75 THE FIGURE WHICH IS EITHER THE EXACT UNIT HEIGHT OR IS THE NEXT EVEN DIMENSION OVER THE UNIT HEIGHT. ALONG THAT LINE LOCATE THE COLUMN WHICH CONTAINS THE LENGTH OR THE WIDTH OF THE UNIT TO BE STORED. THE HEADING AT THE BOTTOM OF THAT COLUMN WILL INDICATE THE NUMBER OF ROWS WIDE THAT CAN BE STORED IN THE SECOND TIER.

STEP 4

REPEAT STEP 3 FOR CHARTS 76 THROUGH 82 AS APPLICABLE, FOR THE THIRD THROUGH THE NINTH TIER.

STEP 5 (NUMBER OF TYPE "A" AND TYPE "C" STACKS IN THE MAGAZINE)

LOCATE IN THE LEFT HAND COLUMN OF CHART 83 ON PAGE 42 THE LENGTH OR WIDTH, AS APPLICABLE FOR THE ORIENTATION OF THE UNITS BEING STORED. OPPOSITE THAT LENGTH OR WIDTH FIGURE IS SPECIFIED THE APPROXIMATE NUMBER OF TYPE "A" STACKS (FULL STACKS ACROSS THE MAGAZINE) AS WELL AS THE NUMBER OF TYPE "C" STACKS (PARTIAL STACKS AT THE FRONT OF THE MAGAZINE) THAT CAN BE POSITIONED IN AN 81'-2", LONG MAGAZINE. SEE SPECIAL NOTE 6 ON PAGE 37 FOR THE CRITERIA USED IN DETERMINING THE NUMBER OF TYPE "A" STACKS SPECIFIED WITHIN THE CHART.

(CONTINUED ON PAGE 41)

CHART NO. 72	
UNIT HEIGHT	MINIMUM LEFT SIDE AISLE
53' - 54'	16'
[52' - 53']	[15']
50' - 52'	14'
47' - 50'	13'
45' - 47'	12'
42' - 45'	11'
39' - 42'	10'
37' - 39'	9'
33' - 37'	8'
31' - 33'	7'
15' - 31'	6'

THIS CHART IS FOR USE WHEN STACKING PALLETIZED UNITS AS SHOWN IN TYPICAL "STACKING PATTERN T" ON PAGE 39.

CHART NO. 73			
UNIT HEIGHT	MINIMUM LEFT SIDE AISLE	UNIT HEIGHT	MINIMUM LEFT SIDE AISLE
54'-55"	60"	29'-30"	18"
52'-54"	57"	27'-29"	17"
51'-52"	54"	26'-27"	16"
50'-51"	51"	26"	15"
48'-50"	48"	25'-26"	14"
47'-48"	45"	23'-25"	13"
45'-47"	42"	22'-23"	12"
43'-45"	39"	21'-22"	11"
41'-43"	36"	19'-21"	10"
38'-41"	33"	18'-19"	9"
37'-38"	30"	16'-18"	8"
35'-37"	27"	15'-16"	7"
33'-35"	24"	15"	6"
30'-33"	21"		

THIS CHART IS FOR USE WHEN STACKING THE FIRST TWO TIERS IN VERTICAL ALIGNMENT AS SHOWN IN TYPICAL "STACKING PATTERN U" ON PAGE 39.

UNIT HEIGHT	CHART NO. 74			
	UNIT SIZE RANGE, LENGTH OR WIDTH			
[54']	35'	35'-40'	40'-47'	47'-54'
49'	35'	35'-41'	41'-47'	47'-54'
48'	35'-36'	36'-41'	41'-47'	47'-54'
47'	35'-36'	36'-41'	41'-48'	48'-54'
40'	35'-36'	36'-42'	42'-49'	49'-54'
37'	35'-37'	37'-42'	42'-49'	49'-54'
30'	35'-37'	37'-42'	42'-50'	50'-54'
28'	35'-37'	37'-43'	43'-50'	50'-54'
15'-23'	35'-38'	38'-43'	43'-50'	50'-54'
UNIT HEIGHT	8	7	6	5
	NUMBER OF ROWS WIDE IN FIRST TIER			

NOTE:
A LEFT SIDE AISLE GREATER THAN THE MINIMUM DIMENSION GIVEN IN CHART 72 AND CHART 73 MAY BE USED TO ACHIEVE A MAXIMUM STACKING PATTERN.

STEP 6 (NUMBER OF PALLETS DEEP IN TYPE "C" STACKS)

LOCATE IN THE LEFT HAND COLUMN OF CHART 84 ON PAGE 43 THE LINE WHICH SPECIFIES A PALLET UNIT HEIGHT RANGE THAT CONTAINS THE HEIGHT OF THE UNIT TO BE STORED. ALONG THAT LINE LOCATE THE COLUMN WHICH CONTAINS THE LENGTH OR WIDTH OF THE UNIT, AS APPLICABLE, WHICH IS TO BE POSITIONED ACROSS THE WIDTH OF THE MAGAZINE. THE HEADING AT THE BASE OF THAT COLUMN WILL INDICATE THE NUMBER OF PALLETS DEEP WHICH CAN BE STORED AT EACH SIDE OF THE DOOR OPENING IN THE FIRST TIER OF A TYPE "C" STACK.

STEP 7

REPEAT STEP 6 FOR CHARTS 85 THROUGH 89, AS APPLICABLE, TO DETERMINE THE NUMBER OF PALLETS DEEP WHICH CAN BE STACKED ON THE LEFT SIDE OF THE DOOR IN THE SECOND THROUGH SIXTH TIERS.

EXAMPLE

THE PALLETIZED UNIT SHOWN IN TYPICAL "STACKING PATTERN R" ON PAGE 38 HAS BEEN SELECTED FOR THE EXAMPLE. THE UNIT IS 40" LONG BY 48" WIDE BY 52-3/4" HIGH. A STORAGE PATTERN CAN BE DETERMINED BY FOLLOWING THE DOTTED-LINE EXAMPLE WITHIN CHARTS 72 THROUGH 75 AND CHARTS 83 THROUGH 85 IN CONJUNCTION WITH USING THE STEP-BY-STEP PROCEDURES SPECIFIED ON PAGE 40 AND THIS PAGE. TO FIND THE MINIMUM LEFT SIDE AISLE LOOK IN THE LEFT HAND COLUMN OF CHART 72, UNDER THE UNIT HEIGHT. THE 52-3/4" UNIT HEIGHT IS WITHIN THE 52"-53" RANGE AND THE MINIMUM LEFT SIDE AISLE IS INDICATED IN THE RIGHT HAND COLUMN AS 15". TO FIND THE NUMBER OF ROWS WIDE IN THE FIRST TIER LOOK IN THE LEFT HAND COLUMN OF CHART 74. USE THE 54" HEIGHT, AS THE UNIT HEIGHT OF 52-3/4" IS GREATER THAN 49" AND THE NEXT HEIGHT LISTED IS 54". USING THE 40" UNIT LENGTH FOLLOW THE ARROWS ALONG THE DOTTED LINE TO THE RIGHT. THE 40" UNIT LENGTH IS WITHIN THE 40"-47" RANGE. FOLLOW THE ARROWS DOWN TO THE NUMERAL IN THE HEADING OF THAT COLUMN WHICH SPECIFIES THAT 6 UNITS, 40" LONG, CAN BE POSITIONED ACROSS THE WIDTH OF THE MAGAZINE IN THE FIRST TIER. FOLLOWING THE SAME PROCEDURE IN CHART 75 WE GO TO THE 53" HEIGHT AS THE UNIT HEIGHT OF 52-3/4" IS GREATER THAN 52" AND THE NEXT HEIGHT LISTED IS 53". USING THE 40" UNIT LENGTH FOLLOW THE ARROWS ALONG THE DOTTED LINE TO THE RIGHT. THE 40" UNIT LENGTH IS WITHIN THE 40"-50" RANGE. FOLLOW THE ARROWS DOWN TO THE NUMERAL IN THE HEADING OF THAT COLUMN WHICH SPECIFIES THAT 4 UNITS, 40" LONG, CAN BE POSITIONED ACROSS THE WIDTH OF THE MAGAZINE IN THE SECOND TIER. IN CHART 76 THE LEFT HAND COLUMN ONLY SHOWS UNIT HEIGHTS UP TO 47" WHICH INDICATES THAT THE 52-3/4" HIGH UNIT CANNOT BE STACKED OVER TWO TIERS HIGH.

TO FIND THE NUMBER OF TYPE "A" AND TYPE "C" STACKS WHICH CAN BE STORED IN A MAGAZINE, LOOK AT CHART 83 ON PAGE 42. SINCE WE ARE POSITIONING THE 40" UNIT LENGTH ACROSS THE WIDTH OF THE MAGAZINE, WE NOW LOOK FOR THE UNIT WIDTH OF 48" IN THE LEFT HAND COLUMN. FOLLOWING THE ARROWS TO THE RIGHT INDICATES THAT 17 TYPE "A" STACKS AND 2 TYPE "C" STACKS CAN BE STORED IN AN 81'-2" MAGAZINE.

TO FIND THE NUMBER OF PALLETS DEEP AT EACH SIDE OF THE DOOR OPENING IN TYPE "C" STACKS, LOOK IN THE LEFT HAND COLUMN OF CHART 84 ON PAGE 43. THE UNIT HEIGHT OF 52-3/4" FALLS WITHIN THE RANGE OF 47"-54". FOLLOW THE ARROW ALONG THE DOTTED LINE TO THE COLUMN WHICH CONTAINS THE 48" WIDTH OF THE UNIT. FOLLOW THE ARROW DOWN TO THE NUMERALS IN THE HEADING AT THE BASE OF THAT COLUMN WHICH SPECIFIES THAT 2 UNITS CAN BE POSITIONED AT EACH SIDE OF THE DOOR OPENING, THOSE ON THE RIGHT SIDE BY USING A PALLET JACK, AFTER COMPLETING ALL THE TIERS ON THE LEFT SIDE. THE NUMBER OF PALLETS DEEP IN THE SECOND, THIRD, AND HIGHER TIERS CAN BE DETERMINED IN SIMILAR A MANNER BY USING THE APPLICABLE CHARTS 85 THRU 89. SEE SPECIAL NOTE 5 BELOW.

- FOR ANY FRACTIONAL AND/OR DIMENSIONAL HEIGHT NOT SPECIFIED IN THE UNIT HEIGHT COLUMN, THE NEXT LARGER DIMENSIONAL HEIGHT WILL BE USED. FOR EXAMPLE, IN CHART NUMBER 74, FOR A UNIT WHICH IS 40-5/8" HIGH, USE THE SPECIFIED 47" HEIGHT.
- THE UNIT SIZE RANGE (LENGTH OR WIDTH) COVERS ALL SIZES WITHIN THE RANGE SPECIFIED. FOR EXAMPLE, IN CHART 74, FOR A 40-5/8" HIGH UNIT WHICH IS 41" OR GREATER BUT LESS THAN 48" IN LENGTH OR WIDTH, SIX ROWS MAY BE POSITIONED IN THE FIRST TIER. A 40-5/8" HIGH UNIT WHICH IS 48" OR GREATER BUT LESS THAN 54" IN WIDTH WILL ALLOW 5-ROWS TO BE POSITIONED IN THE FIRST TIER.
- PALLET UNITS WITHIN THE TYPE "C" STACKS MAY BE STORED EITHER IN THE SAME ORIENTATION AS THE TYPE "A" STACKS IN THE MAGAZINE OR TURNED 90° TO THOSE IN THE TYPE "A" STACKS. BY STUDYING CHARTS 83 THRU 89 IT CAN BE DETERMINED WHICH POSITIONING WILL RESULT IN THE GREATER NUMBER OF PALLET UNITS. NOTE THAT THE NUMBER OF TYPE "C" STACKS SPECIFIED IN CHART 83 ON PAGE 42 IS BASED ON THE UNITS BEING IN THE SAME ORIENTATION AS THOSE IN THE TYPE "A" STACKS.

UNIT HEIGHT	CHART NO. 75					
	UNIT SIZE RANGE, LENGTH OR WIDTH					
54"				35'-39"	39'-49"	49'-54"
53"				35'-40"	40'-50"	50'-54"
52"				35'-41"	41'-51"	51'-54"
51"			35'	35'-42"	42'-52"	52'-54"
50"			35'	35'-43"	43'-53"	53'-54"
49"			35'-36"	36'-43"	43'-54"	
48"			35'-37"	37'-44"	44'-54"	
47"			35'-37"	37'-45"	45'-54"	
46"			35'-38"	38'-46"	46'-54"	
45"			35'-39"	39'-46"	46'-54"	
44"			35'-39"	39'-47"	47'-54"	
43"			35'-40"	40'-48"	48'-54"	
41"		35'	35'-41"	41'-49"	49'-54"	
40"		35'	35'-41"	41'-50"	50'-54"	
39"		35'-36"	36'-42"	42'-50"	50'-54"	
38"		35'-36"	36'-42"	42'-51"	51'-54"	
37"		35'-37"	37'-43"	43'-52"	52'-54"	
35"		35'-37"	37'-44"	44'-52"	52'-54"	
34"		35'-38"	38'-44"	44'-53"	53'-54"	
32"		35'-38"	38'-45"	45'-54"		
31"		35'-39"	39'-45"	45'-54"		
30"		35'-39"	39'-46"	46'-54"		
28"		35'	35'-40"	40'-46"	46'-54"	
27"		35'	35'-40"	40'-47"	47'-54"	
24"		35'-36"	36'-41"	41'-47"	47'-54"	
23"		35'-36"	36'-41"	41'-48"	48'-54"	
20"		35'-36"	36'-42"	42'-49"	49'-54"	
15'-18"		35'-37"	37'-42"	48'-49"	49'-54"	
UNIT HEIGHT	8	7	6	5	4	3
	NUMBER OF ROWS WIDE IN SECOND TIER OF TYPE "A" STACKS					

UNIT HEIGHT	CHART NO. 76					
	UNIT SIZE RANGE, LENGTH OR WIDTH					
47" MAX						35'-54"
46"						41'-54"
45"						51'-54"
44"					35'-41"	
43"					35'-51"	
42"					40'-54"	
41"				35'-36"	36'-48"	
40"				35'-38"	38'-51"	
39"				35'-41"	41'-54"	
38"				35'-43"	43'-54"	
37"			35'-36"	36'-45"	45'-54"	
36"			35'-38"	38'-47"	47'-54"	
35"			35'-39"	39'-49"	49'-54"	
34"			35'-40"	40'-51"	51'-54"	
33"			35'-40"	40'-51"	51'-54"	
32"			35'-36"	36'-43"	43'-54"	
31"			35'-37"	37'-44"	44'-54"	
30"			35'-38"	38'-45"	45'-54"	
29"			35'-39"	39'-46"	46'-54"	
28"			35'-40"	40'-48"	48'-54"	
27"			35'-41"	41'-49"	49'-54"	
26"		35'-36"	36'-42"	42'-50"	50'-54"	
25"		35'-36"	36'-42"	42'-51"	51'-54"	
24"		35'-37"	37'-43"	43'-52"	52'-54"	
23"		35'-37"	37'-44"	44'-53"	53'-54"	
22"		35'-38"	38'-44"	44'-53"	53'-54"	
21"		35'-39"	39'-45"	45'-54"		
20"		35'-39"	39'-46"	46'-54"		
18"		35'	35'-40"	40'-47"	47'-54"	
16"		35'-36"	36'-41"	41'-47"	47'-54"	
15"		35'-36"	36'-41"	41'-48"	48'-54"	
UNIT HEIGHT	8	7	6	5	4	3
	NUMBER OF ROWS WIDE IN THIRD TIER OF TYPE "A" STACKS					

CHART NO. 77							
UNIT HEIGHT	UNIT SIZE RANGE, LENGTH OR WIDTH						
35" MAX						35'-48"	35'-54"
34"						40'-54"	48'-54"
33"					35'-40"	35'-45"	
32"					35'-41"	37'-50"	
31"				35'-37"	35'-41"	41'-54"	
30"				35"	35'-44"	44'-54"	
29"				35'-37"	37'-47"	47'-54"	
28"				35'-39"	39'-49"	49'-54"	
27"				35'-41"	41'-51"	51'-54"	
26"				35'-43"	43'-53"	53'-54"	
25"		35"	35'-37"	37'-44"	44'-54"		
24"		35'-38"	38'-46"	46'-54"			
23"		35'-39"	39'-47"	47'-54"			
22"		35'-40"	40'-48"	48'-54"			
21"		35'-41"	41'-50"	50'-54"			
20"	35"	35'-42"	42'-51"	51'-54"			
19"	35'-36"	36'-42"	43'-52"	52'-54"			
18"	35'-37"	37'-43"	44'-53"	53'-54"			
17"	35'-38"	38'-44"					
16"	35'-38"	38'-45"					
15"	35'-39"	39'-46"					
UNIT HEIGHT	7	6	5	4	3	2	1
	NUMBER OF ROWS WIDE IN FOURTH TIER OF TYPE "A" STACKS						

CHART NO. 78							
UNIT HEIGHT	UNIT SIZE RANGE, LENGTH OR WIDTH						
28" MAX						35'-51"	35'-54"
27"					42"	42'-54"	51'-54"
26"					35'-36"	36'-49"	
25"					35'-41"	41'-54"	
24"					35'-45"	45'-54"	
23"			35'-36"	36'-45"	45'-54"		
22"			35'-38"	38'-48"	48'-54"		
21"			35'-40"	40'-51"	51'-54"		
20"		35"	35'-43"	43'-53"	53'-54"		
19"		35'-37"	37'-45"	45'-54"			
18"		35'-39"	39'-46"	46'-54"			
17"		35'-40"	40'-48"	48'-54"			
16"	35"	35'-41"	41'-50"	50'-54"			
15"	35'-36"	36'-43"	43'-51"	51'-54"			
UNIT HEIGHT	7	6	5	4	3	2	1
	NUMBER OF ROWS WIDE IN FIFTH TIER OF TYPE "A" STACKS						

CHART NO. 79						
UNIT HEIGHT	UNIT SIZE RANGE, LENGTH OR WIDTH					
23" MAX					35'-41"	41'-54"
22"				35'-40"	40'-54"	48'-54"
21"				35'-41"	41'-54"	
20"			35'-36"	36'-45"	45'-54"	
19"			35'-38"	39'-49"	49'-54"	
18"			35'-42"	42'-52"	52'-54"	
17"	35"	35'-37"	37'-44"	44'-54"		
16"	35'-39"	39'-46"	46'-54"			
15"						
UNIT HEIGHT	6	5	4	3	2	1
	NUMBER OF ROWS WIDE IN SIXTH TIER OF TYPE "A" STACKS					

CHART NO. 80				
UNIT HEIGHT	UNIT SIZE RANGE, LENGTH OR WIDTH			
20" MAX			35'-38"	38'-54"
19"			36'-48"	48'-54"
18"		35'-36"	36'-48"	
17"		35'-42"	42'-54"	
16"	35'-37"	37'-47"	47'-54"	
15"	35'-40"	40'-51"	51'-54"	
UNIT HEIGHT	5	4	3	2
	NUMBER OF ROWS WIDE IN SEVENTH TIER OF TYPE "A" STACKS			

CHART NO. 81				
UNIT HEIGHT	UNIT SIZE RANGE, LENGTH OR WIDTH			
17" MAX			35'-48"	48'-54"
16"		35'-45"	45'-54"	
15"				
UNIT HEIGHT	4	3	2	1
	NUMBER OF ROWS WIDE IN EIGHTH TIER OF TYPE "A" STACKS			

CHART NO. 82		
UNIT HEIGHT	UNIT SIZE RANGE, LENGTH OR WIDTH	
15" MAX	35'-51"	51'-54"
UNIT HEIGHT	2	1
	NUMBER OF ROWS WIDE IN NINTH TIER OF TYPE "A" STACKS	

CHART NO. 83				
UNIT DIMENSION LENGTHWISE IN MAGAZINE	81'-2 X 26'-6" X 12'-1-3/4" ARCH TYPE MAGAZINE *			
	"A" STACKS		"C" STACKS	
	NO.	MHE AISLE	NO.	SPACE REMAIN
54"	15	12'-7"	2	40"
53"	15	13'-10"	2	57"
52"	15	15'-1"	3	22"
51"	16	12'-1"	2	40"
50"	16	13'-5"	3	8"
49"	16	14'-9"	3	27"
48"	17	12'-1"	2	46"
47"	17	13'-6"	3	18"
46"	17	14'-11"	3	38"
45"	18	12'-7"	3	13"
44"	18	14'-1"	3	34"
43"	19	12'-0"	3	12"
42"	19	13'-7"	3	34"
41"	20	11'-9"	3	15"
40"	20	13'-5"	3	36"
39"	21	11'-10"	3	22"
38"	21	13'-7"	4	8"
37"	22	12'-3"	3	33"
36"	23	11'-1"	3	22"
35"	23	13'-0"	4	13"

* MAGAZINE HAVING PILASTERS

CHART NO. 84			
UNIT HEIGHT	UNIT SIZE RANGE, LENGTH OR WIDTH		
47'-54"	35'-40"	40'-43"	43'-54"
39'-47"	35'-42"	42'-44"	44'-54"
15'-39"	35'-43"	43'-45"	45'-54"
UNIT HEIGHT	3 AND 3	3 AND 2	2 AND 2
	NUMBER OF PALLETS DEEP IN FIRST TIER OF TYPE "C" STACKS		

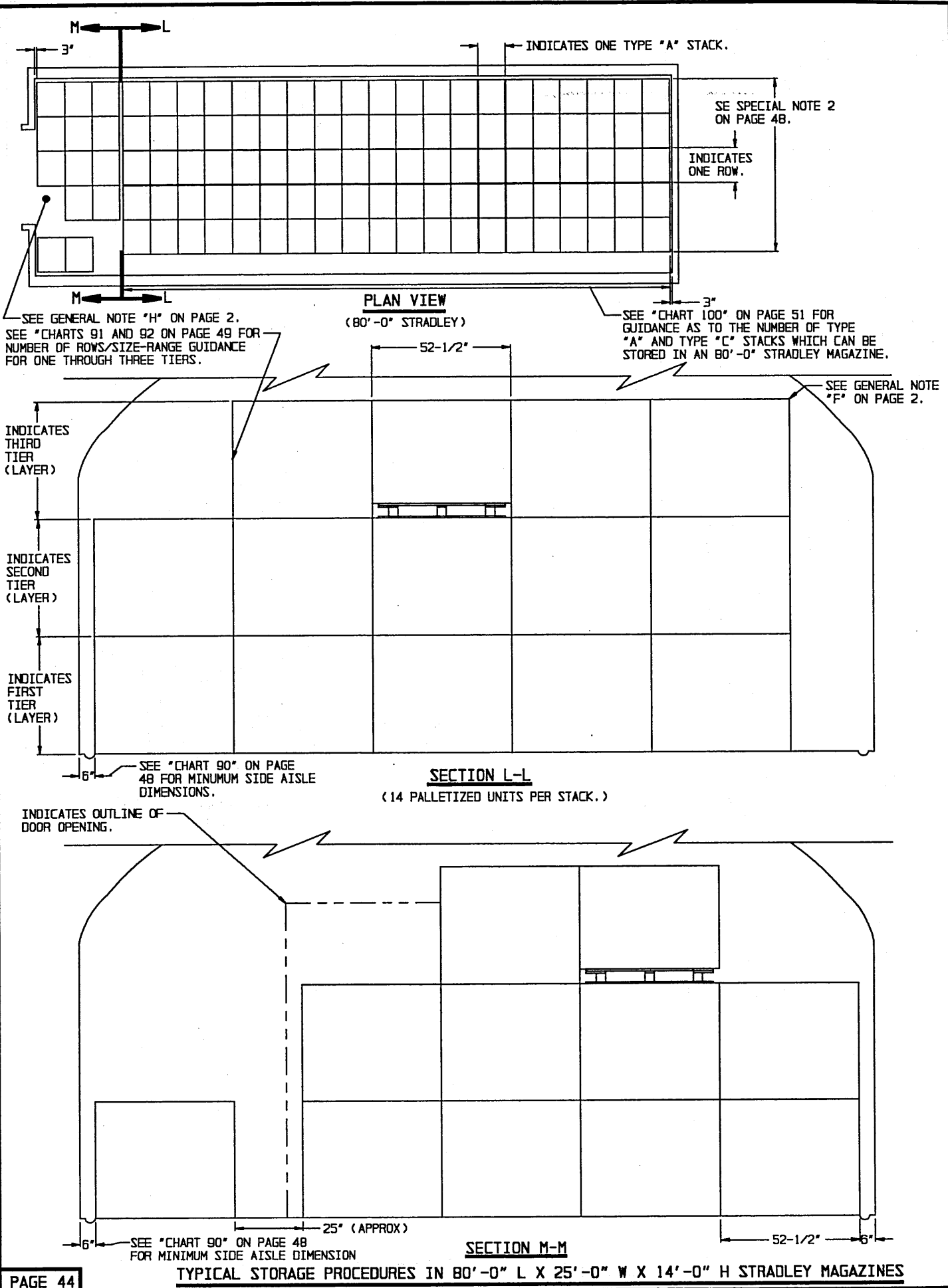
CHART NO. 85			
UNIT HEIGHT	UNIT SIZE RANGE, LENGTH OR WIDTH		
53'-54"		35'-37"	37'-54"
52'-53"		35'-38"	38'-54"
51'-52"		35'-39"	39'-54"
50'-51"		35'-40"	40'-54"
49'-50"		35'-41"	41'-54"
48'-49"		35'-42"	42'-54"
47'-48"		35'-43"	43'-54"
46'-47"		35'-44"	44'-54"
45'-46"		35'-45"	45'-54"
44'-45"		35'-46"	46'-54"
43'-44"		35'-47"	47'-54"
42'-43"		35'-48"	48'-54"
40'-42"		35'-49"	49'-54"
39'-40"		35'-50"	50'-54"
38'-39"		35'-51"	51'-54"
36'-38"		35'-52"	52'-54"
35'-36"	35'	35'-53"	53'-54"
32'-35"	35'-36"	36'-54"	
29'-32"	35'-37"	37'-54"	
27'-29"	35'-38"	38'-54"	
23'-27"	35'-39"	39'-54"	
20'-23"	35'-40"	40'-54"	
15'-20"	35'-41"	41'-54"	
UNIT HEIGHT	3	2	1
	NUMBER OF PALLETS DEEP IN SECOND TIER OF TYPE "C" STACKS		

CHART NO. 86			
UNIT HEIGHT	UNIT SIZE RANGE, LENGTH OR WIDTH		
43'-44"			35'-36"
42'-43"			35'-45"
41'-42"			35'-48"
40'-41"			35'-52"
37'-40"			35'-54"
36'-37"		35'	35'-54"
35'-36"		35'-37"	37'-54"
34'-35"		35'-38"	38'-54"
33'-34"		35'-40"	40'-54"
32'-33"		35'-42"	42'-54"
31'-32"		35'-43"	43'-54"
30'-31"		35'-45"	45'-54"
29'-30"		35'-46"	46'-54"
28'-29"		35'-47"	47'-54"
27'-28"		35'-49"	49'-54"
26'-27"		35'-50"	50'-54"
25'-26"		35'-51"	51'-54"
24'-25"		35'-52"	52'-54"
23'-24"		35'-53"	53'-54"
21'-23"	35'-36"	36'-54"	
19'-21"	35'-37"	37'-54"	
18'-19"	35'-38"	38'-54"	
15'-18"	35'-39"	39'-54"	
15'	35'-40"	40'-54"	
UNIT HEIGHT	3	2	1
	NUMBER OF PALLETS DEEP IN THIRD TIER OF TYPE "C" STACKS		

CHART NO. 87			
UNIT HEIGHT	UNIT SIZE RANGE, LENGTH OR WIDTH		
32'-33"			35'-36"
31'-32"			35'-44"
30'-31"			35'-52"
28'-30"			35'-54"
27'-28"		35'	35'-54"
26'-27"		35'-37"	37'-54"
25'-26"		35'-39"	39'-54"
24'-25"		35'-41"	41'-54"
23'-24"		35'-43"	43'-54"
22'-23"		35'-45"	45'-54"
21'-22"		35'-47"	47'-54"
20'-21"		35'-49"	49'-54"
19'-20"		35'-50"	50'-54"
18'-19"		35'-52"	52'-54"
17'-18"	35'	35'-53"	53'-54"
16'-17"	35'-36"	36'-54"	
15'-16"	35'-37"	37'-54"	
UNIT HEIGHT	3	2	1
	NUMBER OF PALLETS DEEP IN FOURTH TIER OF TYPE "C" STACKS		

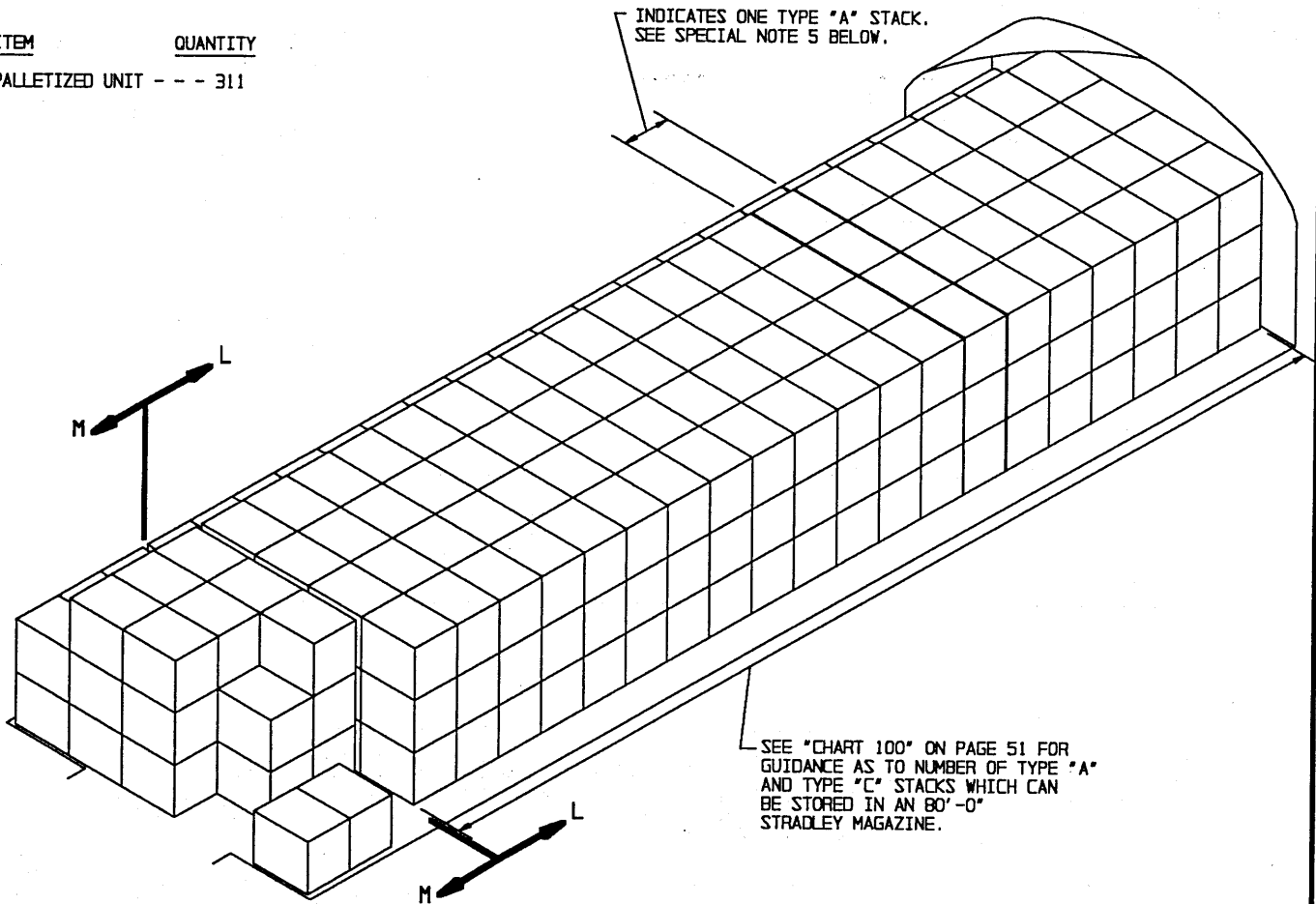
CHART NO. 88		
UNIT HEIGHT	UNIT SIZE RANGE, LENGTH OR WIDTH	
25'-26"		35'-40"
24'-25"		35'-49"
22'-24"		35'-54"
21'-22"	35'-36"	36'-54"
20'-21"	35'-39"	39'-54"
19'-20"	35'-41"	41'-54"
18'-19"	35'-44"	44'-54"
17'-18"	35'-46"	46'-54"
16'-17"	35'-48"	48'-54"
15'-16"	35'-50"	50'-54"
15'	35'-52"	52'-54"
UNIT HEIGHT	2	1
	NUMBER OF PALLETS DEEP IN FIFTH TIER OF TYPE "C" STACKS	

CHART NO. 89		
UNIT HEIGHT	UNIT SIZE RANGE, LENGTH OR WIDTH	
21'-22"		35'-36"
20'-21"		35'-48"
18'-20"		35'-54"
17'-18"	35'-37"	37'-54"
16'-17"	35'-40"	40'-54"
15'-16"	35'-43"	43'-54"
15'	35'-46"	46'-54"
UNIT HEIGHT	2	1
	NUMBER OF PALLETS DEEP IN SIXTH TIER OF TYPE "C" STACKS	



STORAGE IN STRADLEY MAGAZINE

ITEM	QUANTITY
PALLETIZED UNIT - - -	311



ISOMETRIC VIEW

(80'-0" STRADLEY MAGAZINE).

SPECIAL NOTES:

(SPECIAL NOTES CONTINUED)

1. THE TYPICAL PALLETIZED UNIT SHOWN HAS OVERALL DIMENSIONS OF 41-1/4" LONG BY 52-1/2" WIDE BY 44-1/2" HIGH. THE QUANTITY OF UNITS, THE NUMBER OF STACKS, ROWS, AND TIERS (LAYERS) WILL VARY, DEPENDENT UPON THE SIZE OF THE UNIT BEING STORED. SEE THE SPECIAL NOTES AND CHARTS ON PAGES 48 THROUGH 51 FOR GUIDANCE. AS MANY UNITS AS POSSIBLE WILL BE STORED WITHIN THE MAGAZINE.
2. THE STORAGE VIEWS ON PAGE 44 AND ABOVE DEPICT PALLETIZED UNITS STACKED IN VERTICAL ALIGNMENT, USING A MINIMUM WIDTH SIDE AISLE AT THE LEFT SIDE OF THE MAGAZINE. THE TYPICAL STACKING PATTERN VIEWS ON PAGES 46 AND 47 DEPICT PALLETIZED UNITS STACKED IN VERTICAL AND/OR STAGGERED PATTERN, USING A MINIMUM WIDTH SIDE AISLE AT THE LEFT SIDE OF THE MAGAZINE. CHARTS 90 THROUGH 99 ON PAGES 49 THROUGH 51 DEPICT THE MAXIMUM NUMBER OF ROWS PER TIER ACROSS THE WIDTH OF THE MAGAZINE. THE PALLET UNITS IN A STACK WILL BE STORED IN VERTICAL ALIGNMENT IF A CHART FOR THE TIER INDICATES EITHER THE SAME QUANTITY OR TWO LESS ROWS WIDE THAN IS SPECIFIED BY THE CHART FOR THE NEXT LOWER TIER. THE PALLET UNITS IN A TIER WILL BE CENTERED (STAGGERED) ON THE UNITS IN THE NEXT LOWER TIER IF A CHART FOR THE TIER INDICATES A QUANTITY OF ONE LESS ROW WIDE THAN IS SPECIFIED FOR THE NEXT LOWER TIER. HOWEVER, IT SHOULD BE NOTED THAT SOME PALLET UNIT CONFIGURATIONS WILL NOT PROVIDE A STABLE STACK WHEN USING THE STAGGERED PATTERN, AND, THEREFORE, THE VERTICAL ALIGNMENT PATTERN MUST BE USED. ALSO, THE STAGGERED STACKING PATTERN CANNOT BE USED WHEN STORING MULTIPLE LOTS WHICH REQUIRE ADJACENT ROWS TO BE SEPARATED.
3. REFER TO PAGES 88 AND 89 FOR GUIDANCE IN THE STORAGE OF MULTIPLE LOTS.
4. WHEN PLACING UNITS IN A STACK WHERE A STAGGERED PATTERN IS BEING USED, SUCH AS TYPICALLY SHOWN IN "STACKING PATTERN Y" ON PAGE 47, CARE WILL BE USED TO INSURE THAT EACH UNIT IS LEVEL AND STABLE. IF ALL OF THE BOTTOM DECKBOARDS OF A PALLET ARE NOT FULLY SUPPORTED, ONE INCH THICK LUMBER MUST BE POSITIONED UNDER EACH UNSUPPORTED BOTTOM DECKBOARD TO PROVIDE A STABLE UNIT. SEE THE FILLER DETAIL ON PAGE 93 FOR ADDITIONAL GUIDANCE.
5. THE NUMBER OF TYPE "A" STACKS SPECIFIED FOR A MAGAZINE IS BASED ON HAVING A MATERIAL HANDLING EQUIPMENT OPERATING AREA (DISTANCE FROM THE FACE OF THE LAST TYPE "A" STACK TO THE MAGAZINE FRONT WALL) OF 7'-7" PLUS THE LENGTH OR WIDTH OF THE PALLET UNIT, AS APPLICABLE, OR THE LENGTH OF THE FORKLIFT TRUCK TINES (40"), WHICH EVER IS THE GREATEST. ADDITIONAL TYPE "A" STACKS MAY BE STORED IF THE AVAILABLE MATERIALS HANDLING EQUIPMENT PERMITS.
6. IF DESIRED, AND IF NOT IN VIOLATION OF SURVEILLANCE REQUIREMENTS/PROCEDURES, ONE (1) SURVEILLANCE "CONTROL UNIT" SAMPLE MAY BE WITHHELD FROM EACH STORED LOT. IF THE MAGAZINE CONTAINS ONLY ONE (1) LOT, IT IS RECOMMENDED THAT THIS "CONTROL UNIT" BE PLACED JUST INSIDE THE DOOR WHERE IT IS EASILY ACCESSIBLE. IF THE MAGAZINE CONTAINS SEVERAL LOTS, THE "CONTROL UNIT" SAMPLES SHOULD BE PLACED ADJACENT TO THE MHE OPERATING AISLE FOR ACCESSIBILITY.

(CONTINUED AT RIGHT)

TYPICAL STORAGE PROCEDURES IN 80'-0" L X 25'-0" W X 14'-0" H STRADLEY MAGAZINES

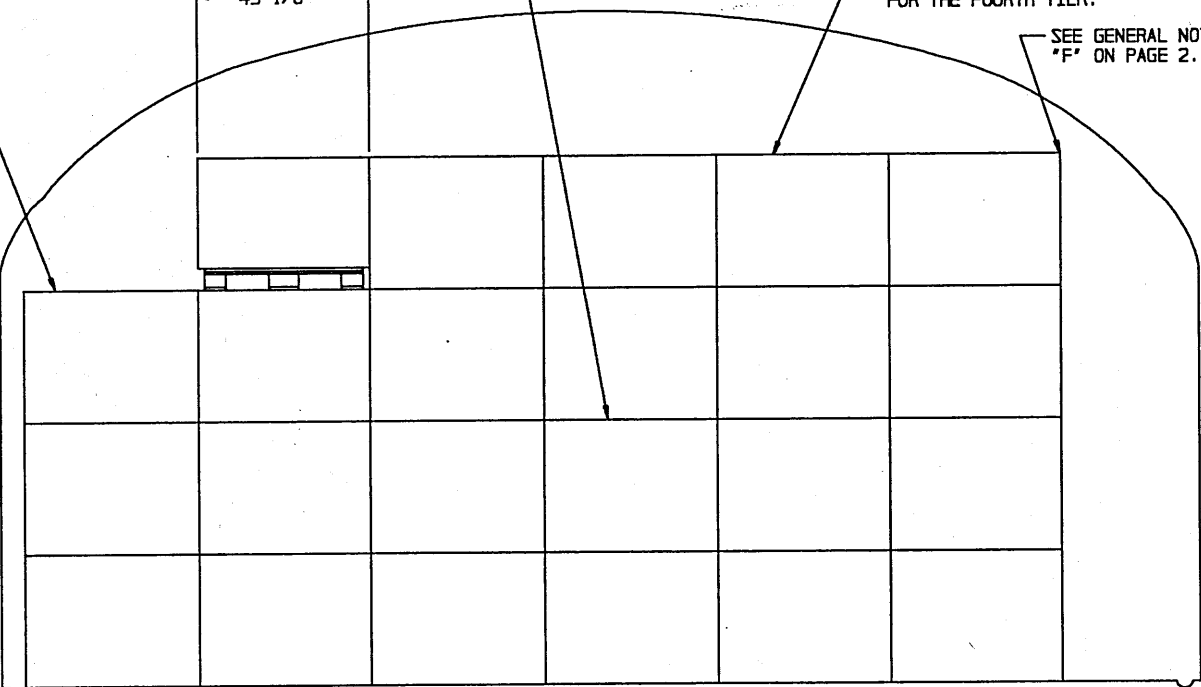
SEE "CHART 92" ON PAGE 49 FOR NUMBER OF ROWS/SIZE-RANGE GUIDANCE FOR THE THIRD TIER.

SEE "CHART 91" ON PAGE 49 FOR NUMBER OF ROWS/SIZE-RANGE GUIDANCE FOR THE FIRST AND SECOND TIER.

SEE "CHART 93" ON PAGE 49 FOR NUMBER OF ROWS/SIZE-RANGE GUIDANCE FOR THE FOURTH TIER.

SEE GENERAL NOTE "F" ON PAGE 2.

43-1/8"



SEE "CHART 90" ON PAGE 48 FOR SIDE AISLE DIMENSIONS TO BE USED.

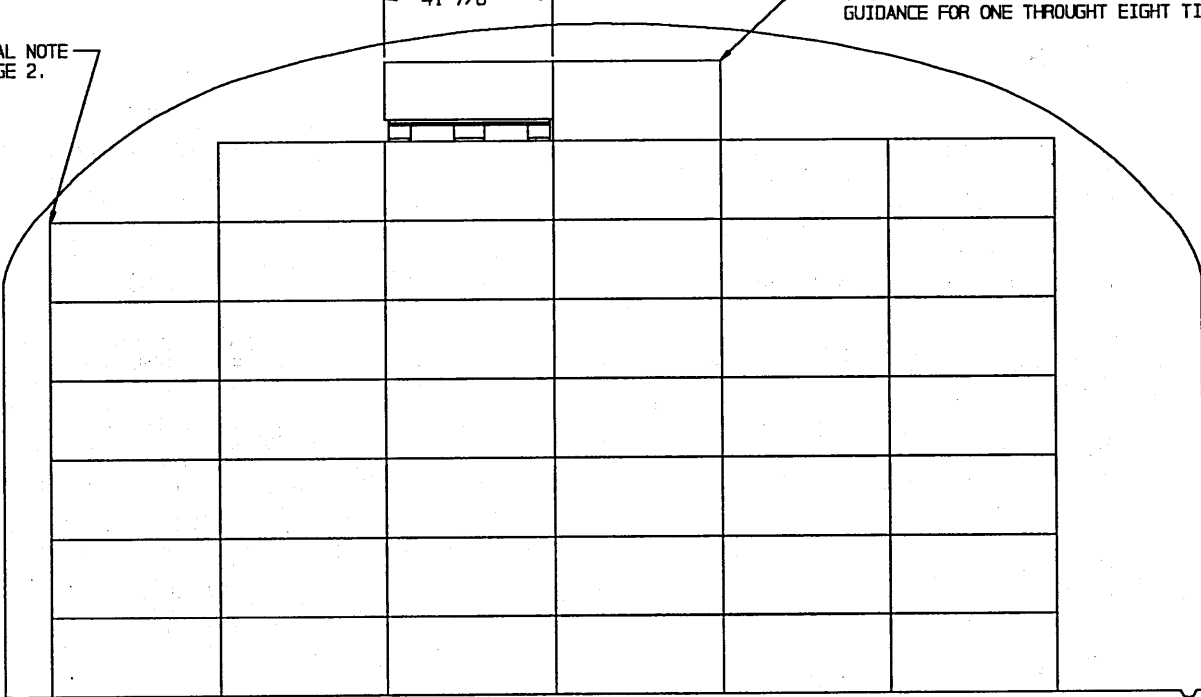
STACKING PATTERN V (40" X 48" PALLET)

THE PALLETIZED UNIT SHOWN IS 43-1/8" LONG BY 50-5/8" WIDE BY 33-1/4" HIGH. FOUR-TIER STORAGE IS APPLICABLE FOR ALL PALLETIZED UNITS WHICH ARE OVER 33" BUT NOT MORE THAN 41" IN HEIGHT.

SEE GENERAL NOTE "F" ON PAGE 2.

41-7/8"

SEE "CHARTS 91 THROUGH 97 ON PAGES 49 THROUGH 51 FOR NUMBER OF ROWS/SIZE-RANGE GUIDANCE FOR ONE THROUGH EIGHT TIERS.



SEE "CHART 90" ON PAGE 48 FOR SIDE AISLE DIMENSIONS TO BE USED.

STACKING PATTERN W (40 X 48" PALLET)

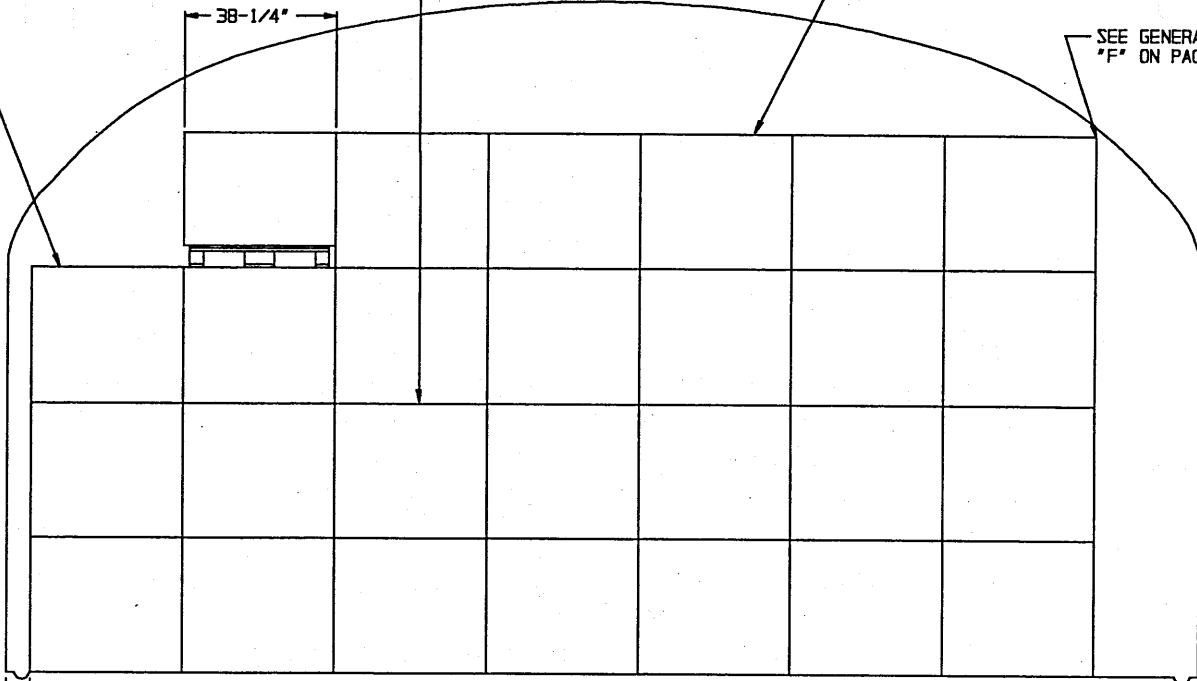
THE PALLETIZED UNIT SHOWN IS 41-7/8" LONG BY 51" WIDE BY 20" HIGH. EIGHT-TIER STORAGE IS APPLICABLE FOR ALL PALLETIZED UNITS WHICH ARE OVER 18" BUT NOT MORE THAN 20" IN HEIGHT.

SEE "CHART 92 ON PAGE 49 FOR NUMBER OF ROWS/SIZE-RANGE GUIDANCE FOR THE THIRD TIER.

SEE CHART 91 ON PAGE 49 FOR NUMBER OF ROWS/SIZE-RANGE GUIDANCE FOR THE FIRST AND SECOND TIER.

SEE "CHART 93 ON PAGE 49 FOR NUMBER OF ROWS/SIZE-RANGE GUIDANCE FOR THE FOURTH TIER.

SEE GENERAL NOTE "F" ON PAGE 2.



SEE "CHART 90" ON PAGE 48 FOR SIDE AISLE DIMENSIONS TO BE USED.

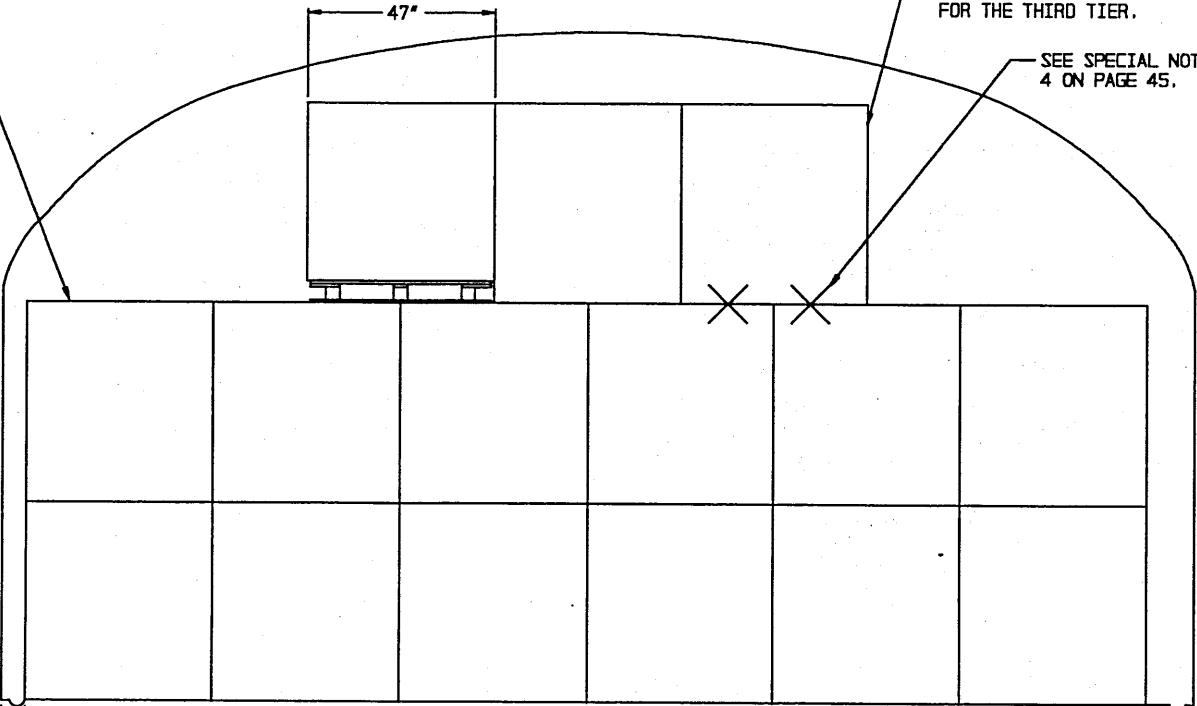
STACKING PATTERN X (35" X 45-1/2" PALLET)

THE PALLETIZED UNIT SHOWN IS 38-1/4" LONG BY 46" WIDE BY 34" HIGH. FOUR-TIER STORAGE IS APPLICABLE FOR ALL PALLETIZED UNITS WHICH ARE OVER 33" BUT NOT MORE THAN 41" IN HEIGHT.

SEE "CHART 91" ON PAGE 49 FOR NUMBER OF ROWS/SIZE-RANGE GUIDANCE FOR THE FIRST AND SECOND TIERS.

SEE "CHART 92 ON PAGE 49 FOR NUMBER OF ROWS/SIZE-RANGE GUIDANCE FOR THE THIRD TIER.

SEE SPECIAL NOTE 4 ON PAGE 45.



SEE "CHART 90" ON PAGE 48 FOR SIDE AISLE DIMENSIONS TO BE USED.

STACKING PATTERN Y (35" X 45-1/2" PALLET)

THE PALLETIZED UNIT SHOWN IS 35-1/4" LONG BY 47" WIDE BY 50-1/2" HIGH. THREE-TIER STORAGE IS APPLICABLE FOR ALL PALLETIZED UNITS WHICH ARE OVER 41" BUT NOT MORE THAN 54" IN HEIGHT.

TYPICAL STACKING PATTERNS IN STRADLEY MAGAZINES

SPECIAL NOTES:

1. THE CHARTS ON THIS PAGE AND ON PAGES 49 THROUGH 51 ARE PRESENTED AS GUIDANCE IN THE DEVELOPMENT OF A PATTERN FOR THE STORAGE OF PALLETIZED UNITS OF AMMUNITION AND COMPONENTS IN STRADLEY MAGAZINES. TO A CERTAIN EXTENT, THE CHARTS MAY ALSO BE USED IN CALCULATING THE QUANTITY OF UNITS WHICH CAN BE STORED. NOTICE: THE CHARTS ARE FOR GUIDANCE PURPOSES ONLY. VARIATIONS IN PALLETIZED UNIT OVERALL SIZES, THE COMPACTNESS OF PLACEMENT WITHIN A MAGAZINE, AS WELL AS VARIANCES IN THE INSIDE DIMENSIONS OF THE MAGAZINE CAN CAUSE DISCREPANCIES WITHIN THE CHARTS.
2. THE FOLLOWING STEP-BY-STEP PROCEDURES ARE PRESENTED AS GUIDANCE IN USING THE DEPICTED CHARTS. SEE THE "EXAMPLE" ON THIS PAGE.

STEP 1

- a. THE STORAGE VIEWS ON PAGES 44 THRU 47 DEPICT VARIOUS STACKING PATTERNS. A PATTERN WILL BE ESTABLISHED BY USING THE DIMENSIONAL DATA SET FORTH IN THE CHARTS.
- b. FROM CHART 90 WE FIND THAT ALL PALLETIZED UNITS WILL HAVE A MINIMUM LEFT SIDE AISLE OF 6"
- c. ALL PALLETIZED UNITS CAN BE STACKED IN VERTICAL ALIGNMENT TO A TOTAL HEIGHT OF 110 INCHES WHEN USING A MINIMUM LEFT SIDE AISLE OF 6". PALLETIZED UNITS POSITIONED IN STACKS GREATER THAN 110 INCHES IN HEIGHT MAY BE POSITIONED AS SHOWN IN "SECTION L-L ON PAGE 44, TYPICAL "STACKING PATTERNS "V", "W", OR "X" ON PAGES 46 AND 47 OR STAGGERED AS SHOWN IN TYPICAL "STACKING PATTERN Y" ON PAGE 47.

STEP 2

ALL UNITS CAN BE STACKED TWO TIERS HIGH USING A MINIMUM LEFT SIDE AISLE OF 6". LOCATE IN CHART 91 THE COLUMN WHICH CONTAINS THE LENGTH OR WIDTH OF THE UNIT TO BE STORED. THE HEADING AT THE BOTTOM OF THAT COLUMN WILL INDICATE THE NUMBER OF ROWS WIDE THAT CAN BE STORED IN EACH OF THE FIRST TWO TIERS.

STEP 3

LOCATE IN THE LEFT HAND COLUMN OF CHART 92 THE FIGURE WHICH IS EITHER THE EXACT UNIT HEIGHT OR IS THE NEXT EVEN DIMENSION OVER THE UNIT HEIGHT. ALONG THAT LINE LOCATE THE COLUMN WHICH CONTAINS THE LENGTH OR WIDTH OF THE UNIT TO BE STORED. HEADING AT THE BOTTOM OF THAT COLUMN WILL INDICATE THE NUMBER OF ROWS WIDE THAT CAN BE STORED IN THIRD TIER.

STEP 4

REPEAT STEP 3 FOR CHARTS 93 THROUGH 99, AS APPLICABLE, FOR THE FOURTH THROUGH THE TENTH TIERS.

STEP 5 (NUMBER OF TYPE "A" AND TYPE "C" STACKS IN THE MAGAZINE)

LOCATE IN THE LEFT HAND COLUMN OF CHART 100 THE LENGTH OR WIDTH OF THE UNIT, AS APPLICABLE FOR THE ORIENTATION OF THE UNITS BEING STORED. OPPOSITE THAT LENGTH OR WIDTH FIGURE IS SPECIFIED THE APPROXIMATE NUMBER OF TYPE "A" STACKS (FULL STACKS ACROSS THE MAGAZINE) AS WELL AS THE NUMBER OF TYPE "C" STACKS (PARTIAL STACKS AT THE FRONT OF THE MAGAZINE) THAT CAN BE POSITIONED IN AN 80'-0" LONG STRADLEY MAGAZINE. SEE SPECIAL NOTE 5 ON PAGE 45 FOR THE CRITERIA USED IN DETERMINING THE NUMBER OF TYPE "A" STACKS SPECIFIED WITHIN THE CHART.

STEP 6 (NUMBER OF PALLETS WIDE IN TYPE "C" STACKS)

LOCATE IN THE LEFT HAND COLUMN OF CHART 101 ON PAGE 51 THE LINE WHICH SPECIFIES A PALLET UNIT DIMENSION RANGE THAT CONTAINS THE LENGTH OR WIDTH OF THE UNIT TO BE STORED. ALONG THAT LINE ARE TWO COLUMNS. THE FIRST COLUMN INDICATES THE NUMBER OF PALLETS THAT CAN BE STORED AT EACH SIDE OF THE MAGAZINE IN THE FIRST TYPE "C" STACK, SUCH AS 2 ON ONE SIDE AND 3 ON THE OPPOSITE FOR UNITS WHICH ARE FROM 53" TO 54" WIDE. THE SECOND COLUMN SPECIFIES THE NUMBER OF PALLETS THAT CAN BE STORED AT EACH SIDE OF THE MAGAZINE IN THE REMAINING TYPE "C" STACKS. THESE QUANTITIES ARE BASED ON A DOOR OPENING WIDTH OF 12'-0"; QUANTITIES MAY VARY FOR OTHER WIDTH OPENINGS.

CHART 102 ON PAGE 51 SPECIFIES THE HEIGHT RANGE FOR THE INDICATED NUMBER OF TIERS AS PERTAINS TO THE PALLET UNITS IN THE TYPE "C" STACK ADJACENT TO THE FRONT WALL AND DIRECTLY IN FRONT OF THE DOOR OPENING, AS WELL AS FOR THE OTHER TYPE "C" STACKS. NOTE THAT THE HEIGHT RANGES FOR THE LAST TYPE "C" STACK ARE BASED ON A DOOR HEIGHT OF 10'-0".

(CONTINUED AT RIGHT)

(SPECIAL NOTES CONTINUED)

EXAMPLE

THE PALLETIZED UNIT SHOWN IN TYPICAL "STACKING PATTERN Y" ON PAGE 47 HAS BEEN SELECTED FOR THE EXAMPLE. THE UNIT IS 35-1/4" LONG BY 47" WIDE BY 50-1/2" HIGH. A STORAGE PATTERN CAN BE DETERMINED BY FOLLOWING THE DOTTED-LINE EXAMPLE WITHIN CHARTS 90 THROUGH 92 AND CHART 100. IN CONJUNCTION WITH USING THE STEP-BY-STEP PROCEDURES SPECIFIED ON THIS PAGE, TO FIND THE MINIMUM LEFT SIDE AISLE, LOOKING AT CHART 90 INDICATES THAT ALL PALLET UNITS CAN BE POSITIONED 6" FROM THE SIDE WALL. TO FIND THE NUMBER OF ROWS WIDE IN THE FIRST TWO TIERS, LOOK IN THE LEFT HAND COLUMN OF CHART 91. USE THE 54" HEIGHT AS ALL UNITS CAN BE STACKED TWO TIERS HIGH. USING THE 47" UNIT WIDTH, FOLLOW THE ARROWS ALONG THE DOTTED LINE TO THE RIGHT. THE 47" UNIT WIDTH IS WITHIN THE 41"-48" RANGE. FOLLOW THE ARROWS DOWN TO THE NUMERAL IN THE HEADING AT THE BOTTOM OF THAT COLUMN WHICH SPECIFIES THAT 6 UNITS, 47" WIDE, CAN BE POSITIONED ACROSS THE WIDTH OF THE MAGAZINE IN EACH OF THE FIRST TWO TIERS

FOLLOWING THE SAME PROCEDURE IN CHART 92, WE GO TO THE 51" HEIGHT AS THE UNIT HEIGHT OF 50-1/2" IS GREATER THAN 50" AND THE NEXT HEIGHT LISTED IS 51". USING THE 47" UNIT WIDTH, FOLLOW THE ARROWS ALONG THE DOTTED LINE TO THE RIGHT. THE 47" UNIT WIDTH IS WITHIN THE 45"-54" RANGE. FOLLOW THE ARROWS DOWN TO THE NUMERAL IN THE HEADING OF THAT COLUMN WHICH SPECIFIES THAT 3 UNITS, 47" WIDE CAN BE POSITIONED ACROSS THE WIDTH OF THE MAGAZINE IN THE THIRD TIER. IN CHART 93 THE LEFT HAND COLUMN ONLY SHOWS UNIT HEIGHTS UP TO 41" WHICH INDICATES THAT THE 50-1/2" HIGH UNIT CANNOT BE STACKED OVER THREE TIERS HIGH.

TO FIND THE NUMBER OF TYPE "A" AND TYPE "C" STACKS WHICH CAN BE STORED IN THE MAGAZINE, LOOK AT CHART 100. SINCE WE ARE POSITIONING THE 47" UNIT WIDTH ACROSS THE WIDTH OF THE MAGAZINE WE NOW LOOK FOR THE UNIT LENGTH OF 35-1/4" IN THE LEFT HAND COLUMN. FOLLOWING THE ARROWS TO THE RIGHT INDICATES THAT 22 TYPE "A" STACKS AND 4 TYPE "C" STACKS CAN BE STORED IN A STRADLEY MAGAZINE.

TO FIND THE NUMBER OF PALLETS DEEP AT EACH SIDE OF THE DOOR OPENING IN TYPE "C" STACKS, LOOK IN THE LEFT HAND COLUMN OF CHART 101 ON PAGE 51. THE UNIT HEIGHT OF 50-1/2" FALLS WITHIN THE RANGE OF 47"-53". FOLLOW THE ARROW ALONG THE DOTTED LINE TO THE FIRST COLUMN WHICH INDICATES THAT 1 PALLET UNIT CAN BE STORED ON THE FLOOR ON ONE SIDE OF THE MAGAZINE AND 4 CAN BE STORED ON THE OPPOSITE SIDE ON THE FLOOR IN THE FIRST "C" STACK, THE STACK ADJACENT TO THE TYPE "A" STACKS. REFER TO CHART 102 ON PAGE 51 FOR THE MAXIMUM TIERS WHICH CAN BE STACKED DIRECTLY IN FRONT OF THE DOOR OPENING IN THE STACK ADJACENT TO THE DOOR, AS WELL AS IN THE OTHER ONE THRU THREE "C" STACKS, AS APPLICABLE, BASED ON THE HEIGHT OF THE UNIT BEING STORED.

3. FOR ANY FRACTIONAL AND/OR DIMENSIONAL HEIGHT NOT SPECIFIED IN THE UNIT HEIGHT COLUMN, THE NEXT LARGER DIMENSIONAL HEIGHT WILL BE USED. FOR EXAMPLE, IN CHART 92, FOR A UNIT WHICH IS 43-5/8" HIGH, USE THE SPECIFIED 44" HEIGHT.
4. THE UNIT SIZE RANGE (LENGTH OR WIDTH) COVERS ALL SIZES WITHIN THE RANGE SPECIFIED. FOR EXAMPLE, IN CHART 92, FOR A 44" HIGH UNIT WHICH IS 36" OR GREATER IN LENGTH BUT LESS THAN 42", SIX ROWS MAY BE POSITIONED IN THE THIRD TIER. A 44" HIGH UNIT WHICH IS 42" OR GREATER IN LENGTH OR WIDTH, BUT LESS THAN 51", WILL ALLOW 5 ROWS TO BE POSITIONED IN THE THIRD TIER.
5. PALLET UNITS WITHIN THE TYPE "C" STACKS MAY BE STORED EITHER IN THE SAME ORIENTATION AS THE TYPE "A" STACKS IN THE MAGAZINE OR TURNED 90° TO THOSE IN THE TYPE "A" STACKS. BY STUDYING CHARTS 100 THRU 102 IT CAN BE DETERMINED WHICH POSITIONING WILL RESULT IN THE GREATER NUMBER OF PALLET UNITS. NOTE THAT THE NUMBER OF TYPE "C" STACKS SPECIFIED IN CHART 100 ON PAGE 51 IS BASED ON THE UNITS BEING IN THE SAME ORIENTATION AS THOSE IN THE TYPE "A" STACKS.

CHART NO. 90	
UNIT HEIGHT	MINIMUM LEFT SIDE AISLE
15'-54"	6"

NOTE:

A LEFT SIDE AISLE GREATER THAN 6" MAY BE USED TO ACHIEVE A MAXIMUM STACKING PATTERN. SEE "STACKING PATTERN W" ON PAGE 46 FOR EXAMPLE.

UNIT HEIGHT	CHART NO. 91				
	UNIT SIZE RANGE, LENGTH OR WIDTH				
	15'-54"	35'-36"	36'-41"	41'-48"	48'-54"
		8	7	6	5
UNIT HEIGHT	NUMBER OF ROWS WIDE IN FIRST AND SECOND TIERS OF TYPE "A" STACKS				

UNIT HEIGHT	CHART NO. 92						
	UNIT SIZE RANGE, LENGTH OR WIDTH						
54"						35'-36"	36'-54"
53"						35'-45"	45'-54"
52"						40'-54"	
51"				35'-36"	36'-45"	45'-54"	
50"				35'-39"	39'-49"	49'-54"	
49"				35'	35'-41"	41'-53"	
48"				35'-37"	37'-44"	44'-54"	
47"				35'-38"	38'-46"	46'-54"	
46"				35'-40"	40'-48"	48'-54"	
45"		35'		35'-41"	41'-49"	49'-54"	
44"		35'-36"		36'-42"	42'-51"	51'-54"	
43"		35'-37"		37'-43"	43'-52"	52'-54"	
42"		35'-38"		38'-44"	44'-53"	53'-54"	
41"		35'-38"		38'-45"	45'-54"		
40"	35'	35'-39"		39'-46"	46'-54"		
39"	35'	35'-40"		40'-47"	47'-54"		
15'-37"	35'-36"	36'-41"		41'-48"	48'-54"		
UNIT HEIGHT	8	7	6	5	4	3	2
	NUMBER OF ROWS WIDE IN THIRD TIER OF TYPE "A" STACKS						

UNIT HEIGHT	CHART NO. 93							
	UNIT SIZE RANGE, LENGTH OR WIDTH							
41" MAX							35'-38"	38'-50"
40"					35'-39"	39'-52"	52'-54"	
39"					37'-45"	45'-54"		
38"				35'-37"	37'-43"	43'-54"		
37"				35'-40"	40'-50"	50'-54"		
36"			35'-37"	37'-43"	43'-54"			
35"			35'-38"	38'-46"	46'-54"			
34"			35'-40"	40'-48"	48'-54"			
33"		35'-36"	36'-42"	42'-50"	50'-54"			
32"		35'-37"	37'-43"	43'-51"	51'-54"			
31"		35'-38"	38'-44"	44'-53"	53'-54"			
30"		35'-39"	39'-45"	45'-54"				
29"	35'	35'-40"	40'-46"	46'-54"				
28"	35'-36"	36'-40"	40'-48"	48'-54"				
15'-27"	35'-36"	36'-41"	41'-48"	48'-54"				
UNIT HEIGHT	8	7	6	5	4	3	2	1
	NUMBER OF ROWS WIDE IN FOURTH TIER OF TYPE "A" STACKS							

UNIT HEIGHT		CHART NO. 94 UNIT SIZE RANGE, LENGTH OR WIDTH						
33" MAX								35"-36"
31"								
30"					35"-38"	35"-39"	35"-38"	38"-54"
29"					35"-42"	38"-48"	38"-52"	52"-54"
28"			35"		35"-38"	38"-46"	48"-54"	
27"			35"-38"		35"-40"	40"-48"	48"-54"	
26"		35"-36"	36"-42"		42"-51"	44"-53"	51"-54"	
25"		35"-38"	38"-44"		44"-53"	53"-54"		
24"		35"-39"	39"-45"		45"-54"			
23"	35"	35"-40"	40"-47"		47"-54"			
15"-22"	35"-36"	36"-41"	41"-48"		48"-54"			
UNIT HEIGHT	8	7	6	5	4	3	2	1
	NUMBER OF ROWS WIDE IN FIFTH TIER OF TYPE "A" STACKS							

UNIT HEIGHT		CHART NO. 95 UNIT SIZE RANGE, LENGTH OR WIDTH						
27" MAX								35"-48"
26"								48"-54"
25"								
24"								
23"								
22"								
21"		35"-36"	36"-42"		35"-38"	38"-50"	35"-48"	
20"		35"-37"	37"-44"		38"-48"	48"-54"	50"-54"	
19"		35"-39"	39"-46"		43"-54"			
18"		35"-40"	40"-47"		47"-54"			
17"		35"	36"-41"		44"-52"			
15"-18"	35"-36"	36"-41"	41"-48"		46"-54"			
UNIT HEIGHT	8	7	6	5	4	3	2	1
	NUMBER OF ROWS WIDE IN SIXTH TIER OF TYPE "A" STACKS							

UNIT HEIGHT		CHART NO. 96 UNIT SIZE RANGE, LENGTH OR WIDTH						
23" MAX								35"-39"
22"								39"-54"
21"								
20"								
19"								
18"								
17"								
16"								
15"								
UNIT HEIGHT	8	7	6	5	4	3	2	1
	NUMBER OF ROWS WIDE IN SEVENTH TIER OF TYPE "A" STACKS							

CHART NO. 97						
UNIT SIZE RANGE, LENGTH OR WIDTH						
20" MAX						
19"						
18"						
17"		35'-36"	35'-36"	36'-45"	35'-41"	41'-54"
16"		35'-37"	36'-43"	43'-54"	45'-54"	
15"	35'-37"	35'-40"	40'-48"	48'-54"		
	35'-39"	37'-43"	43'-52"	52'-54"		
		39'-45"	45'-54"			
UNIT HEIGHT	7	6	5	4	3	2
	NUMBER OF ROWS WIDE IN EIGHTH TIER OF TYPE "A" STACKS					

CHART NO. 101		
UNIT DIMENSION ACROSS MAGAZINE	NUMBER OF UNITS WIDE IN TYPE "C" STACKS	
	REAR "C" STACK	OTHER "C" STACKS
53'-54"	3 AND 2	3 AND 1
[47'-53"]	[4 AND 1]	[4 AND 1]
40'-47"	4 AND 2	4 AND 1
36'-40"	5 AND 2	5 AND 2
35'-36"	6 AND 2	6 AND 2

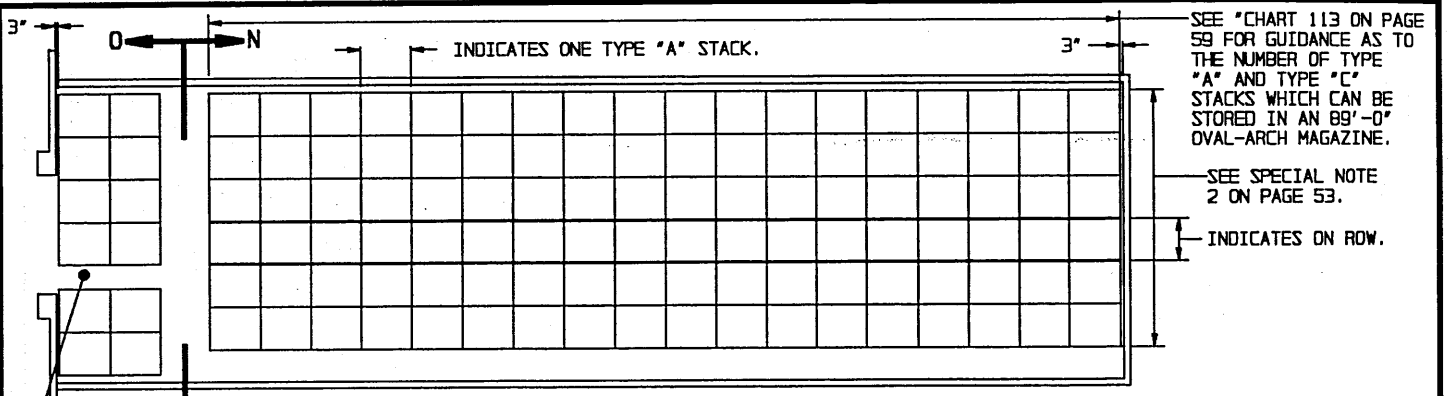
CHART NO. 98						
UNIT SIZE RANGE, LENGTH OR WIDTH						
18" MAX						
17"						
16"						
15"	35'-36"	36'-43"	35'-43"	43'-54"	35'-46"	46'-54"
	35'-40"	40'-48"	43'-54"			
		48'-54"				
UNIT HEIGHT	6	5	4	3	2	1
	NUMBER OF ROWS WIDE IN NINTH TIER OF TYPE "A" STACKS					

CHART NO. 99				
UNIT SIZE RANGE, LENGTH OR WIDTH				
16" MAX				
15"	35'-38"	38'-48"	35'-37"	37'-54"
			48'-54"	
UNIT HEIGHT	5	4	3	2
	NUMBER OF ROWS WIDE IN TENTH TIER OF TYPE "A" STACKS			

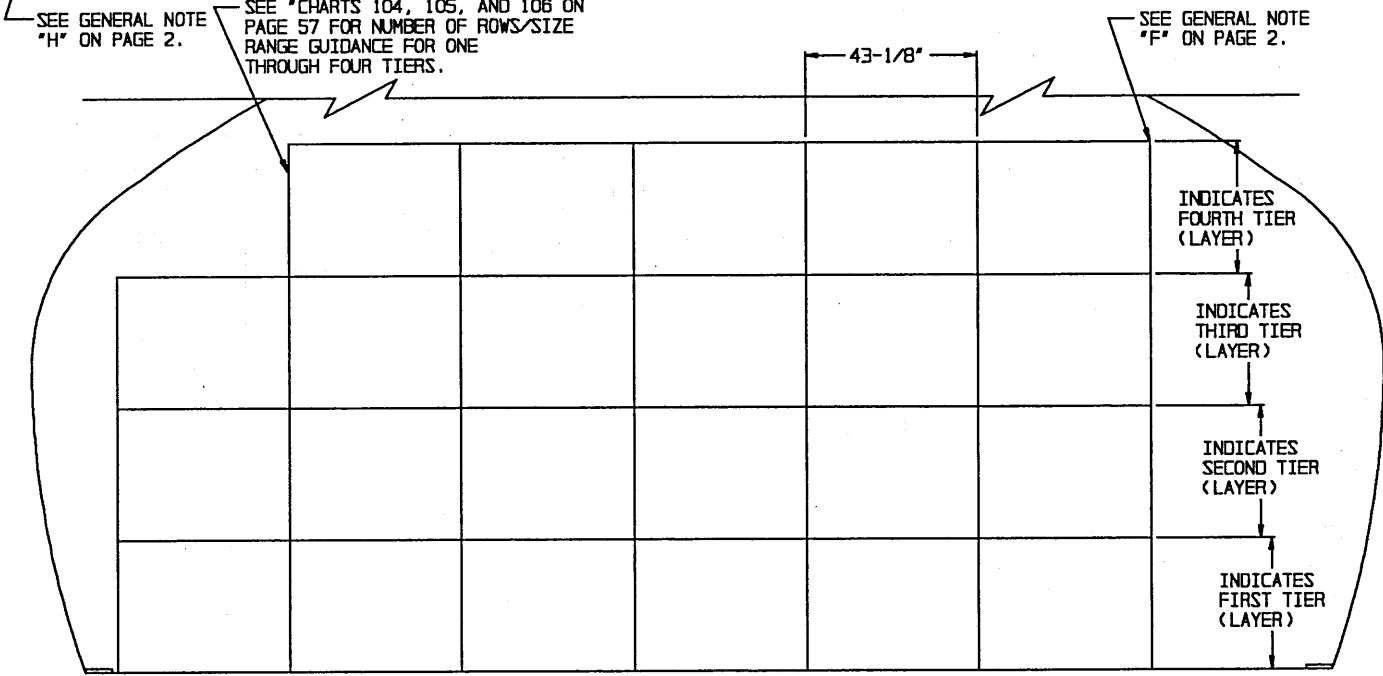
CHART NO. 102				
NUMBER OF TIERS	UNIT HEIGHT RANGE IN "C" STACKS NEXT TO DOOR	UNIT HEIGHT RANGE IN OTHER "C" STACKS *		
		35" ACROSS WIDTH	40" ACROSS WIDTH	48" ACROSS WIDTH
[2]	38'-54"	48'-54"	49'-54"	[50'-54"]
3	29'-38"	36'-48"	37'-49"	37'-50"
4	23'-29"	29'-36"	29'-37"	30'-37"
5	19'-23"	24'-29"	24'-29"	25'-30"
6	16'-19"	20'-24"	21'-24"	21'-25"
7	15'-16"	16'-20"	16'-21"	16'-21"

CHART NO. 100				
UNIT DIMENSION LENGTHWISE IN MAGAZINE	80'-0" X 25'-0" X 14'-0" STRADLEY MAGAZINE			
	"A" STACKS		"C" STACKS	
	NO.	M/E AISLE	NO.	SPACE REMAIN
54"	15	12'-3"	2	39"
53"	15	13'-6"	2	53"
52"	15	14'-9"	3	18"
51"	15	16'-0"	3	36"
50"	16	13'-1"	2	54"
49"	16	14'-5"	3	23"
48"	17	11'-9"	2	42"
47"	17	13'-2"	3	14"
46"	17	14'-7"	3	34"
45"	18	12'-3"	3	9"
44"	18	13'-9"	3	30"
43"	19	11'-8"	3	8"
42"	19	13'-3"	3	30"
41"	20	11'-5"	3	11"
40"	20	13'-1"	3	34"
39"	21	11'-6"	3	18"
38"	21	13'-3"	3	42"
37"	22	11'-11"	3	29"
[36"]	[22]	13'-9"	[4]	18"
35"	23	12'-8"	4	9"

* THE HEIGHT RANGE SPECIFIED FOR THE NUMBER OF TIERS IS BASED ON OMITTING THE TOP PALLET UNIT FROM THE PALLET STACK ADJACENT TO THE SIDEWALL.



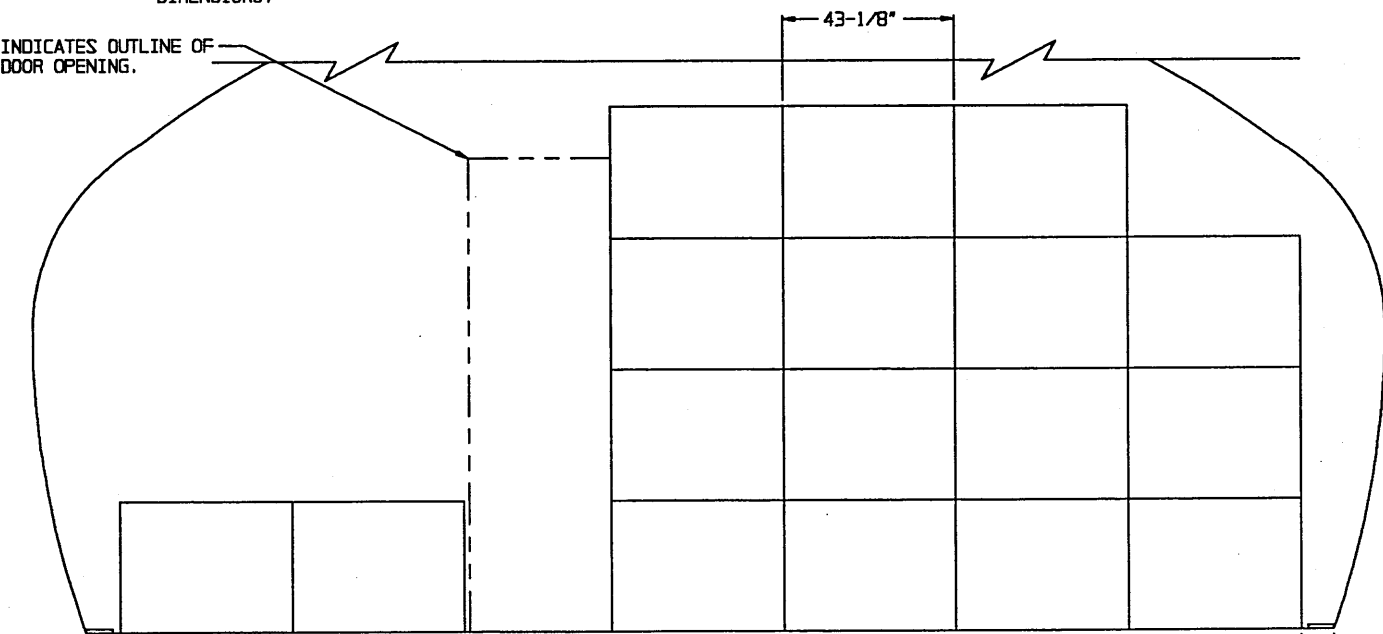
PLAN VIEW
(89'-0" OVAL-ARCH)



SEE GENERAL NOTE "F" ON PAGE 2.

SECTION N-N

(23 PALLETIZED UNITS PER STACK)

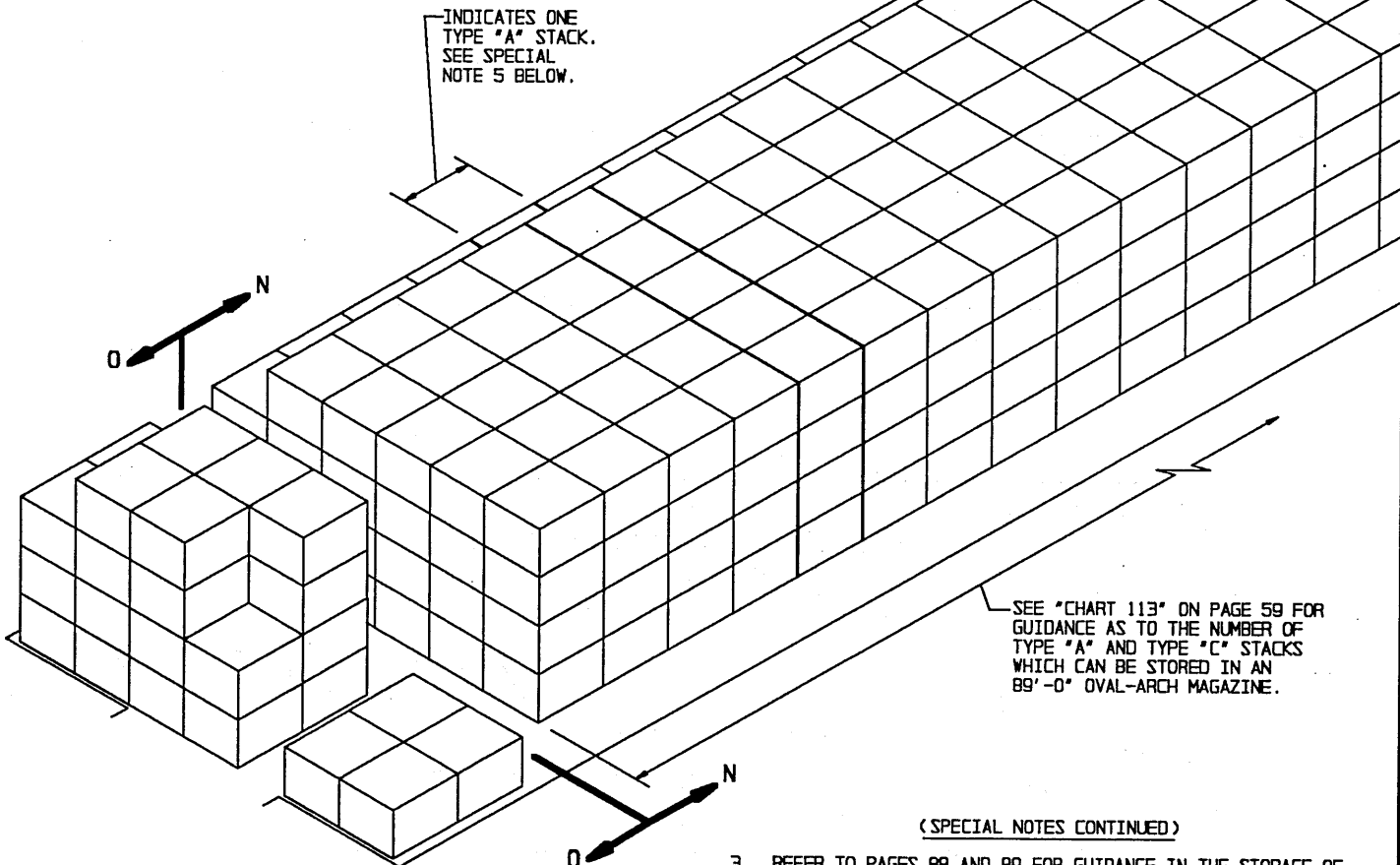


SECTION O-O

SEE "CHART 103" ON PAGE 56 FOR MINIMUM SIDE AISLE DIMENSIONS.

STORAGE IN 89'-0" OVAL-ARCH MAGAZINE

ITEM QUANTITY
 PALLETIZED UNIT - - - 446



ISOMETRIC VIEW
 (89'-0" OVAL-ARCH MAGAZINE)

SPECIAL NOTES:

1. THE TYPICAL PALLETIZED UNIT SHOWN HAS OVERALL DIMENSIONS OF 43-1/8" LONG BY 50-5/8" WIDE BY 33-1/4" HIGH. THE QUANTITY OF UNITS, THE NUMBER OF STACKS, ROWS, AND TIERS (LAYERS) WILL VARY, DEPENDENT UPON THE SIZE OF THE UNIT BEING STORED. SEE THE SPECIAL NOTES AND CHARTS ON PAGES 56 THROUGH 59 FOR GUIDANCE. AS MANY UNITS AS POSSIBLE WILL BE STORED WITHIN THE MAGAZINE.
2. THE STORAGE VIEWS ON PAGE 52 AND ABOVE DEPICT PALLETIZED UNITS STACKED IN VERTICAL ALIGNMENT, USING A MINIMUM WIDTH SIDE AISLE AT THE LEFT SIDE OF THE MAGAZINE. THE TYPICAL STACKING PATTERN VIEWS ON PAGES 54 AND 55 DEPICT PALLETIZED UNITS STACKED IN VERTICAL AND/OR STAGGERED PATTERN, USING A MINIMUM WIDTH SIDE AISLE AT THE LEFT SIDE OF THE MAGAZINE. CHARTS 104 THROUGH 112 ON PAGES 57 THROUGH 59 DEPICT THE MAXIMUM NUMBER OF ROWS PER TIER ACROSS THE WIDTH OF THE MAGAZINE. THE PALLET UNITS IN A STACK WILL BE STORED IN VERTICAL ALIGNMENT IF A CHART FOR THE TIER INDICATED EITHER THE SAME QUANTITY OR TWO LESS ROWS WIDE THAN IS SPECIFIED BY THE CHART FOR THE NEXT LOWER TIER. THE PALLET UNITS IN A TIER WILL BE CENTERED (STAGGERED) ON THE UNITS IN THE NEXT LOWER TIER IF A CHART FOR THE TIER INDICATES A QUANTITY OF ONE LESS ROW WIDE THAN IS SPECIFIED FOR THE NEXT LOWER TIER. HOWEVER, IT SHOULD, BE NOTED THAT SOME PALLET UNIT CONFIGURATIONS WILL NOT PROVIDE A STABLE STACK WHEN USING THE STAGGERED PATTERN. AND, THEREFORE, THE VERTICAL ALIGNMENT PATTERN MUST BE USED. ALSO, THE STAGGERED STACKING PATTERN CANNOT BE USED WHEN STORING MULTIPLE LOTS WHICH REQUIRE ADJACENT ROWS TO BE SEPARATED.

(SPECIAL NOTES CONTINUED AT RIGHT)

(SPECIAL NOTES CONTINUED)

3. REFER TO PAGES 88 AND 89 FOR GUIDANCE IN THE STORAGE OF MULTIPLE LOTS.
4. WHEN PLACING UNITS IN A STACK WHERE A STAGGERED PATTERN IS BEING USED, SUCH AS TYPICALLY SHOWN IN "STACKING PATTERN, BB" AND "CC" ON PAGE 55, CARE WILL BE USED TO INSURE THAT EACH UNIT IS LEVEL AND STABLE. IF ALL THE BOTTOM DECKBOARDS OF A PALLET ARE NOT FULLY SUPPORTED, ONE INCH THICK LUMBER MUST BE POSITIONED UNDER EACH UNSUPPORTED BOTTOM DECKBOARD TO PROVIDE A STABLE UNIT. SEE THE FILLER DETAIL ON PAGE 93 FOR ADDITIONAL GUIDANCE.
5. THE NUMBER OF TYPE "A" STACKS SPECIFIED FOR THE MAGAZINE IS BASED ON HAVING A MATERIAL HANDLING EQUIPMENT OPERATING AREA (DISTANCE FROM THE FACE OF THE LAST TYPE "A" STACK TO THE MAGAZINE FRONT WALL) OF 7'-7" PLUS THE LENGTH OR WIDTH OF THE PALLET UNIT, AS APPLICABLE, OR THE LENGTH OF THE FORKLIFT TRUCK TINES (40") WHICHEVER IS THE GREATEST. ADDITIONAL TYPE "A" STACKS MAY BE STORED IF THE AVAILABLE MATERIAL HANDLING EQUIPMENT PERMITS.
6. IF DESIRED, AND IF NOT IN VIOLATION OF SURVEILLANCE REQUIREMENTS/PROCEDURES, ONE (1) SURVEILLANCE "CONTROL UNIT" SAMPLE MAY BE WITHHELD FROM EACH STORED LOT. IF THE MAGAZINE CONTAINS ONLY ONE (1) LOT IT IS RECOMMENDED THAT THIS "CONTROL UNIT" BE PLACED JUST INSIDE THE DOOR WHERE IT IS EASILY ACCESSIBLE. IF THE MAGAZINE CONTAINS SEVERAL LOTS THE "CONTROL UNIT" SAMPLES SHOULD BE PLACED ADJACENT TO THE MHE OPERATING AISLE FOR ACCESSIBILITY.

TYPICAL STORAGE PROCEDURES IN 89'-0" L X 24'-10" W X 14'-4" H OVAL-ARCH MAGAZINES

SEE "CHART 104" ON PAGE 57 FOR NUMBER OF ROWS/SIZE-RANGE GUIDANCE FOR THE FIRST AND SECOND TIERS.

SEE "CHART 105" ON PAGE 57 FOR NUMBER OF ROWS/SIZE-RANGE GUIDANCE FOR THE THIRD TIER.

SEE GENERAL NOTE "F" ON PAGE 2.

52-1/2"

8"

SEE "CHART 103" ON PAGE 56 FOR SIDE AISLE DIMENSIONS TO BE USED.

STACKING PATTERN Z (40" X 48" PALLET)

THE PALLETIZED UNIT SHOWN IS 41-1/4" LONG BY 52-1/2" WIDE BY 44-1/2" HIGH. THREE-TIER STORAGE IS APPLICABLE FOR ALL PALLETIZED UNITS WHICH ARE OVER 42" BUT NOT MORE THAN 54" IN HEIGHT.

SEE "CHART 104 THROUGH 110" ON PAGES 57 THROUGH 59 FOR NUMBER OF ROWS/SIZE-RANGE GUIDANCE FOR ONE THROUGH EIGHT TIERS.

SEE GENERAL NOTE "F" ON PAGE 2.

51"

12"

SEE "CHART 103" ON PAGE 56 FOR SIDE AISLE DIMENSIONS TO BE USED.

STACKING PATTERN AA (40" X 48" PALLET)

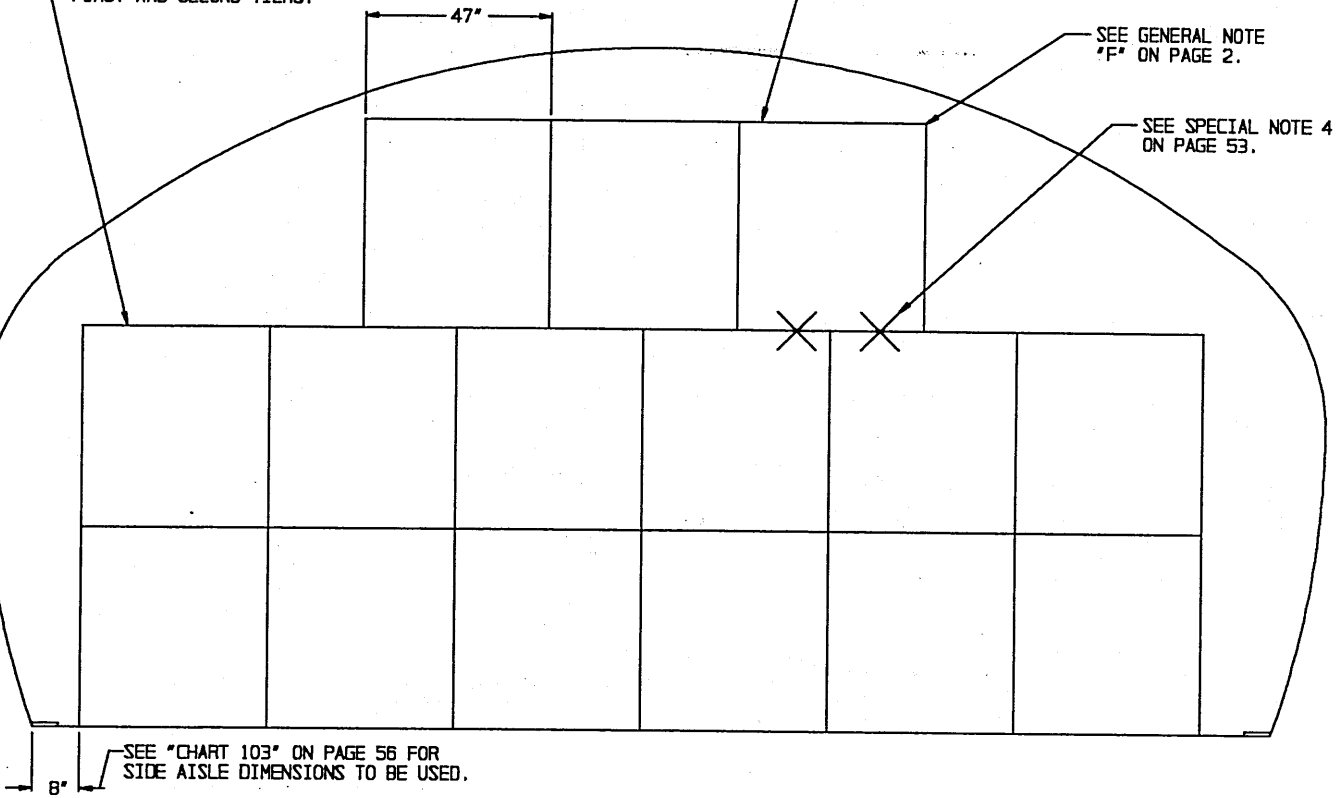
THE PALLETIZED UNIT SHOWN IS 41-7/8" LONG BY 51" WIDE BY 20" HIGH. EIGHT-TIER STORAGE IS APPLICABLE FOR ALL PALLETIZED UNITS WHICH ARE OVER 15" BUT NOT MORE THAN 20" IN HEIGHT.

SEE "CHART 104" ON PAGE 57 FOR NUMBER OF ROWS/SIZE-RANGE GUIDANCE FOR THE FIRST AND SECOND TIERS.

SEE "CHART 106" ON PAGE 57 FOR NUMBER OF ROWS/SIZE RANGE GUIDANCE FOR THE THIRD TIER.

SEE GENERAL NOTE "F" ON PAGE 2.

SEE SPECIAL NOTE 4 ON PAGE 53.



SEE "CHART 103" ON PAGE 56 FOR SIDE AISLE DIMENSIONS TO BE USED.

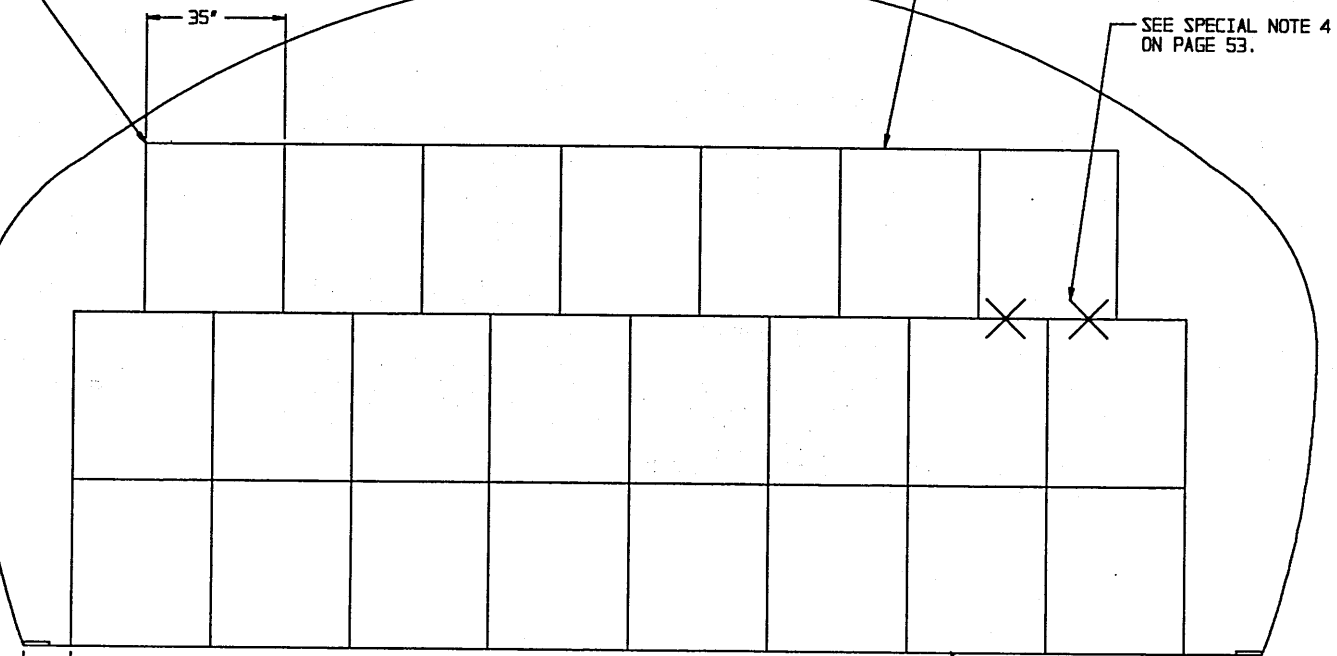
STACKING PATTERN BB (35" X 45-1/2" PALLET)

THE PALLETIZED UNIT SHOWN IS 35-1/4" LONG BY 47" WIDE BY 50-1/2" HIGH. THREE-TIER STORAGE IS APPLICABLE FOR ALL PALLETIZED UNITS WHICH ARE OVER 42' BUT NOT MORE THAN 54' IN HEIGHT.

SEE GENERAL NOTE "F" ON PAGE 2.

SEE "CHART 105" ON PAGE 57 FOR NUMBER OF ROW/SIZE-RANGE GUIDANCE FOR THE THIRD TIER.

SEE SPECIAL NOTE 4 ON PAGE 53.



SEE "CHART 103" ON PAGE 56 FOR SIDE AISLE DIMENSIONS TO BE USED.

STACKING PATTERN CC (35" X 45-1/2" PALLET)

THE PALLETIZED UNIT SHOWN IS 35" LONG BY 48" WIDE BY 42-1/2" HIGH. THREE-TIER STORAGE IS APPLICABLE FOR ALL PALLETIZED UNITS WHICH ARE OVER 42' BUT NOT MORE THAN 54' IN HEIGHT.

SEE "CHART 104" ON PAGE 57 FOR NUMBER OF ROWS/SIZE-RANGE GUIDANCE FOR THE FIRST AND SECOND TIERS.

TYPICAL STACKING PATTERNS IN OVAL-ARCH MAGAZINES

SPECIAL NOTES:

1. THE CHARTS ON THIS PAGE AND ON PAGES 57 THROUGH 59 ARE PRESENTED AS GUIDANCE IN THE DEVELOPMENT OF A PATTERN FOR THE STORAGE OF PALLETIZED UNITS OF AMMUNITION AND COMPONENTS IN OVAL-ARCH MAGAZINES. TO A CERTAIN EXTENT, THE CHARTS MAY ALSO BE USED IN CALCULATING THE QUANTITY OF UNITS WHICH CAN BE STORED. NOTICE; THE CHARTS ARE FOR GUIDANCE PURPOSES ONLY. VARIATIONS IN PALLETIZED UNIT OVERALL SIZES, THE COMPACTNESS OF PLACEMENT WITHIN A MAGAZINE, AS WELL AS VARIANCES IN THE INSIDE DIMENSIONS OF THE OVAL-ARCH MAGAZINE CAN CAUSE DISCREPANCIES WITHIN THE CHARTS.
2. THE FOLLOWING STEP-BY-STEP PROCEDURES ARE PRESENTED AS GUIDANCE IN USING THE DEPICTED CHARTS. SEE THE "EXAMPLE" ON THIS PAGE.

STEP 1

- a. THE STORAGE TIERS ON PAGES 52 THRU 55 DEPICT VARIOUS STACKING PATTERNS. A PATTERN WILL BE ESTABLISHED BY USING THE DIMENSIONAL DATA SET FORTH IN THE CHART.
- b. FROM CHART 103 WE FIND THAT ALL PALLETIZED UNITS WILL HAVE A MINIMUM LEFT SIDE AISLE OF 8"
- c. ALL PALLETIZED UNITS CAN BE STACKED IN VERTICAL ALIGNMENT TO A TOTAL HEIGHT OF 118 INCHES WHEN USING A MINIMUM LEFT SIDE AISLE OF 8". PALLETIZED UNITS POSITIONED IN STACKS GREATER THAN 118 INCHES IN HEIGHT MAY BY POSITIONED AS SHOWN IN "SECTION N-N" ON PAGE 52, TYPICAL "STACKING PATTERNS Z" AND "AA" ON PAGE 54 OR STAGGERED AS SHOWN IN TYPICAL "STACKING PATTERNS BB" AND "CC" ON PAGE 55.

STEP 2

ALL UNITS CAN BE STACKED TWO TIERS HIGH USING A MINIMUM LEFT SIDE AISLE OF 8". LOCATE IN CHART 104 THE COLUMN WHICH CONTAINS THE LENGTH OR WIDTH OF THE UNIT TO BE STORED. THE HEADING FOR THAT COLUMN WILL INDICATE THE NUMBER OF ROWS WIDE THAT CAN BE STORED IN EACH OF THE FIRST TWO TIERS.

STEP 3

LOCATE IN THE LEFT HAND COLUMN OF CHART 105 THE FIGURE WHICH IS EITHER THE EXACT UNIT HEIGHT OR IS THE NEXT EVEN DIMENSION OVER THE UNIT HEIGHT. ALONG THAT LINE LOCATE THE COLUMN WHICH CONTAINS THE LENGTH OR WIDTH OF THE UNIT TO BE STORED. THE HEADING AT THE BOTTOM OF THAT COLUMN WILL INDICATE THE NUMBER OF ROWS WIDE THAT CAN BE STORED IN THE THIRD TIER.

STEP 4

REPEAT STEP 3 FOR CHARTS 106 THROUGH 112, AS APPLICABLE, FOR THE FOURTH THROUGH THE TENTH TIERS.

STEP 5 (NUMBER OF TYPE "A" AND TYPE "C" STACKS IN THE MAGAZINE)

LOCATE IN THE LEFT HAND COLUMN OF CHART 113 THE LENGTH OR WIDTH OF THE UNIT, AS APPLICABLE FOR THE ORIENTATION OF THE UNITS BEING STORED. OPPOSITE THAT LENGTH OR WIDTH FIGURE IS SPECIFIED THE APPROXIMATE NUMBER OF TYPE "A" STACKS (FULL STACKS ACROSS THE MAGAZINE) AS WELL AS THE NUMBER OF TYPE "C" STACKS (PARTIAL STACKS AT THE FRONT OF THE MAGAZINE) THAT CAN BE POSITIONED IN AN 89'-0" LONG OVAL-ARCH MAGAZINE. SEE SPECIAL NOTE 5 ON PAGE 53 FOR THE CRITERIA USED IN DETERMINING THE NUMBER OF TYPE "A" STACKS SPECIFIED WITHIN THE CHART.

STEP 6 (NUMBER OF PALLETS WIDE IN TYPE "C" STACKS)

LOCATE IN THE LEFT HAND COLUMN OF CHART 114 ON PAGE 59 THE LINE WHICH SPECIFIES A PALLET UNIT DIMENSION RANGE THAT CONTAINS THE LENGTH OR WIDTH OF THE UNIT TO BE STORED. IN THE ADJACENT COLUMN IS INDICATED THE NUMBER OF PALLETS THAT CAN BE STORED AT EACH SIDE OF THE MAGAZINE IN THE FRONTAL AREA, SUCH AS 3 ON ONE SIDE AND 2 ON THE OPPOSITE SIDE FOR UNITS WHICH ARE FROM 52"-54" WIDE. CHART 115 ON PAGE 59 SPECIFIES THE HEIGHT RANGE FOR THE INDICATED NUMBER OF TIERS AS PERTAINS TO THE PALLET UNITS IN THE TYPE "C" STACK ADJACENT TO THE FRONT WALL AND DIRECTLY IN FRONT OF THE DOOR OPENING.

EXAMPLE

THE PALLETIZED UNIT SHOWN IN TYPICAL "STACKING PATTERN CC" ON PAGE 55 HAS BEEN SELECTED FOR THE EXAMPLE. THE UNIT IS 35" LONG BY 48" WIDE BY 42-1/2" HIGH. A STORAGE PATTERN CAN BE DETERMINED BY FOLLOWING THE DOTTED LINE EXAMPLE WITHIN CHARTS 103 THROUGH 105 AND CHART 113 IN CONJUNCTION WITH USING THE STEP-BY-STEP PROCEDURES SPECIFIED ON THIS PAGE. TO FIND THE MINIMUM LEFT SIDE AISLE, LOOK AT CHART 103 WHICH INDICATES THAT ALL PALLET UNITS CAN BE POSITIONED 8" FROM THE SIDE WALL. TO FIND THE NUMBER OF ROWS WIDE IN THE FIRST TWO TIERS, LOOK AT CHART 104. NOTE THAT ALL UNITS CAN BE STACKED TWO TIERS HIGH. USING THE 35" LENGTH FOLLOW THE ARROWS ALONG THE DOTTED LINE TO THE RIGHT. THE 35" UNIT LENGTH IS WITHIN THE 35"-36" RANGE. FOLLOW THE ARROWS DOWN TO THE NUMERAL IN THE HEADING AT THE BOTTOM OF THAT COLUMN WHICH SPECIFIES THAT 8 UNITS, 35" LONG, CAN BE POSITIONED ACROSS THE WIDTH OF THE MAGAZINE IN EACH OF THE FIRST TWO TIERS. FOLLOWING THE SAME PROCEDURE IN CHART 105, WE GO TO THE 43" HEIGHT AS THE UNIT HEIGHT OF 42-1/2" IS GREATER THAN 42 AND THE NEXT HEIGHT LISTED IS 43" USING THE 35" UNIT LENGTH FOLLOW THE ARROWS ALONG THE DOTTED LINE TO THE RIGHT. THE 35" UNIT LENGTH IS WITHIN THE 35"-36" RANGE. FOLLOW THE ARROWS DOWN TO THE NUMERAL IN THE HEADING AT THE BOTTOM OF THAT COLUMN WHICH SPECIFIES THAT 7 UNITS 35" LONG, CAN BE POSITIONED ACROSS THE WIDTH OF THE MAGAZINE IN THE THIRD TIER. IN CHART 106 THE LEFT HAND COLUMN ONLY SHOWS UNIT HEIGHTS UP TO 42" WHICH INDICATES THAT THE 42-1/2" HIGH UNIT CAN NOT BE STACKED OVER THREE TIERS HIGH.

TO FIND THE NUMBER OF TYPE "A" AND TYPE "C" STACKS WHICH CAN BE STORED IN THE MAGAZINE, LOOK AT CHART 113. SINCE WE ARE POSITIONING THE 35" UNIT LENGTH ACROSS THE WIDTH OF THE MAGAZINE, WE NOW LOOK FOR THE UNIT WIDTH OF 48" IN THE LEFT HAND COLUMN. FOLLOWING THE ARROWS TO THE RIGHT INDICATES THAT 19 TYPE "A" STACKS AND 3 TYPE "C" STACKS CAN BE STORED IN AN 89'-0" OVAL-ARCH MAGAZINE.

TO FIND THE NUMBER OF PALLETS DEEP AT EACH SIDE OF THE DOOR OPENING IN TYPE "C" STACKS, LOOK IN THE LEFT HAND COLUMN OF CHART 114 ON PAGE 59. THE UNIT LENGTH OF 35" FALLS WITHIN THE RANGE OF 35"-37". FOLLOW THE ARROW ALONG THE DOTTED LINE TO THE ADJACENT COLUMN WHICH INDICATES THAT 5 PALLET UNITS CAN BE STORED ON THE FLOOR ON ONE SIDE OF THE MAGAZINE AND 3 CAN BE STORED ON THE OPPOSITE SIDE ON THE FLOOR IN THE TYPE "C" STACKS AT THE FRONT OF THE MAGAZINE. THE NUMBER OF TIERS IN THE STACKED PORTION OF THE TYPE "C" STACKS WILL BE THE SAME, OR AT LEAST NEARLY THE SAME AS FOR THE TYPE "A" STACKS, EXCEPT FOR THE STACK ADJACENT TO THE DOOR. THE PORTION OF THAT STACK WHICH IS COMPLETELY WITHIN THE DOOR OPENING WILL BE LIMITED TO THE NUMBER OF TIERS AS SPECIFIED BY CHART 115 ON PAGE 59. REFER TO CHARTS 104 THROUGH 112 ON PAGES 57 THROUGH 59 FOR GUIDANCE AS TO THE NUMBER OF TIERS IN THE BALANCE OF THE TYPE "C" STACKS.

3. FOR ANY FRACTIONAL AND/OR DIMENSIONAL HEIGHT NOT SPECIFIED IN THE UNIT HEIGHT COLUMN, THE NEXT LARGER DIMENSIONAL HEIGHT WILL BE USED. FOR EXAMPLE, IN CHART 105, FOR A UNIT WHICH IS 43-5/8" HIGH, USE THE SPECIFIED 44" HEIGHT.
4. THE UNIT SIZE RANGE (LENGTH OR WIDTH) COVERS ALL SIZES WITHIN THE RANGE SPECIFIED. FOR EXAMPLE, IN CHART 105 A 44" HIGH UNIT WHICH IS GREATER THAN 35" IN LENGTH, BUT LESS THAN 41", SIX ROWS MAY BE POSITIONED IN THE THIRD TIER. A 44" HIGH UNIT WHICH IS 41" OR GREATER IN LENGTH OR WIDTH, BUT LESS THAN 49" WILL ALLOW 5 ROWS TO BE POSITIONED IN THE SECOND TIER.
5. PALLET UNITS WITHIN THE TYPE "C" STACKS MAY BE STORED EITHER IN THE SAME ORIENTATION AS THE TYPE "A" STACKS IN THE MAGAZINE OR TURNED 90 TO THOSE IN THE TYPE "A" STACKS. BY STUDYING CHARTS 113 AND 114 ON PAGE 59 IT CAN BE DETERMINED WHICH POSITIONING WILL RESULT IN THE GREATER NUMBER OF PALLET UNITS. NOTE THAT THE NUMBER OF TYPE "C" STACKS SPECIFIED IN CHART 113 IS BASED ON THE UNITS BEING IN THE SAME ORIENTATION AS THOSE IN THE TYPE "A" STACKS.

CHART NO. 103	
UNIT HEIGHT	MINIMUM LEFT SIDE AISLE
[15" - 54"]	8"

NOTE:

A LEFT SIDE AISLE GREATER THAN 8" MAY BE USED TO ACHIEVE A MAXIMUM STACKING PATTERN. SEE "STACKING PATTERN AA" ON PAGE 54 FOR EXAMPLE.

UNIT HEIGHT	CHART NO. 104 UNIT SIZE RANGE, LENGTH OR WIDTH				
15'-54"	35'-36"	36'-42"	42'-48"	49'-54"	
UNIT HEIGHT	8	7	6	5	
	NUMBER OF ROWS WIDE IN FIRST AND SECOND TIER OF TYPE "A" STACKS				

UNIT HEIGHT	CHART NO. 105 UNIT SIZE RANGE, LENGTH OR WIDTH							
54"						35'-43"	35'-51"	51'-54"
53"						43'-54"		
52"					35'-37"	37'-50"	50'-54"	
51"					35'-41"	41'-54"		
50"				35'-36"	36'-45"	45'-54"		
49"				35'-37"	37'-48"	48'-54"		
48"				35'-40"	40'-51"	51'-54"		
47"			35'-36"	36'-43"	43'-54"			
46"			35'-38"	38'-45"	45'-54"			
45"			35'-40"	40'-48"	48'-54"			
44"			35'-41"	41'-49"	49'-54"			
43"		35'	35'-36"	36'-42"	42'-50"	50'-54"		
42"			35'-37"	37'-44"	44'-52"	52'-54"		
41"			35'-38"	38'-45"	45'-54"			
40"		35'	35'-40"	40'-47"	47'-54"			
39"	35'-36"	36'-41"	41'-48"	48'-54"				
15'-38"	35'-36"	36'-42"	42'-49"	49'-54"				
UNIT HEIGHT	8	7	6	5	4	3	2	1
	NUMBER OF ROWS WIDE IN THIRD TIER OF TYPE "A" STACKS							

UNIT HEIGHT	CHART NO. 106 UNIT SIZE RANGE, LENGTH OR WIDTH							
42" MAX							35'-45"	35'-48"
41"							45'-54"	
40"						35'-40"	40'-54"	
39"					35'-36"	36'-48"	48'-54"	
38"					35'-42"	42'-54"		
37"					35'-37"	37'-46"	46'-54"	
36"					35'-41"	41'-51"	51'-54"	
35"			35'-36"	36'-44"	44'-54"			
34"			35'-39"	39'-46"	46'-54"			
33"		35'	35'-41"	41'-49"	49'-54"			
32"			35'-36"	36'-43"	43'-51"	51'-54"		
31"			35'-38"	38'-45"	45'-54"			
30"		35'	35'-40"	40'-46"	46'-54"			
29"	35'-36"	36'-41"	41'-48"	48'-54"				
15'-28"	35'-36"	36'-42"	42'-49"	49'-54"				
UNIT HEIGHT	8	7	6	5	4	3	2	1
	NUMBER OF ROWS WIDE IN FOURTH TIER OF TYPE "A" STACKS							

UNIT HEIGHT	CHART NO. 107 UNIT SIZE RANGE, LENGTH OR WIDTH							
	33" MAX							35"-42"
32"							42"-54"	
31"							52"-54"	
30"				35"-36"	35"-39"	35"-42"		
29"				36"-45"	39"-52"	45"-54"		
28"			35"-36"	36"-43"	39"-49"	49"-54"		
27"			35"-40"	40"-48"	43"-54"			
26"		35"-36"	36"-42"	42"-50"	48"-54"			
25"		35"-37"	37"-44"	44"-52"	50"-54"			
24"		35"-40"	40"-46"	46"-54"	52"-54"			
15"-23"	35"	35"-36"	36"-42"	42"-49"	49"-54"			
UNIT HEIGHT	8	7	6	5	4	3	2	1
	NUMBER OF ROWS WIDE IN FIFTH TIER OF TYPE "A" STACKS							

UNIT HEIGHT	CHART NO. 108 UNIT SIZE RANGE, LENGTH OR WIDTH							
	28" MAX							35"-36"
27"							36"-48"	36"-54"
26"							48"-54"	
25"				35"-36"	35"-36"	35"-36"		
24"				36"-45"	36"-45"	36"-45"		
23"			35"-38"	38"-45"	40"-51"	45"-54"		
22"		35"	35"-41"	41"-49"	49"-54"	51"-54"		
21"		35"-37"	37"-44"	44"-52"	52"-54"			
20"		35"-40"	40"-46"	46"-54"				
15"-19"	35"	35"-36"	36"-42"	42"-49"	48"-54"			
UNIT HEIGHT	8	7	6	5	4	3	2	1
	NUMBER OF ROWS WIDE IN SIXTH TIER OF TYPE "A" STACKS							

UNIT HEIGHT	CHART NO. 109 UNIT SIZE RANGE, LENGTH OR WIDTH							
	23" MAX							35"-38"
22"							39"-52"	52"-54"
21"				35"-38"	35"-39"	38"-52"		
20"				36"-43"	43"-54"	52"-54"		
19"			35"-36"	40"-48"	48"-54"			
18"		35"-37"	37"-44"	44"-52"	52"-54"			
17"		35"-40"	40"-46"	46"-54"				
15"-16"	35"	35"-36"	36"-42"	42"-49"	49"-54"			
UNIT HEIGHT	8	7	6	5	4	3	2	
	NUMBER OF ROWS WIDE IN SEVENTH TIER OF TYPE "A" STACKS							

CHART NO. 110							
UNIT HEIGHT	UNIT SIZE RANGE, LENGTH OR WIDTH						
20" MAX					35"-42"	35"-40"	40"-54"
19"				35"-40"	40"-51"	42"-54"	
18"			35"-38"	38"-45"	45"-54"	51"-54"	
17"		35"-36"	36"-43"	43"-51"			
16"		35"-40"	40"-46"	46"-54"			
15"	35"						
UNIT HEIGHT	8	7	6	5	4	3	2
	NUMBER OF ROWS WIDE IN EIGHTH TIER OF TYPE "A" STACKS						

CHART NO. 114	
UNIT DIMENSION ACROSS MAGAZINE	NUMBER OF UNITS WIDE IN TYPE "C" STACKS
52"-54"	3 AND 2
39"-52"	4 AND 2
37"-39"	5 AND 2
[35"-37"]	[5 AND 3]

CHART NO. 111					
UNIT HEIGHT	UNIT SIZE RANGE, LENGTH OR WIDTH				
18" MAX			35"-40"	35"-36"	36"-54"
17"			40"-51"	40"-54"	
16"	35"-39"	35"-40"	40"-51"	51"-54"	
15"		39"-47"	47"-54"		
UNIT HEIGHT	6	5	4	3	2
	NUMBER OF ROWS WIDE IN NINTH TIER OF TYPE "A" STACKS				

CHART NO. 115	
NUMBER OF LAYERS	UNIT HEIGHT RANGE IN "C" STACK NEXT TO DOOR (WITHIN OPENING)
1	46"-54"
2	31"-46"
3	23"-31"
4	18"-23"
5	15"-18"
6	15"

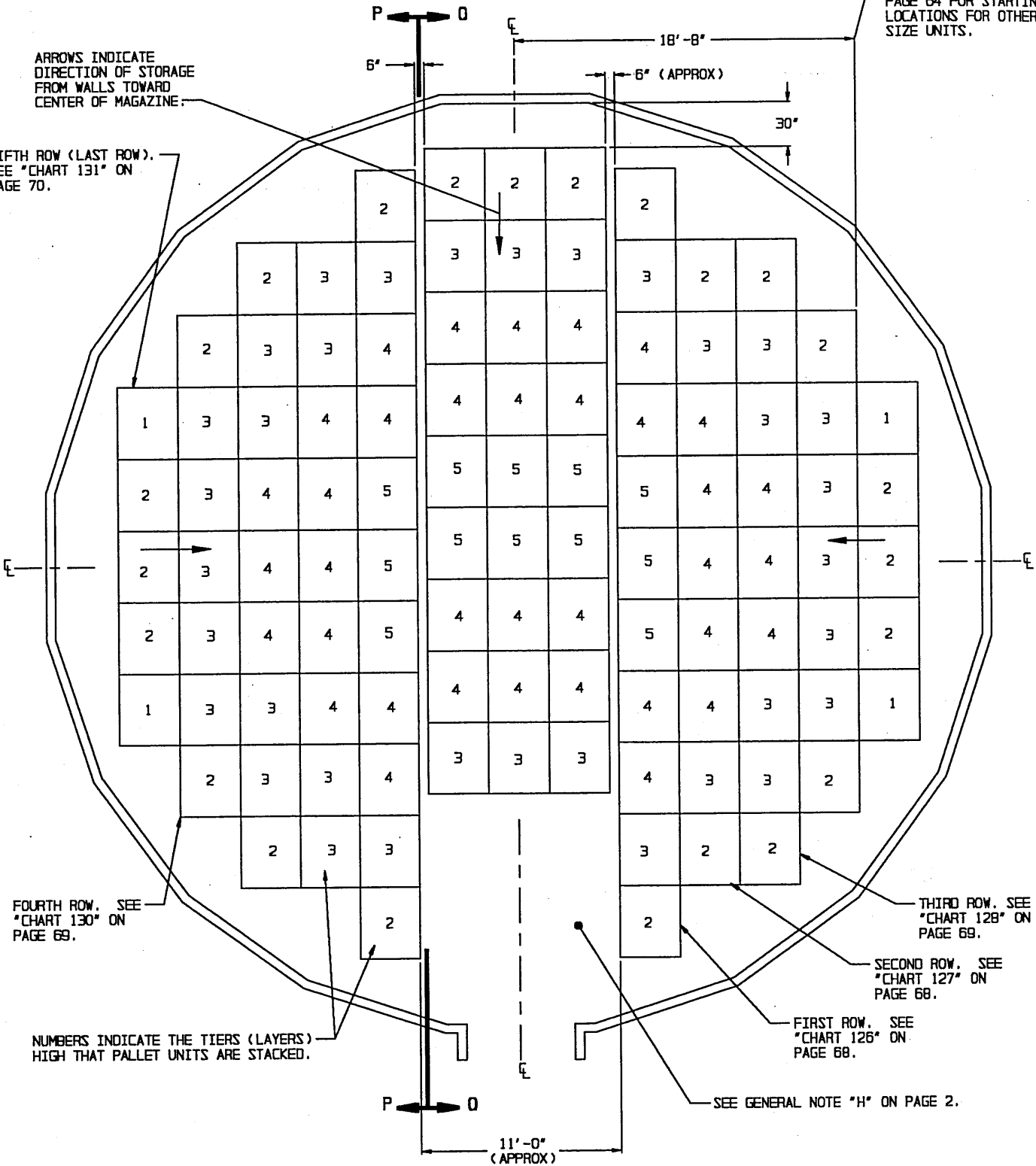
CHART NO. 112				
UNIT HEIGHT	UNIT SIZE RANGE, LENGTH OR WIDTH			
16" MAX			35"-40"	40"-54"
15"	35"-36"	36"-45"	45"-54"	
UNIT HEIGHT	5	4	3	2
	NUMBER OF ROWS WIDE IN TENTH TIER OF TYPE "A" STACKS			

CHART NO. 113				
UNIT DIMENSION LENGTHWISE IN MAGAZINE	"A" STACKS		"C" STACKS	
	NO.	MHE AISLE	NO.	SPACE REMAIN
54"	17	12'-3"	2	36"
53"	17	13'-8"	2	58"
52"	17	15'-1"	3	22"
51"	18	12'-3"	2	42"
50"	18	13'-9"	3	12"
49"	19	11'-2"	2	33"
[48"]	[19]	[12'-9"]	[3]	6"
47"	19	14'-4"	3	28"
46"	20	12'-1"	2	50"
45"	20	13'-9"	3	27"
44"	21	11'-9"	3	6"
43"	21	13'-6"	3	30"
42"	22	11'-9"	3	12"
41"	22	13'-7"	3	37"
40"	23	12'-1"	3	22"
39"	24	10'-9"	3	9"
38"	24	12'-9"	3	36"
37"	25	11'-8"	3	26"
36"	26	10'-9"	3	18"
35"	26	12'-11"	4	12"

SEE "CHART 116" ON PAGE 64 FOR STARTING LOCATIONS FOR OTHER SIZE UNITS.

ARROWS INDICATE DIRECTION OF STORAGE FROM WALLS TOWARD CENTER OF MAGAZINE.

FIFTH ROW (LAST ROW). SEE "CHART 131" ON PAGE 70.



FOURTH ROW. SEE "CHART 130" ON PAGE 69.

THIRD ROW. SEE "CHART 128" ON PAGE 69.

SECOND ROW. SEE "CHART 127" ON PAGE 68.

FIRST ROW. SEE "CHART 126" ON PAGE 68.

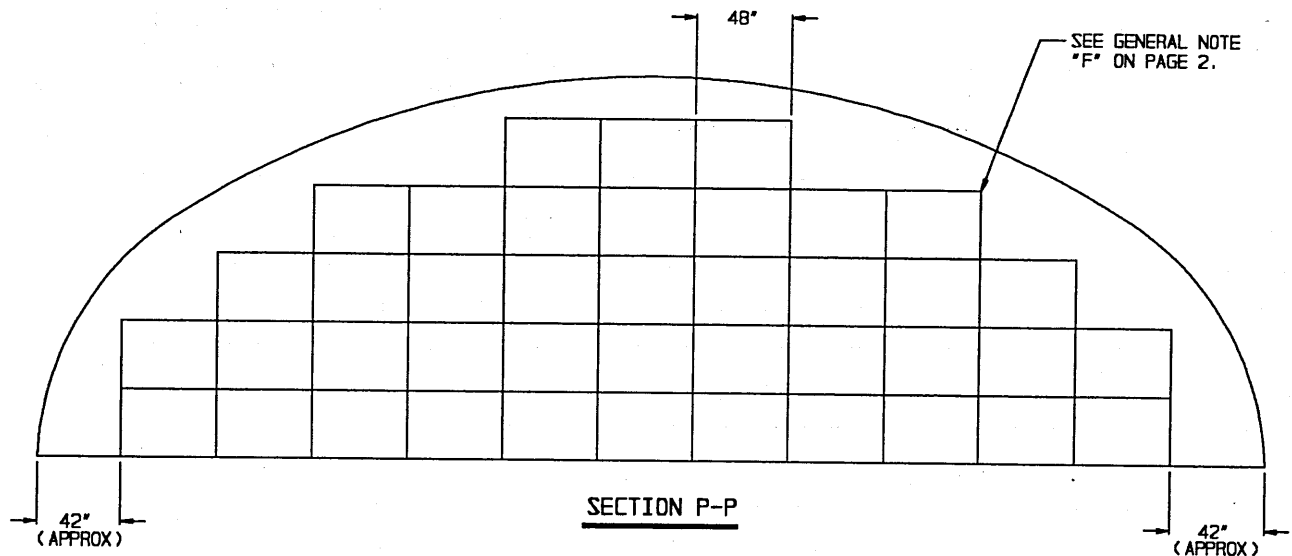
SEE GENERAL NOTE "H" ON PAGE 2.

NUMBERS INDICATE THE TIERS (LAYERS) HIGH THAT PALLET UNITS ARE STACKED.

PLAN VIEW

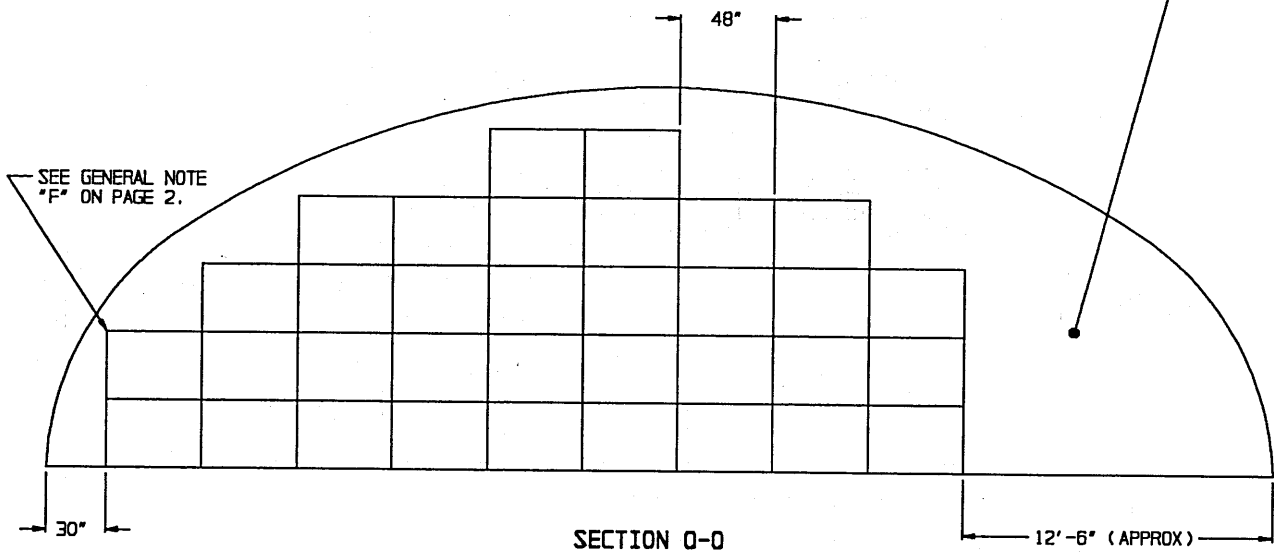
THE PALLETIZED UNIT SHOWN IS 40" LONG BY 48" WIDE BY 34-1/2" HIGH. FIVE-ROW STORAGE AT EACH SIDE OF THE MHE AISLE IS APPLICABLE FOR ALL PALLETIZED UNITS WHICH ARE FROM 39" TO 44" IN LENGTH. SEE "CHART 116" ON PAGE 64 FOR GUIDANCE AS TO THE NUMBER OF ROWS THAT CAN BE POSITIONED ON EACH SIDE OF THE CORBETTA AND THE DISTANCE FROM THE CENTER LINE FOR PLACEMENT OF THE LAST ROW (THE FIRST ROW TO BE POSITIONED).

TYPICAL STORAGE PROCEDURES IN 52'-0" DIA CORBETTA MAGAZINES



SECTION P-P

PALLET UNITS IN ROWS ADJACENT TO THE MHE AISLE HAVE NOT BEEN SHOWN FOR CLARITY PURPOSES.



SECTION O-O

SPECIAL NOTES:

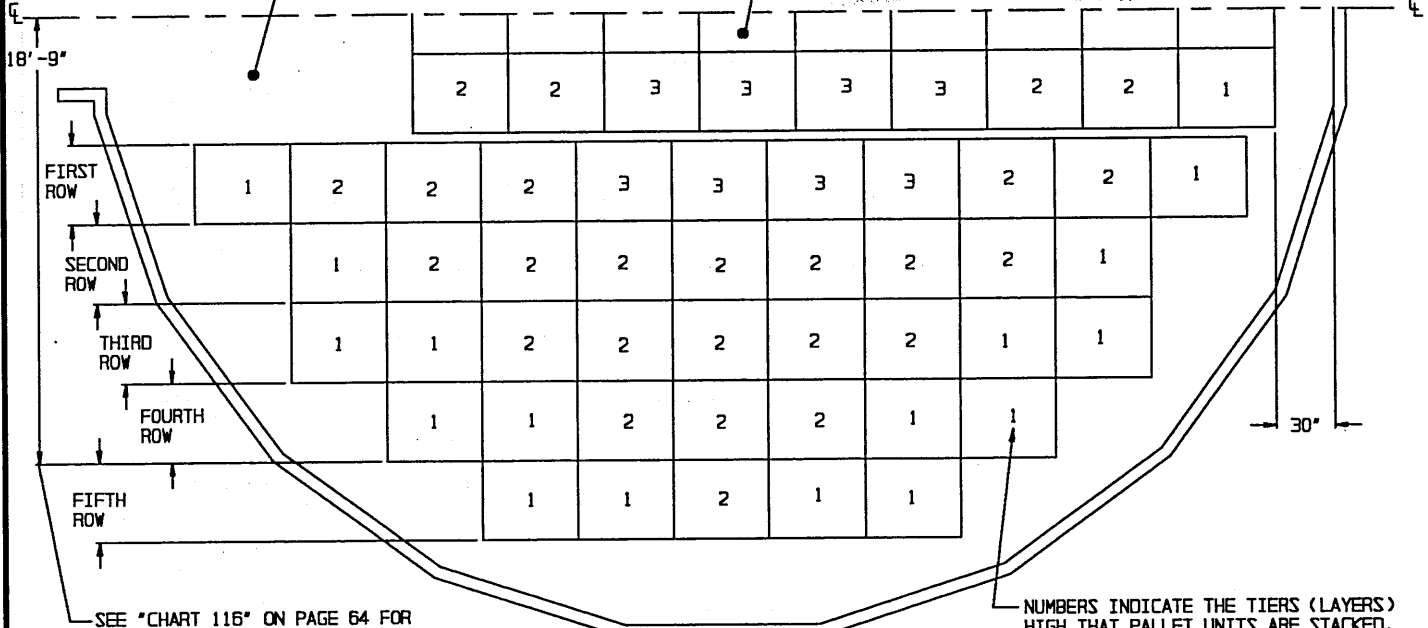
(SPECIAL NOTES CONTINUED)

1. THE TYPICAL PALLETIZED UNIT SHOWN HAS OVERALL DIMENSIONS OF 40" LONG BY 48" WIDE BY 34-1/2" HIGH. THE QUANTITY OF UNITS, THE NUMBER OF ROWS AND TIERS (LAYERS) WILL VARY, DEPENDENT UPON THE SIZE OF THE UNIT BEING STORED. SEE THE SPECIAL NOTES AND CHARTS ON PAGES 64 THRU 77 FOR GUIDANCE. AS MANY UNITS AS POSSIBLE WILL BE STORED WITHIN THE MAGAZINE.
2. PALLETIZED UNITS WILL BE STACKED IN VERTICAL ALIGNMENT AS SHOWN IN THE STORAGE VIEWS ON PAGE 60 AND ABOVE. STAGGERED STACKING AS SHOWN FOR IGLOO, ARCH TYPE, STRADLEY, AND OVAL-ARCH MAGAZINE STORAGE IS NOT APPLICABLE FOR STORAGE IN CORBETTA MAGAZINES. STORAGE WILL BE ACCOMPLISHED BY FORMING ROWS PARALLEL TO AND ON EITHER SIDE OF A MINIMUM WIDTH MHE AISLE. THE MINIMUM WIDTH MHE AISLE IS BASED ON THE DIMENSION OF THE PALLET UNIT WHICH IS POSITIONED PERPENDICULAR TO THE AISLE AND IS EQUAL TO 7'-7" PLUS THE LENGTH OR WIDTH OF THE PALLET UNIT, AS APPLICABLE, OR THE LENGTH OF THE FORKLIFT TRUCK TINES (40"), WHICHEVER IS GREATEST.
3. AS SHOWN BY THE PARTIAL PLAN VIEWS ON PAGES 62 AND 63, PALLET UNITS CAN BE STORED WITH EITHER THE PALLET LENGTH OR PALLET WIDTH PERPENDICULAR TO THE MHE AISLE. ONE PALLET POSITIONING MAY ALLOW THE STORAGE OF MORE UNITS THAN THE OTHER, AND THE BEST METHOD MAY BE DETERMINED BY CALCULATING QUANTITIES FROM THE VARIOUS CHARTS.
4. REFER TO PAGES 90 AND 91 FOR GUIDANCE IN THE STORAGE OF MULTIPLE LOTS.
5. IN SOME CASES, THE ACTUAL STORAGE QUANTITY FOR A TIER IN A ROW MAY BE ONE LESS UNIT THAN SPECIFIED BY A CHART. THE NUMBER OF UNITS SPECIFIED BY A CHART IS BASED ON THE MAXIMUM AVAILABLE WIDTH AT THAT LOCATION, WHERE AS THE ACTUAL QUANTITY IN A TIER OF A ROW MUST BE AN EVEN NUMBER IF THE PREVIOUSLY POSITIONED TIER AND/OR ROW CONTAINS AN EVEN NUMBER, OR MUST BE AN ODD NUMBER IF THE ALREADY-POSITIONED TIER AND/OR ROW HAS AN ODD NUMBER OF UNITS.
6. IF DESIRED, AND IF NOT IN VIOLATION OF SURVEILLANCE REQUIREMENTS/ PROCEDURES, ONE (1) SURVEILLANCE "CONTROL UNIT" SAMPLE MAY BE WITHHELD FROM EACH STORED LOT. IF THE MAGAZINE CONTAINS ONLY ONE (1) LOT IT IS RECOMMENDED THAT THIS "CONTROL UNIT" BE PLACED JUST INSIDE THE DOOR WHERE IT IS EASILY ACCESSIBLE. IF THE MAGAZINE CONTAINS SEVERAL LOTS, THE "CONTROL UNIT" SAMPLES SHOULD BE PLACED ADJACENT TO THE MHE OPERATING AISLE FOR ACCESSIBILITY.

(CONTINUED AT RIGHT)

SEE GENERAL NOTE "H" ON PAGE 2.

SEE "CHART 151" ON PAGE 76 FOR SIZE RANGE OF UNITS ACROSS THE WIDTH OF THE MHE AISLE. SEE "CHART 152" ON PAGE 77 FOR GUIDANCE AS TO THE NUMBER OF TIERS (LAYERS) HIGH THAT UNITS CAN BE STACKED AND FOR THE NUMBER OF UNITS WHICH CAN BE STORED IN THE LENGTH OF THE MHE AISLE.



SEE "CHART 116" ON PAGE 64 FOR STARTING LOCATIONS FOR OTHER SIZE UNITS.

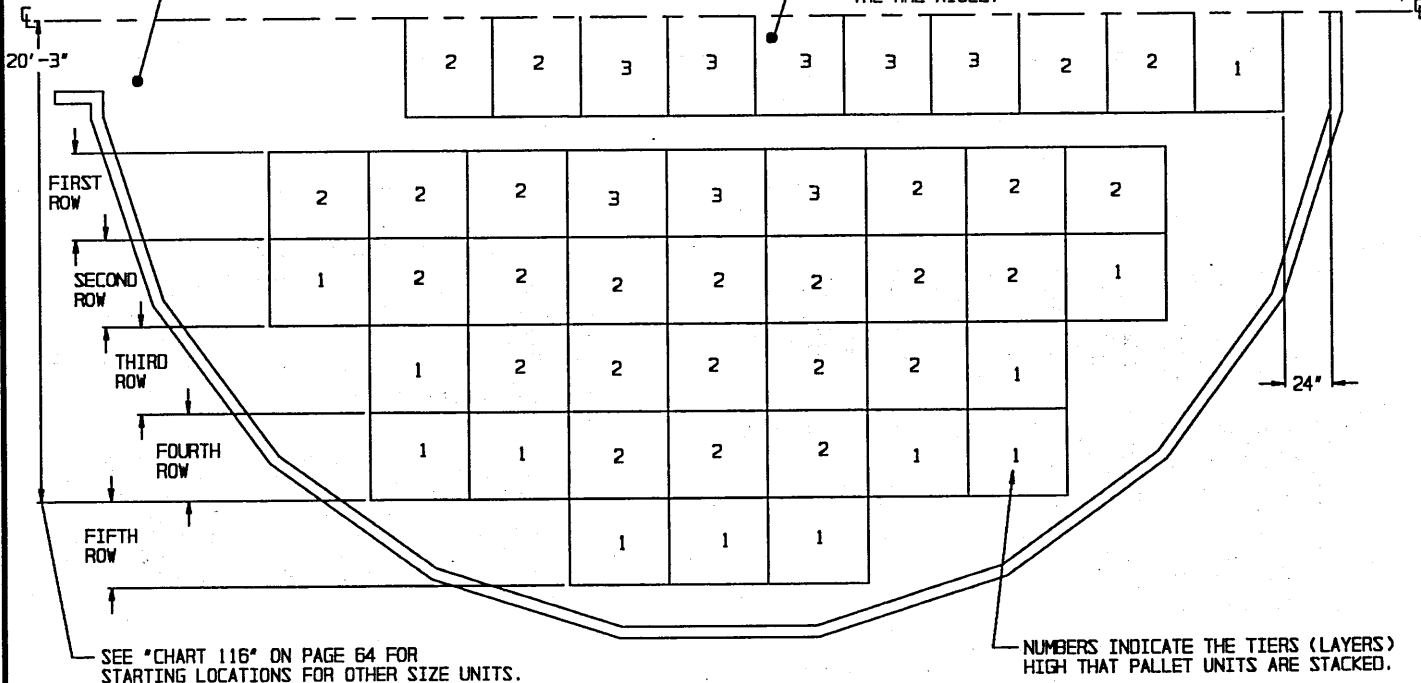
NUMBERS INDICATE THE TIERS (LAYERS) HIGH THAT PALLET UNITS ARE STACKED.

PARTIAL PLAN VIEW

THE PALLETIZED UNIT SHOWN IS 40" LONG BY 48" WIDE 52-3/4" HIGH. FIVE-RW STORAGE AT EACH SIDE OF THE MHE AISLE IS APPLICABLE FOR ALL PALLETIZED UNITS WHICH ARE FROM 39" TO 44" IN LENGTH.

SEE GENERAL NOTE "H" ON PAGE 2.

SEE "CHART 151" ON PAGE 76 FOR SIZE RANGE OF UNITS ACROSS THE WIDTH OF THE MHE AISLE. SEE "CHART 152" ON PAGE 77 FOR GUIDANCE AS TO THE NUMBER OF TIERS (LAYERS) HIGH THAT UNITS CAN BE STACKED AND FOR THE NUMBER OF UNITS WHICH CAN BE STORED IN THE LENGTH OF THE MHE AISLE.



SEE "CHART 116" ON PAGE 64 FOR STARTING LOCATIONS FOR OTHER SIZE UNITS.

NUMBERS INDICATE THE TIERS (LAYERS) HIGH THAT PALLET UNITS ARE STACKED.

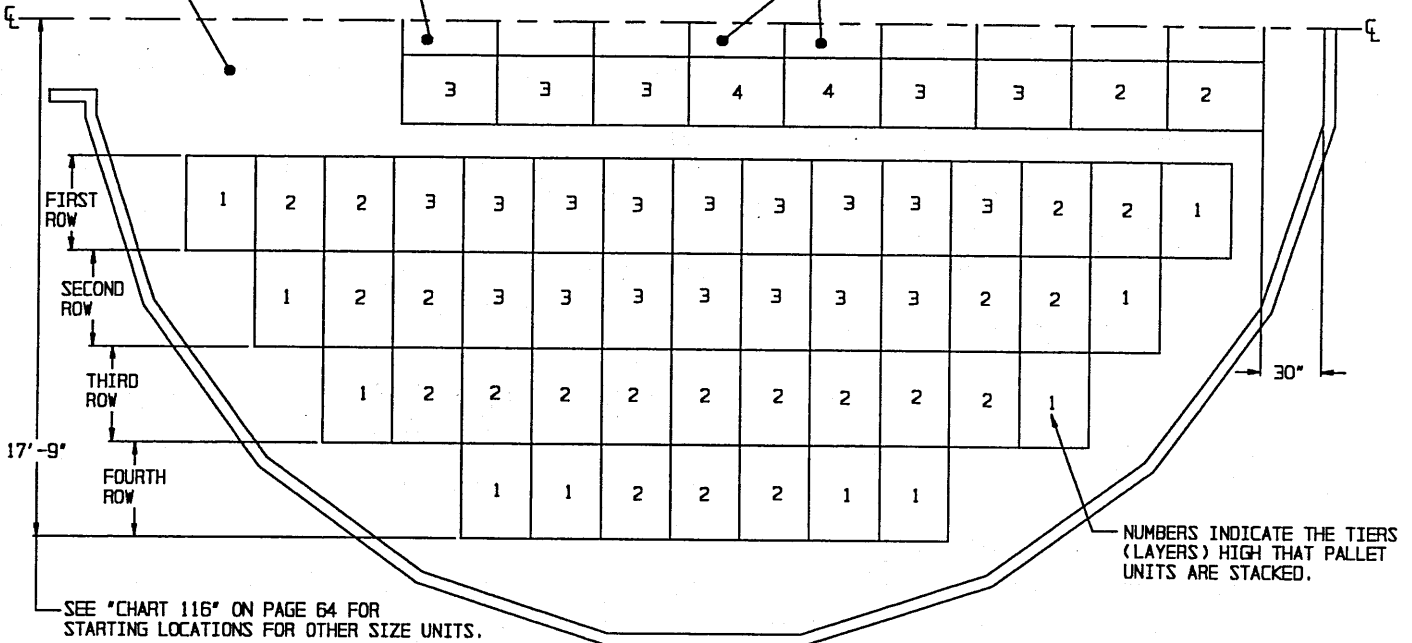
PARTIAL PLAN VIEW

THE PALLETIZED UNIT SHOWN IS 44" LONG BY 50" WIDE BY 52-1/2" HIGH. FIVE-RW STORAGE AT EACH SIDE OF THE MHE AISLE IS APPLICABLE FOR ALL PALLETIZED UNITS WHICH ARE FROM 39" TO 44" IN LENGTH.

SEE GENERAL NOTE "H" ON PAGE 2.

SEE "CHART 151" ON PAGE 76 FOR SIZE RANGE OF UNITS ACROSS THE WIDTH OF THE MHE AISLE. SEE "CHART 152" ON PAGE 77 FOR GUIDANCE AS TO THE NUMBER OF TIERS (LAYERS) HIGH THAT UNITS CAN BE STACKED AND FOR THE NUMBER OF UNITS WHICH CAN BE STORED IN THE LENGTH OF THE MHE AISLE.

ALTHOUGH NOT INCLUDED IN CHART 152, THIS UNIT CAN BE STACKED FOUR (4) HIGH AT THESE LOCATIONS.



SEE "CHART 116" ON PAGE 64 FOR STARTING LOCATIONS FOR OTHER SIZE UNITS.

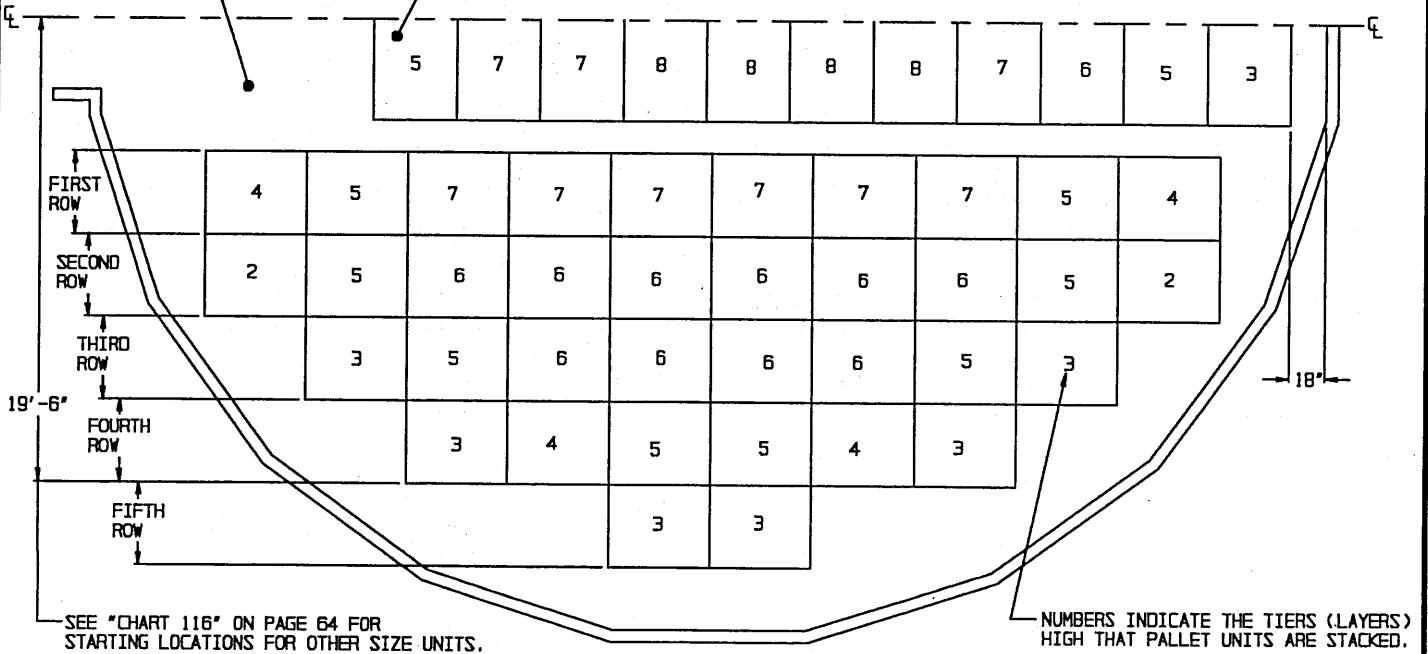
NUMBERS INDICATE THE TIERS (LAYERS) HIGH THAT PALLET UNITS ARE STACKED.

PARTIAL PLAN VIEW

THE PALLETIZED UNIT SHOWN IS 35" LONG BY 48" WIDE BY 42-1/2" HIGH. FOUR-RW STORAGE AT EACH SIDE OF THE MHE AISLE IS APPLICABLE FOR ALL PALLETIZED UNITS WHICH ARE OVER 45-1/2" IN WIDTH.

SEE GENERAL NOTE "H" ON PAGE 2.

SEE "CHART 151" ON PAGE 76 FOR SIZE RANGE OF UNITS ACROSS THE WIDTH OF THE MHE AISLE. SEE "CHART 152" ON PAGE 77 FOR GUIDANCE AS TO THE NUMBER OF TIERS (LAYERS) HIGH THAT UNITS CAN BE STACKED AND FOR THE NUMBER OF UNITS WHICH CAN BE STORED IN THE LENGTH OF THE MHE AISLE.



SEE "CHART 116" ON PAGE 64 FOR STARTING LOCATIONS FOR OTHER SIZE UNITS.

NUMBERS INDICATE THE TIERS (LAYERS) HIGH THAT PALLET UNITS ARE STACKED.

PARTIAL PLAN VIEW

THE PALLETIZED UNIT SHOWN IS 41-7/8" LONG BY 51" WIDE BY 20" HIGH. FIVE-RW STORAGE AT EACH SIDE OF THE MHE AISLE IS APPLICABLE FOR ALL PALLETIZED UNITS WHICH ARE FROM 39" TO 44" IN LENGTH.

SPECIAL NOTES:

(SPECIAL NOTES CONTINUED)

1. THE CHART ON THIS PAGE AND ON PAGES 65 THROUGH 77 ARE PRESENTED AS GUIDANCE IN THE DEVELOPMENT OF A PATTERN FOR THE STORAGE OF PALLETIZED UNITS OF AMMUNITION AND COMPONENTS IN A 52'-0" DIAMETER CORBETTA MAGAZINES. TO A CERTAIN EXTENT, THE CHARTS MAY ALSO BE USED IN CALCULATING THE QUANTITY OF UNITS WHICH CAN BE STORED. NOTICE: THE CHARTS ARE FOR GUIDANCE PURPOSES ONLY. VARIATIONS IN PALLETIZED UNIT OVERALL SIZES, THE COMPACTNESS OF PLACEMENT WITHIN A MAGAZINE, AS WELL AS VARIANCES IN THE INSIDE DIMENSIONS OF THE CORBETTA MAGAZINE CAN CAUSE DISCREPANCIES WITHIN THE CHARTS.
2. THE STORAGE LAYOUTS DEPICTED FOR CORBETTA MAGAZINES ARE CALCULATED BY ASSUMING A MINIMUM WIDTH MHE AISLE EXTENDING FROM THE DOOR OPENING TO THE REAR OF THE MAGAZINE. THE ROW OF PALLET UNITS ADJACENT TO THE MHE AISLE, DESIGNATED HEREIN AS THE FIRST ROW, IS POSITIONED ON A LINE WHICH IS ONE-HALF OF THE WIDTH OF THE MINIMUM MHE AISLE FROM THE CENTER LINE OF THE MAGAZINE. THIS HALF OF THE MHE AISLE IS BASED ON THE DIMENSION OF THE UNIT WHICH IS PERPENDICULAR TO THE AISLE.
3. THE FOLLOWING STEP-BY-STEP PROCEDURES ARE PRESENTED AS GUIDANCE IN USING THE DEPICTED CHARTS. SEE THE "EXAMPLE" ON THIS PAGE.

STEP 1

DETERMINE THE STACKING PATTERN TO BE USED BY VIEWING THE EXAMPLES ON PAGES 60 THRU 63.

STEP 2

FROM CHART 116 ON PAGE 64, FIND THE NUMBER OF ROWS WHICH CAN BE STORED ON EACH SIDE OF THE MHE AISLE BASED ON THE DIMENSION OF THE UNIT WHICH IS TO BE PERPENDICULAR TO THE AISLE. ALSO FIND THE STARTING DISTANCE FROM THE CENTER LINE FOR THE PLACEMENT OF THE LAST ROW WHEN COUNTING FROM THE CENTER OF THE MAGAZINE (THE FIRST ROW TO BE POSITIONED WHEN STORING). ALSO INDICATED IN CHART 116 ARE THE REFERENCED CHART NUMBERS APPLICABLE FOR STORAGE OF THE PALLET UNITS AND THE PAGES ON WHICH THE CHARTS ARE LOCATED.

STEP 3

FROM THE APPLICABLE CHART FOR THE DIMENSION PERPENDICULAR TO THE MHE AISLE, AND FOR THE LAST ROW, BE IT THE FOURTH, FIFTH, OR SIXTH, LOCATE THE "FIRST" TIER (LAYER) IN THE LEFT COLUMN FOR WHICH THE NUMBER OF UNITS WIDE IS TO BE DETERMINED. LOCATE THE HEIGHT OF THE UNIT IN THE SECOND COLUMN. ALONG THAT LINE LOCATE THE COLUMN WHICH CONTAINS THE LENGTH OR WIDTH OF THE PALLET UNIT, AS APPLICABLE. THE HEADING AT THE BOTTOM OF THAT COLUMN WILL INDICATE THE NUMBER OF PALLET UNITS WIDE FOR THAT TIER.

STEP 4

LOCATE THE "SECOND" TIER IN THE LEFT HAND COLUMN. LOCATE THE HEIGHT OF THE UNIT IN THE SECOND COLUMN. ALONG THAT LINE LOCATE THE COLUMN WHICH CONTAINS THE LENGTH OR WIDTH OF THE PALLET UNIT, AS APPLICABLE. THE HEADING AT THE BOTTOM OF THAT COLUMN WILL INDICATE THE NUMBER OF PALLET UNITS WIDE FOR THAT TIER.

(CONTINUED AT RIGHT)

STEP 5

REPEAT STEP 4 FOR THE THIRD AND SUBSEQUENT TIERS UNTIL THE HEIGHT OF THE PALLET UNIT BEING STORED DOES NOT APPEAR IN THE SECOND COLUMN.

STEP 6

REPEAT STEPS 3, 4, AND 5 FOR EACH SUBSEQUENT ROW UP TO THE FIRST, WHICH IS NEXT TO THE AISLE.

STEP 7

REFER TO CHART 151 ON PAGE 76 FOR GUIDANCE AS TO THE NUMBER OF ROWS WIDE WHICH CAN BE STORED IN THE MHE AISLE.

STEP 8

REFER TO CHART 152 ON PAGE 77 FOR GUIDANCE AS TO THE NUMBER OF PALLET UNITS LONG IN THE MHE AISLE IN THE VARIOUS TIERS BASED ON THE HEIGHT AND THE LENGTH AND/OR WIDTH OF THE UNIT.

EXAMPLE

THE PALLETIZED UNIT SHOWN IN THE "PARTIAL PLAN VIEW" AT THE TOP OF PAGE 63 HAS BEEN SELECTED FOR THE EXAMPLE. THE UNIT IS 35" LONG BY 48" WIDE BY 42-1/2" HIGH. A STORAGE PATTERN CAN BE DETERMINED BY FOLLOWING THE DOTTED-LINE EXAMPLE WITHIN CHART 116 ON PAGE 64, CHARTS 136 THRU 138 ON PAGES 71 AND 72, CHART 141 ON PAGE 73, AND CHARTS 151 AND 152 ON PAGES 76 AND 77 IN CONJUNCTION WITH USING THE STEP-BY-STEP PROCEDURES SPECIFIED AT LEFT.

TO START, LOCATE IN THE LEFT HAND COLUMN OF CHART 116 BELOW, THE FIGURE 48" WHICH IS THE DIMENSION OF THE PALLET UNIT WHICH IS POSITIONED PERPENDICULAR TO THE MHE AISLE. FOLLOWING THE ARROWS ALONG THE DOTTED LINE TO THE RIGHT INDICATES THAT FOUR ROWS CAN BE STORED ON EACH SIDE OF THE MHE AISLE. CONTINUING TO THE RIGHT THE NEXT COLUMN INDICATES THAT THE NEAR EDGE OF THE FOURTH AND LAST ROW (THE FIRST ROW TO BE POSITIONED) IS 17'-9" FROM THE CENTER LINE OF THE MAGAZINE THAT EXTENDS FROM THE DOOR OPENING TO THE REAR WALL. THE NEXT COLUMN TO THE RIGHT SPECIFIES THE USE OF CHART NOS. 136-138 AND 141 FOR 48" WIDE UNITS. THE NEXT COLUMN INDICATES THESE CHARTS ARE ON PAGES 71 TO 73.

TO FIND THE NUMBER OF PALLET UNITS WHICH CAN BE STORED IN THE FOURTH ROW, TURN TO CHART 141 ON PAGE 73. FIND THE "FIRST" TIER SQUARED IN WITH DOTTED LINES IN THE FIRST COLUMN. THE 42-1/2" HEIGHT IS WITHIN THE 15"-54" RANGE IN THE SECOND COLUMN. FOLLOW THE ARROWS FURTHER TO THE RIGHT, THE 35" LENGTH IS WITHIN THE 35"-39" RANGE WHICH IS SQUARED IN. FOLLOW THE ARROWS DOWN TO THE NUMERAL IN THE HEADING AT THE BOTTOM OF THAT COLUMN WHICH SPECIFIES THAT 7 PALLET UNITS 35" LONG CAN BE POSITIONED ACROSS THE MAGAZINE IN THE FIRST TIER. NEXT FIND THE SQUARED-IN "SECOND" TIER IN THE FIRST COLUMN. FOLLOW THE ARROW DOWN TO THE 42"-45" RANGE WHICH INCLUDES THE HEIGHT OF 42-1/2". FOLLOW THE ARROWS ALONG THE DOTTED LINE TO THE RIGHT. THE 35" LENGTH IS WITHIN THE 35"-40" RANGE. FOLLOW THE ARROWS DOWN TO THE NUMERAL IN THE HEADING AT THE BOTTOM OF THAT COLUMN WHICH SPECIFIES THAT 4 UNITS 35" LONG CAN BE STORED IN THE SECOND TIER OF THE FOURTH ROW. THE 42-1/2" HEIGHT DIMENSION IS NOT INCLUDED UNDER THE THIRD-TIER LISTING, THEREFORE, THE FOURTH ROW IS LIMITED TO TWO TIERS.

(SPECIAL NOTES CONTINUED ON PAGE 65)

CHART NO. 116					
UNIT DIM	WIDTH ALLOWED FOR ONE-HALF OF MHE AISLE	NO. OF ROWS EACH SIDE	DISTANCE FROM CENTER LINE TO LAST ROW	CHART NOS.	CHART PAGES
35"	65"	6	20'-0"	117-122	65-67
36"	65"	6	20'-5"	117-121, 123	65-67
37"	65"	6	20'-10"	117-121, 124	65-67
38"	65"	6	21'-3"	117-121, 125	65-67
39"	65"	5	18'-5"	117-121	65-67
40"	65"	5	18'-9"	126-129, 131	68-70
41"	66"	5	19'-2"	126-129, 132	68-70
42"	66"	5	19'-6"	126-129, 133	68-70
43"	67"	5	19'-11"	126-128, 130, 134	68-70
44"	67"	5	20'-3"	126-128, 130, 135	68-70
45-1/2"	68"	4	17'-1"	136-139	71-72
46"	68"	4	17'-2"	136-138, 140	71-73
47"	69"	4	17'-6"	136-138, 140	71-73
[48"]	69"	[4]	[17'-9"]	[136-138, 141]	[71-73]
48"	70"	4	18'-1"	136-138, 142	71-73
50"	70"	4	18'-4"	136-138, 143	71, 72, 74
51"	71"	4	18'-8"	144-147	74, 75
52"	71"	4	18'-11"	144-146, 148	74, 75
53"	72"	4	19'-3"	144-146, 149	74, 76
54"	72"	4	19'-6"	144-146, 150	74, 76

STORAGE PLANNING GUIDANCE IN 52'-0" DIA CORBETTA MAGAZINES

(SPECIAL NOTES CONTINUED)

REFER TO CHART 138 ON PAGE 72 AND FOLLOW THE SAME STEPS TO DETERMINE THE NUMBER OF PALLET UNITS IN THE THIRD ROW. REFER TO CHARTS 137 AND 136 ON PAGE 71 FOR SECOND ROW AND FIRST ROW GUIDANCE.

AN MHE AISLE APPROXIMATELY 11'-6" WIDE REMAINS IN THE CENTER OF THE MAGAZINE. LOCATE THE SQUARED-IN 11'-6" - 11'-8" DIMENSIONS IN THE AISLE WIDTH COLUMN OF CHART 151 ON PAGE 76. FOLLOWING THE ARROWS TO THE RIGHT THE 35' LENGTH IS WITHIN THE 35"-42" RANGE. FOLLOW THE ARROWS DOWN TO THE HEADING AT THE BOTTOM OF THAT COLUMN WHICH INDICATES THE PALLET UNITS CAN BE STORED 3 WIDE IN THE MHE AISLE. CHART 152 ON PAGE 77 CAN BE USED IN ESTIMATING THE NUMBER OF PALLET UNITS LONG THAT CAN BE STORED IN THE MHE AISLE. FIND THE "FIRST" TIER SQUARED IN WITH DOTTED LINES IN THE FIRST COLUMN. THE 42-1/2" HEIGHT IS WITHIN THE 15"-54" RANGE IN THE SECOND COLUMN. FOLLOW THE ARROWS FURTHER TO THE RIGHT. THE 48" WIDTH IS WITHIN THE 46"-50" RANGE WHICH IS SQUARED-IN. FOLLOW THE ARROWS DOWN TO THE NUMERAL IN THE HEADING AT THE BOTTOM OF THAT COLUMN WHICH SPECIFIES THAT 9 PALLET UNITS 48" WIDE CAN BE STORED IN THE FIRST TIER OF THE MHE AISLE IN EACH ROW. NEXT FIND THE SQUARED-IN "SECOND" TIER IN THE FIRST COLUMN. FOLLOW THE ARROW DOWN TO THE 42"-45" RANGE WHICH INCLUDES THE HEIGHT OF 42-1/2". FOLLOW THE ARROWS ALONG THE DOTTED LINE TO THE RIGHT. THE 48" WIDTH IS WITHIN THE 44"-49" RANGE WHICH IS SQUARED-IN. FOLLOW THE ARROWS DOWN TO THE NUMERAL IN THE HEADING AT THE BOTTOM OF THAT COLUMN WHICH SPECIFIES THAT 9 PALLET UNITS 48" WIDE CAN ALSO BE STORED IN THE SECOND TIER OF EACH ROW. NEXT FIND THE SQUARED-IN "THIRD" TIER IN THE FIRST COLUMN. FOLLOW THE ARROW DOWN TO THE 42"-45" RANGE AND THEN TO THE RIGHT ALONG THE DOTTED LINE TO THE RIGHT. THE 48" WIDTH IS WITHIN THE 46"-52" RANGE WHICH IS SQUARED-IN FOLLOW THE ARROWS DOWN TO THE NUMERAL IN THE HEADING AT THE BOTTOM OF THAT COLUMN WHICH SPECIFIES THAT 7 PALLET UNITS CAN BE STORED IN THE THIRD TIER OF EACH ROW. ALTHOUGH THE 42-1/2" HEIGHT IS NOT INCLUDED IN THE CHART FOR THE FOURTH TIER BECAUSE UNITS AT 45" HIGH WILL NOT CLEAR THE CEILING, TWO PALLET UNITS CAN BE STORED IN EACH ROW.

TIER	UNIT HEIGHT	CHART NO. 117									
		UNIT SIZE RANGE FOR PALLET WIDTH									
1ST	15"-54"	45.5"-46"	46"-50"	50"-50.5"							
2ND	15"-30"	45.5"-46"	46"-50"	50"-51.5"							
	30"-36"		45.5"-47"	47"-51.5"							
	36"-39"		45.5"-46"	46"-51.5"							
	39"-42"		45.5"	45.5"-50"	50"-51.5"						
	42"-45"			45.5"-49"	49"-51.5"						
	45"-48"			45.5"-47"	47"-51.5"						
	48"-51"			45.5"-46"	46"-51.5"						
	51"-54"				45.5"-50.5"	50.5"-51.5"					
3RD	15"-18"	45.5"-46"	46"-50"	50"-51.5"							
	18"-21"		45.5"-48"	48"-51.5"							
	21"-24"		45.5"-47"	47"-51.5"							
	24"-27"		45.5"-46.5"	46.5"-50"	50"-51.5"						
	27"-30"			45.5"-49"	49"-51.5"						
	30"-33"			45.5"-47"	47"-51.5"						
	33"-36"				45.5"-50"	50"-51.5"					
	36"-39"				45.5"-48"	48"-51.5"					
	39"-42"					45.5"-50"	50"-51.5"				
	42"-45"					45.5"-46"	46"-51.5"				
	45"-48"						47"-51.5"	46"-51.5"			
	48"-51"						45.5"-46"	45.5"-51.5"			
	51"-54"							46"-51.5"	45.5"-51.5"		
4TH	15"-18"		45.5"-47"	47"-51.5"	50"-51.5"						
	18"-21"		45.5"	45.5"-50"	47"-51.5"						
	21"-24"			45.5"-47"	45.5"-50"	50"-51.5"					
	24"-27"				45.5"-47"	47"-51.5"					
	27"-30"					45.5"-48"	48"-51.5"	47"-51.5"	45.5"-51"	51"-51.5"	45.5"-51.5"
	30"-33"						45.5"-47"	47"-51.5"	45.5"-51"	51"-51.5"	45.5"-51.5"
	33"-36"							47"-51.5"	45.5"-51"	51"-51.5"	45.5"-51.5"
	36"-39"							47"-51.5"	45.5"-51"	51"-51.5"	45.5"-51.5"
	39"-42"							47"-51.5"	45.5"-51"	51"-51.5"	45.5"-51.5"
5TH	15"-18"			45.5"-49"	49"-51.5"	51"-51.5"					
	18"-21"			45.5"-46"	46"-51"	47"-51.5"					
	21"-24"				45.5"-47"	45.5"-46"	46"-51.5"	45.5"-46"	46"-51.5"	45.5"-48"	48"-51.5"
	24"-27"										
	27"-30"										
	30"-33"										
6TH	15"-18"				45.5"-50"	50"-51.5"					
	18"-21"					45.5"-50"	50"-51.5"				
	21"-24"						50"-51.5"	45.5"-50"	50"-51.5"		
	24"-27"										
	27"-30"										
	30"-33"										
7TH	15"-18"					45.5"-48"	48"-51.5"	51"-51.5"			
	18"-21"						45.5"-51"	51"-51.5"			
8TH	15"-18"					45.5"-46"	46"-51.5"				
TIER	UNIT HEIGHT	12	11	10	9	8	7	6	5	4	3
NUMBER OF UNITS WIDE IN FIRST ROW FOR UNITS 35"-39" LONG											

TIER	UNIT HEIGHT	CHART NO. 118									
		UNIT SIZE RANGE FOR PALLET WIDTH									
1ST 2ND	15'-54"	45.5'-46"	46'-51"	51'-51.5"							
	15'-30"	45.5'-46"	46'-51"	51'-51.5"							
3RD	30'-36"		45.5'-48"	48'-51.5"							
	36'-39"		45.5'-47"	47'-51.5"							
	39'-42"			45.5'-50"	50'-51.5"						
	42'-45"			45.5'-48"	48'-51.5"						
	45'-51"			45.5'-47"	47'-51.5"						
	51'-54"	45.5'-46"	46'-51"	51'-51.5"	49'-51.5"						
	15'-18"		45.5'-48"	48'-51.5"	49'-51.5"						
	18'-24"		45.5'-47"	47'-51.5"	47'-51.5"						
	24'-27"		45.5'-47"	47'-51.5"	45.5'-49"						
	27'-30"			45.5'-49"	47'-51.5"						
	30'-33"			45.5'-47"	45.5"						
33'-36"				49'-51.5"	49'-51.5"						
36'-39"				45.5'-49"	45.5'-51.5"						
39'-42"				45.5"	45.5'-47"						
42'-45"					47'-51.5"	47'-51.5"					
45'-48"					45.5'-47"	45.5'-47"					
4TH	15'-18"		45.5'-48"	48'-51.5"	50'-51.5"						
	18'-21"			45.5'-50"	48'-51.5"						
	21'-24"			45.5'-47"	47'-51.5"						
	24'-27"				45.5'-49"	49'-51.5"					
	27'-30"				45.5'-51.5"	45.5'-51.5"					
5TH	30'-33"					45.5'-51"	51'-51.5"	46'-51.5"			
	33'-36"			45.5'-48"	48'-51.5"		45.5'-46"	46'-51.5"			
	36'-39"				45.5'-51"	51'-51.5"	45.5'-50"	47'-51.5"			
	39'-42"				48'-51.5"	48'-51.5"	50'-51.5"	47'-51.5"			
6TH	42'-45"				45.5'-49"	49'-51.5"	45.5'-47"	47'-51.5"			
	45'-48"					45.5'-47"	47'-51.5"				
						45.5'-48"	48'-51.5"				
7TH	15'-18"							45.5'-51.5"			
	15'-18"										
TIER	UNIT HEIGHT	11	10	9	8	7	6	5	4	3	2
NUMBER OF UNITS WIDE IN SECOND ROW FOR UNITS 35'-39" LONG											

TIER	UNIT HEIGHT	CHART NO. 119									
		UNIT SIZE RANGE FOR PALLET WIDTH									
1ST 2ND	15'-54"	45.5'-49"	49'-51.5"								
	15'-30"	45.5'-49"	49'-51.5"								
	30'-33"	45.5'-48"	48'-51.5"								
	33'-36"	45.5'-46"	46'-51.5"								
	36'-39"		45.5'-50"	50'-51.5"							
	39'-42"		45.5'-49"	49'-51.5"							
	42'-45"		45.5'-46"	46'-51.5"							
	45'-48"			45.5'-51"	51'-51.5"						
	48'-51"			45.5'-48"	48'-51.5"						
	51'-54"			45.5'-46"	46'-51.5"						
	3RD	15'-18"	45.5'-49"	49'-51.5"							
18'-21"		45.5'-47"	47'-51.5"								
21'-24"		45.5'-46"	46'-51.5"								
24'-27"			45.5'-49"	49'-51.5"							
27'-30"			45.5'-46"	46'-51.5"							
30'-33"				45.5'-49"	49'-51.5"						
33'-36"				45.5'-46"	46'-51.5"						
36'-39"					45.5'-46"	49'-51.5"					
39'-42"					45.5'-49"	46'-51.5"					
42'-45"					45.5'-46"	45.5'-46"	46'-51.5"	47'-51.5"			
45'-48"		45.5'-46"	46'-51.5"	49'-51.5"					45.5'-51.5"		
4TH	18'-21"		45.5'-49"	49'-51.5"							
	21'-24"			45.5'-51"	51'-51.5"						
	24'-27"			45.5'-46"	46'-51.5"						
	27'-30"					45.5'-51.5"					
	30'-33"		45.5'-46"	46'-51.5"	47'-51.5"			45.5'-49"	49'-51.5"		
5TH	15'-18"			46'-51.5"	47'-51.5"						
	18'-21"			45.5'-47"	47'-51.5"						
	21'-24"					45.5'-51.5"					
6TH	24'-27"										
	15'-18"			45.5'-46"	46'-51.5"						
7TH	18'-21"						45.5'-47"	47'-51.5"			
	15'-18"						45.5'-47"	47'-51.5"			
TIER	UNIT HEIGHT	9	8	7	6	5	4	3			
NUMBER OF UNITS WIDE IN THIRD ROW FOR UNITS 35'-39" LONG											

TIER	UNIT HEIGHT	CHART NO. 120					
		UNIT SIZE RANGE FOR PALLET WIDTH					
1ST 2ND	15"-54" 15"-30" 30"-33" 33"-39" 39"-42" 42"-45" 45"-48" 48"-51" 51"-54"	45.5" 45.5"	45.5"-51.5" 45.5"-51.5" 45.5"-49" 45.5"-48"	49"-51.5" 48"-51.5" 45.5"-49" 45.5"-47"	49"-51.5" 47"-51.5" 45.5"-51" 45.5"	51"-51.5" 45.5"-51.5" 45.5"-51"	51"-51.5"
3RD	15"-18" 18"-21" 21"-24"	45.5"	45.5"-51.5" 45.5"-49"	49"-51.5" 45.5"-51.5"			
4TH	15" 15"-18" 18"-21" 21"-24" 24"-27" 27"-30"	45.5"-49"	49"-51.5" 45.5"-51" 45.5"-48.5"	51"-51.5" 48.5"-51.5" 45.5"-50"	50"-51.5" 45.5"-51.5"		
5TH	15"-18" 18"-21" 21"-24"		45.5"-46"	46"-51.5"		45.5"-47"	47"-51.5"
6TH	15"-18"				45.5"-51.5"	45.5"-47"	47"-51.5"
TIER	UNIT HEIGHT	8	7	6	5	4	3
NUMBER OF UNITS WIDE IN FOURTH ROW FOR UNITS 35"-39" LONG							

TIER	UNIT HEIGHT	CHART NO. 121			
		UNIT SIZE RANGE FOR PALLET WIDTH			
1ST 2ND	15"-54" 15"-30" 30"-33" 33"-36" 36"-39" 39"-42"	45.5"-47" 45.5"-47"	47"-51.5" 47"-51.5" 45.5"-50" 45.5"-48"	50"-51.5" 48"-51.5" 45.5"-50"	50"-51.5" 45.5"-51.5"
3RD	15"-18" 18"-21" 21"-24"	45.5"-47"	47"-51.5" 45.5"-51.5" 45.5"-48"	48"-51.5" 48"-51.5"	
4TH	15"-18" 18"-21"				45.5"-51.5"
TIER	UNIT HEIGHT	5	4	3	2
NUMBER OF UNITS WIDE IN FIFTH ROW FOR UNITS 35"-39" LONG					

TIER	UNIT HEIGHT	CHART NO. 123		
		UNIT SIZE RANGE FOR PALLET WIDTH		
1ST 2ND	15"-54" 15"-33" 33"-36" 36"-39"	45.5"-51.5" 45.5"-51.5" 45.5"-49"	49"-51.5"	45.5"-51.5"
3RD	15"-22" 22"-24"	45.5"-51.5" 45.5"-49"	49"-51.5"	
TIER	UNIT HEIGHT	3	2	1
NUMBER OF UNITS WIDE IN SIXTH ROW FOR UNITS 36" LONG				

TIER	UNIT HEIGHT	CHART NO. 122			
		UNIT SIZE RANGE FOR PALLET WIDTH			
1ST 2ND	15"-54" 15"-30" 30"-33" 33"-36" 36"-39" 39"-42" 42"-45"	45.5"-51.5" 45.5"-51.5" 45.5"-46"	46"-51.5" 45.5"-51.5" 45.5"-50"	50"-51.5" 45.5"-51.5"	
3RD	15"-20" 20"-24" 24"-27" 27"-30"	45.5"-51.5"	45.5"-51.5"	45.5"-51.5"	45.5"-49"
TIER	UNIT HEIGHT	4	3	2	1
NUMBER OF UNITS WIDE IN SIXTH ROW FOR UNITS 35" LONG					

TIER	UNIT HEIGHT	CHART NO. 124	
		UNIT SIZE RANGE FOR PALLET WIDTH	
1ST 2ND	15"-54" 15"-30" 30"-33"	45.5"-51" 45.5"-51"	51"-51.5" 51"-51.5" 45.5"-15.5"
3RD	15"-20" 20"-22"	45.5"-51"	51"-51.5" 45.5"-51.5"
TIER	UNIT HEIGHT	3	2
NUMBER OF UNITS WIDE IN SIXTH ROW FOR UNITS 37" LONG			

TIER	UNIT HEIGHT	CHART NO. 125	
		UNIT SIZE RANGE FOR PALLET WIDTH	
1ST 2ND	15"-54" 15"-30"	45.5"-51.5" 45.5"-51.5"	
3RD	30"-33" 15"-20" 20"-22"	45.5"-51.5"	45.5"-48" 45.5"-48"
TIER	UNIT HEIGHT	2	1
NUMBER OF UNITS WIDE IN SIXTH ROW FOR UNITS 38" LONG			

		CHART NO. 126										
		UNIT SIZE RANGE FOR PALLET WIDTH										
TIER	UNIT HEIGHT											
1ST	15'-54"	48'-49"	49'-54"									
2ND	15'-30"	48'-49"	49'-54"									
	30'-33"	48"	48'-52"	52'-54"								
	33'-36"	48"	48'-51"	51'-54"								
	36'-39"	48"	48"	48'-54"								
	39'-42"			48'-54"								
	42'-45"			48'-53"	53'-54"							
	45'-48"			48'-52"	52'-54"							
	48'-54"			48'-50"	50'-54"							
3RD	15'-18"	48'-49"	49'-54"									
	18'-21"	48"	48'-52"	52'-54"								
	21'-24"	48"	48'-51"	51'-54"								
	24'-27"		48'-49"	49'-54"								
	27'-30"			48'-53"	53'-54"							
	30'-33"			48'-50"	50'-54"							
	33'-36"			48"	48'-54"							
	36'-39"				48'-50"	50'-54"						
	39'-42"					48'-50"						
	42'-45"						48'-54"					
	45'-48"							48'-54"				
	48'-51"								48'-54"			
	51'-54"									48'-54"		
4TH	15'-21"		48'-51"	51'-54"								
	21'-24"			48'-50"	50'-54"							
	24'-27"				48'-54"							
	27'-30"				48'-50"	50'-54"						
	30'-33"				48"	48'-50"						
	33'-36"					48"						
	36'-39"											
	39'-42"											
	42'-45"											
	45'-48"											
	48'-51"											
	51'-54"											
5TH	15'-18"			48'-53"	53'-54"							
	18'-21"			48'-49"	48'-54"							
	21'-24"				48'-50"	50'-54"						
	24'-27"					48'-50"						
	27'-30"						48'-54"					
	30'-33"											
6TH	15'-18"		48'-49"	49'-54"								48'-54"
	18'-21"						48'-54"					
	21'-24"							48'-54"				
	24'-27"											
7TH	15'-18"					48'-54"						
	18'-21"											
	15'-18"											
8TH	15'-18"											
	18'-21"											
	15'-18"											
TIER	UNIT HEIGHT	11	10	9	8	7	6	5	4	3	2	1
NUMBER OF UNITS WIDE IN FIRST ROW FOR UNITS 40'-44" LONG												

		CHART NO. 127									
		UNIT SIZE RANGE FOR PALLET WIDTH									
TIER	UNIT HEIGHT										
1ST	15'-54"	48'-51"	51'-54"								
2ND	15'-30"	48'-51"	51'-54"								
	30'-33"		48'-52"	52'-54"							
	33'-36"		48'-51"	51'-54"							
	36'-39"		48'-50"	50'-54"							
	39'-42"		48"	48'-54"							
	42'-45"			48'-52"	52'-54"						
	45'-48"			48'-51"	51'-54"						
	48'-51"			48'-50"	50'-54"						
	51'-54"				48'-54"						
3RD	15'-18"	48'-51"	51'-54"								
	18'-21"		48'-52"	52'-54"							
	21'-24"		48'-51"	51'-54"							
	24'-27"		48'-49"	49'-54"							
	27'-30"			48'-52"	52'-54"						
	30'-33"			48'-51"	51'-54"						
	33'-36"				48'-54"						
	36'-39"				48'-49"	49'-54"					
	39'-42"					48'-52"					
	42'-45"						52'-54"				
	45'-48"						48'-51"				
	48'-51"						48"				
	51'-54"										
4TH	15'-18"		48'-51"	51'-54"							
	18'-21"		48"	48'-54"							
	21'-24"			48'-51"	51'-54"						
	24'-27"				48'-54"						
	27'-30"					48'-54"					
	30'-33"						48'-54"				
	33'-36"						48"				
	36'-39"										
	39'-42"										
	42'-45"										
	45'-48"										
5TH	15'-18"			48'-52"	52'-54"						
	18'-21"			48'-51"	51'-54"						
	21'-24"					48'-54"					
	24'-27"						48'-52"				
	27'-30"							52'-54"			
	30'-33"										
6TH	15'-18"					48'-54"					48'-54"
	18'-21"						48'-52"				
	21'-24"							52'-54"			
	24'-27"										
	27'-30"										
7TH	15'-18"						48'-52"				
	18'-21"							52'-54"			
	15'-18"								48'-52"		
	18'-21"									48'-54"	
	15'-18"										
	18'-21"										
TIER	UNIT HEIGHT	10	9	8	7	6	5	4	3	2	
NUMBER OF UNITS WIDE IN SECOND ROW FOR UNITS 40'-44" LONG											

		CHART NO. 128								
		UNIT SIZE RANGE FOR PALLET WIDTH								
TIER	UNIT HEIGHT									
1ST	15'-54"	48"	48'-52"	52'-54"						
2ND	15'-30"	48"	48'-52"	52'-54"						
	30'-33"		48'-49"	49'-54"						
	33'-36"		48"	48'-54"						
	36'-39"			48'-53"	53'-54"					
	39'-42"			48'-50"	50'-54"					
	42'-45"			48'-49"	48'-54"					
	45'-48"				48'-52"	52'-54"				
	48'-51"				48'-51"	51'-54"				
	51'-54"					48'-54"				
3RD	15'-18"	48"	48'-52"	52'-54"						
	18'-21"		48'-51"	51'-54"						
	21'-24"		48"	48'-54"						
	24'-27"			48'-52"	52'-54"					
	27'-30"			48'-49"	49'-54"					
	30'-33"				48'-52"	52'-54"				
	33'-36"					48'-54"				
	36'-39"					48"				
	39'-42"						48'-54"			
	42'-45"							48'-54"		
4TH	15'-18"		48"	48'-54"	50'-54"	52'-54"				48'-54"
	18'-21"			48'-50"	48'-52"	48'-54"				
	21'-24"									
	24'-27"									
	27'-30"									
	30'-33"									
	33'-36"									
	36'-39"									
	39'-42"									
	42'-45"									
5TH	15'-18"			48'-49"	49'-54"	51'-54"				48'-54"
	18'-21"				48'-51"					
	21'-24"									
	24'-27"									
	27'-30"									
	30'-33"									
	33'-36"									
	36'-39"									
	39'-42"									
	42'-45"									
6TH	15'-18"					48'-54"				48'-54"
	18'-21"					48'-52"				
	15'-18"						52'-54"			
7TH	15'-18"							48'-54"		
TIER	UNIT HEIGHT	9	8	7	6	5	4	3	2	1
		NUMBER OF UNITS WIDE IN THIRD ROW FOR UNITS 40'-44" LONG								

		CHART NO. 129				
		UNIT SIZE RANGE FOR PALLET WIDTH				
TIER	UNIT HEIGHT					
1ST	15'-54"	48'-50"	50'-54"			
2ND	15'-30"	48'-50"	50'-54"			
	30'-33"	48"	48'-54"			
	33'-36"		48'-54"			
	36'-42"		48'-50"	50'-54"		
	42'-45"			48'-54"		
	45'-48"			48'-52"	52'-54"	
	48'-51"				48'-54"	
	51'-54"					48'-54"
3RD	15'-18"	48'-50"	50'-54"			
	18'-21"	48'-49"	49'-54"			
	21'-24"		48'-54"			
	24'-27"		48'-50"	50'-54"		
	27'-30"		48'-54"	48'-54"		
	30'-33"		48"	48'-54"		
	33'-36"					48'-54"
4TH	15'	48'-50"	50'-54"			
	15'-18"		48'-54"			
	18'-21"		48'-50"	50'-54"		
	21'-24"		48'-52"	52'-54"		
	24'-27"		48'-54"			48'-54"
5TH	15'-18"		48'-54"			
	18'-21"			48'-54"		
	15'-18"			48"		48'-54"
6TH	15'-18"					
TIER	UNIT HEIGHT	7	6	5	4	3
		NUMBER OF UNITS WIDE IN FOURTH ROW FOR UNITS 40'-42" LONG				

		CHART NO. 130				
		UNIT SIZE RANGE FOR PALLET WIDTH				
TIER	UNIT HEIGHT					
1ST	15'-54"	48'-50"	50'-54"			
2ND	15'-30"	48'-50"	50'-54"			
	30'-33"		48'-53"	53'-54"		
	33'-36"		48'-52"	52'-54"		
	36'-39"		48"	48'-54"		
	39'-42"			48'-54"		
	42'-48"			48"	48'-54"	
	48'-51"				48"	48'-54"
	51'-54"					48'-54"
3RD	15'-20"	48'-50"	50'-54"			
	20'-24"		48'-52"	52'-54"		
	24'-30"		48"	48'-54"		
	30'-33"			48'-54"		
	33'-38"					48'-54"
4TH	15'	48'-50"	50'-54"			
	15'-18"		48'-52"	52'-54"		
	18'-21"		48'-54"	48'-54"		
	21'-24"		48"	48'-54"		
	24'-27"					48'-54"
5TH	15'-18"		48"	48'-54"		48'-54"
	18'-21"				48'-53"	53'-54"
TIER	UNIT HEIGHT	7	6	5	4	3
		NUMBER OF UNITS WIDE IN FOURTH ROW FOR UNITS 42'-44" LONG				

		CHART NO. 131				
		UNIT SIZE RANGE FOR PALLET WIDTH				
TIER	UNIT HEIGHT					
1ST 2ND	15"-54" 15"-30" 30"-33" 33"-36" 36"-39" 39"-42" 42"-45" 45"-54"	48"-51" 48"-51" 48"-49"	51"-54" 51"-54" 49"-54" 48"-54" 48"-51"	51"-54" 48"-54"	48"-54"	48"-54"
3RD	15"-20" 20"-24" 24"-27" 27"-30"	48"-51"	51"-54" 48"-54"	48"-51"	51"-54" 48"-54"	
TIER	UNIT HEIGHT	5	4	3	2	1
		NUMBER OF UNITS WIDE IN FIFTH ROW FOR UNITS 40" LONG				

		CHART NO. 132			
		UNIT SIZE RANGE FOR PALLET WIDTH			
TIER	UNIT HEIGHT				
1ST 2ND	15"-54" 15"-30" 30"-33" 33"-36" 36"-39" 39"-42" 42"-45"	48"-54" 48"-54" 48"-53" 48"-51"	53"-54" 51"-54" 48"-50"	50"-54" 48"-54"	48"-54"
3RD	15"-20" 20"-24" 24"-30"	48"-54" 48"-51"	51"-54"		48"-54"
TIER	UNIT HEIGHT	4	3	2	1
		NUMBER OF UNITS WIDE IN FIFTH ROW FOR UNITS 41" LONG			

		CHART NO. 133		
		UNIT SIZE RANGE FOR PALLET WIDTH		
TIER	UNIT HEIGHT			
1ST 2ND	15"-54" 15"-30" 30"-33" 33"-36"	48" 48"	48"-54" 48"-54" 48"-54"	
3RD	15"-20" 20"-24"	48"	48"-54"	48"
TIER	UNIT HEIGHT	3	2	1
		NUMBER OF UNITS WIDE IN FIFTH ROW FOR UNITS 42" LONG		

		CHART NO. 134	
		UNIT SIZE RANGE FOR PALLET WIDTH	
TIER	UNIT HEIGHT		
1ST 2ND	15"-54" 15"-30" 30"-33" 33"-36"	48"-54" 48"-54" 48"-52"	52"-54" 48"-54"
3RD	15"-20" 20"-24"	48"-54"	48"-54"
TIER	UNIT HEIGHT	3	2
		NUMBER OF UNITS WIDE IN FIFTH ROW FOR UNITS 43" LONG	

		CHART NO. 135		
		UNIT SIZE RANGE FOR PALLET WIDTH		
TIER	UNIT HEIGHT			
1ST 2ND	15"-54" 15"-30" 30"-33" 33"-36"	48" 48"	48"-54" 48"-54" 48"-54"	
3RD	15"-20" 20"-24"	48"	48"-54"	48"-54" 48"-54"
TIER	UNIT HEIGHT	3	2	1
		NUMBER OF UNITS WIDE IN FIFTH ROW FOR UNITS 44" LONG		

		CHART NO. 138								
TIER	UNIT HEIGHT	UNIT SIZE RANGE FOR PALLET LENGTH								
1ST	15'-54"	35'-36"	36'-39"	39'-44"						
	15'-30"	35'-36"	36'-39"	39'-44"						
2ND	30'-33"		36'-39"	39'-44"						
	33'-36"		35'-38"	38'-42"	42'-44"					
	36'-39"		35'-36"	36'-40"	40'-44"					
	39'-42"		35"	35'-39"	39'-44"					
	42'-45"			35'-36"	38'-42"	42'-44"				
	45'-48"				36'-40"	40'-44"				
	48'-51"				35'-38"	38'-44"				
	51'-54"				35"	35'-40"	40'-44"			
	15'-18"	35'-36"	36'-39"	39'-44"						
	18'-21"	35"	35'-38"	38'-42"	42'-44"					
3RD	21'-24"		35'-36"	36'-40"	40'-44"					
	24'-27"		35"	35'-40"	40'-44"					
	27'-30"			35'-36"	36'-40"	40'-44"				
	30'-33"				35'-36"	36'-42"	42'-44"			
	33'-36"					35'-37"	37'-44"			
	36'-39"							35'-42"	42'-44"	
	15"	35'-36"	36'-39"	39'-44"						
	15'-18"		35'-36"	36'-40"	40'-44"					
	18'-21"			35'-38"	38'-42"	42'-44"				
	21'-24"				35'-38"	38'-44"	37'-44"			
4TH	24'-27"					35'-37"				
	27'-30"						35'-38"	38'-44"		
	30'-33"									
	33'-36"									
	36'-39"									
5TH	15'-18"			35'-36"	36'-40"	40'-44"				
	18'-21"						35'-37"	37'-44"		
	21'-24"							35'-38"	38'-44"	
	15'-18"									
6TH	15'-18"					35'-37"	37'-44"			
TIER	UNIT HEIGHT	11	10	9	8	7	6	5	4	
NUMBER OF UNITS WIDE IN THIRD ROW FOR UNITS 45-1/2"-50" WIDE										

		CHART NO. 139								
TIER	UNIT HEIGHT	UNIT SIZE RANGE FOR PALLET LENGTH								
1ST	15'-54"	35'-36"	36'-41"	41'-44"						
	15'-30"	35'-36"	36'-41"	41'-44"						
2ND	30'-33"		35'-37"	37'-43"	43'-44"					
	33'-36"		35'-36"	36'-42"	42'-44"					
	36'-39"			35'-36"	36'-43"	43'-44"				
	39'-42"				35'-40"	40'-44"				
	42'-45"				35'-36"	36'-43"	43'-44"			
	45'-48"					35'-36"	36'-44"			
	48'-51"						35'-36"	36'-44"		
	51'-54"							36'-44"	35'-44"	
	15'-20"	35'-36"	36'-41"	41'-44"						
	15'-18"		35'-36"	36'-42"	42'-44"					
3RD	20'-24"				42'-44"					
	24'-27"				35'-40"	40'-44"				
	27'-30"				35'-36"	36'-43"	43'-44"			
	30'-33"					35'-36"	36'-44"			
	33'-36"								35'-44"	
4TH	15"	35'-36"	36'-41"	41'-44"						
	15'-18"		35'-36"	36'-42"	42'-44"					
	18'-21"				35'-40"	40'-44"				
	21'-24"					35'-36"	36'-44"			
5TH	24'-27"									
	15'-18"				35'-36"	36'-43"	43'-44"			
6TH	18'-21"									
TIER	UNIT HEIGHT	9	8	7	6	5	4	3	2	
NUMBER OF UNITS WIDE IN FOURTH ROW FOR UNITS 45-1/2" WIDE										

TIER	UNIT HEIGHT	CHART NO. 140							
		UNIT SIZE RANGE FOR PALLET LENGTH							
1ST	15'-54"	35'	35'-40"	40'-44"					
2ND	15'-30"	35'	35'-40"	40'-44"					
	30'-33"								
	33'-36"								
	36'-39"								
	39'-42"								
	42'-45"								
	45'-48"								
	48'-51"								
3RD	15'-20"	35'	35'-40"	40'-44"					
	20'-24"								
	24'-27"								
	27'-30"								
	30'-33"								
4TH	15'	35'	35'-40"	40'-44"					
	15'-18"								
	18'-21"								
	21'-24"								
5TH	15'-18"								
TIER	UNIT HEIGHT	9	8	7	6	5	4	3	2
NUMBER OF UNITS WIDE IN FOURTH ROW FOR UNITS 46" TO 47" WIDE									

TIER	UNIT HEIGHT	CHART NO. 141					
		UNIT SIZE RANGE FOR PALLET LENGTH					
1ST	15'-54"	35'-39"	39'-44"				
2ND	15'-30"	35'-39"	39'-44"				
	30'-33"	35'-37"	37'-44"				
	33'-36"		35'-40"	40'-44"			
	36'-39"		35'-36"	36'-44"			
	39'-42"			35'-40"			
	42'-45"				40'-44"		
	45'-48"				35'-40"		
3RD	15'-20"	35'-39"	39'-44"	40'-44"		40'-44"	39'-44"
	20'-24"		35'-40"	36'-43"		35'-39"	
	24'-27"		35'-36"			40'-44"	
	27'-30"					43'-44"	
	30'-33"					35'-40"	
4TH	15'	35'-39"	39'-44"	40'-44"		40'-44"	
	15'-18"		35'-40"	35'-40"			
	18'-21"					40'-44"	
	21'-24"						
5TH	15'-18"					35'-39"	39'-44"
						40'-44"	
TIER	UNIT HEIGHT	7	6	5	4	3	2
NUMBER OF UNITS WIDE IN FOURTH ROW FOR UNITS 48" WIDE							

TIER	UNIT HEIGHT	CHART NO. 142						
		UNIT SIZE RANGE FOR PALLET LENGTH						
1ST	15'-54"	35'-36"	36'-42"	42'-44"				
2ND	15'-30"	35'-36"	36'-42"	42'-44"				
	30'-33"		35'-39"	39'-44"				
	33'-36"		35'-37"	37'-44"				
	36'-39"			35'-39"				
	39'-42"				39'-44"			
	42'-45"				35'-42"			
	45'-48"				35'-36"			
3RD	15'-20"	35'-36"	36'-42"	42'-44"			35'	35'-44"
	20'-24"		35'-37"	37'-44"				
	24'-27"							
	27'-30"				35'-42"			
	30'-33"				35'-36"			
4TH	15'	35'-36"	36'-42"	42'-44"				
	15'-18"		35'-37"	37'-44"				
	18'-21"							
	21'-24"				35'-42"			
5TH	15'-18"							
					35'-36"			
TIER	UNIT HEIGHT	7	6	5	4	3	2	1
NUMBER OF UNITS WIDE IN FOURTH ROW FOR UNITS 49" WIDE								

TIER	UNIT HEIGHT	CHART NO. 145								
		UNIT SIZE RANGE FOR PALLET LENGTH								
1ST 2ND	15'-54"	35'-36"	36'-40"	40'-44"						
	15'-30"	35'-36"	36'-40"	40'-44"						
3RD	30'-33"	35'	35'-38"	38'-42"	43'-44"					
	33'-36"	35'	35'-38"	38'-42"	42'-44"					
	36'-39"		35'-37"	37'-41"	41'-44"					
	39'-42"		35'-36"	36'-39"	39'-44"					
	42'-45"			35'-38"	38'-42"	42'-44"				
	45'-48"			35'-36"	36'-40"	40'-44"				
	48'-51"				35'-37"	37'-42"	42'-44"			
	51'-54"				35'-37"	37'-41"	41'-44"			
	15'-18"	35'-36"	36'-40"	40'-44"						
	18'-21"	35'	35'-38"	38'-42"	43'-44"					
21'-24"	35'	35'-38"	38'-42"	42'-44"						
24'-27"		35'-37"	37'-40"	40'-44"						
27'-30"			35'-38"	38'-42"	42'-44"					
30'-33"			35'	35'-39"	39'-44"					
33'-36"				35'-37"	37'-41"	41'-44"				
36'-39"				35'-37"	37'-41"	37'-42"	42'-44"			
39'-42"					35'-37"	35'	35'-41"	41'-44"		
42'-45"							35'	35'-41"		
4TH	15'-18"	35'	35'-38"	38'-42"	42'-44"					
18'-21"		35'-36"	36'-39"	39'-44"	40'-44"					
21'-24"			35'-36"	36'-40"	37'-41"	41'-44"				
24'-27"				35'-37"	35'-38"	39'-44"				
27'-30"						35'-41"				
30'-33"							39'-44"	41'-44"		
33'-36"							35'-41"	35'-37"	37'-44"	
36'-39"										
39'-42"										
42'-45"										
5TH	15'-18"		35'-38"	38'-42"	42'-44"					
18'-21"			35'-37"	35'-39"	37'-42"	42'-44"				
21'-24"						35'-39"				
24'-27"							39'-44"			
27'-30"										
30'-33"										
33'-36"										
36'-39"										
39'-42"										
42'-45"										
6TH	15'-18"			35'-37"	37'-41"	41'-44"				
18'-21"						35'	35'-40"	40'-44"		
15'-18"						35'	35'-40"	40'-44"		
TIER	UNIT HEIGHT	12	11	10	9	8	7	6	5	4

NUMBER OF UNITS WIDE IN SECOND ROW FOR UNITS 51'-54" WIDE

TIER	UNIT HEIGHT	CHART NO. 146						
		UNIT SIZE RANGE FOR PALLET LENGTH						
1ST 2ND	15'-54"	35'-37"	37'-42"	42'-44"				
	15'-30"	35'-37"	37'-42"	42'-44"				
3RD	30'-33"		35'-38"	38'-44"	42'-44"			
	33'-36"		35'-37"	37'-42"	37'-42"			
	36'-39"			35'-39"	39'-44"			
	39'-42"			35'-36"	36'-42"	42'-44"		
	42'-45"				35'-40"	40'-44"		
	45'-48"					35'-39"	39'-44"	
	48'-51"						35'	
	51'-54"						35'	
	15'-18"	35'-37"	37'-42"	42'-44"				
	18'-21"	35'	35'-38"	38'-44"				
21'-24"		35'-37"	37'-42"	42'-44"				
24'-27"			35'-37"	37'-43"	43'-44"			
27'-30"				35'-40"	40'-44"			
30'-33"					35'-38"	38'-44"		
33'-36"						35'		
36'-39"								
39'-42"								
42'-45"								
45'-48"								
48'-51"								
51'-54"								
4TH	15'-18"	35'-37"	37'-42"	42'-44"				
18'-21"			35'-36"	36'-42"	42'-44"			
21'-24"					35'-39"	39'-44"		
24'-27"						35'		
27'-30"								
30'-33"								
33'-36"								
36'-39"								
39'-42"								
42'-45"								
45'-48"								
48'-51"								
51'-54"								
5TH	15'-18"			35'-40"	40'-44"	41'-44"		
18'-21"						35'-44"		
15'-18"						35'-44"		
TIER	UNIT HEIGHT	9	8	7	6	5	4	3

NUMBER OF UNITS WIDE IN THIRD ROW FOR UNITS 51'-54" WIDE

TIER	UNIT HEIGHT	CHART NO. 147				
		UNIT SIZE RANGE FOR PALLET LENGTH				
1ST 2ND	15'-54"	35'	35'-42"	42'-44"		
	15'-30"	35'	35'-42"	42'-44"		
3RD	30'-33"		35'-39"	39'-44"		
	33'-36"		35'	35'-44"		
	36'-39"			35'		
	39'-42"				35'-44"	
	42'-45"					
	45'-48"					
	48'-51"					
	51'-54"					
	15'-20"	35'	35'-42"	42'-44"		
	20'-24"		35'	35'-44"		
24'-27"					35'-44"	
15'-18"	35'	35'-42"	42'-44"			
18'-21"		35'	35'-44"			
TIER	UNIT HEIGHT	6	5	4	3	2

NUMBER OF UNITS WIDE IN FOURTH ROW FOR UNITS 51' WIDE

TIER	UNIT HEIGHT	CHART NO. 148				
		UNIT SIZE RANGE FOR PALLET LENGTH				
1ST 2ND	15'-54"	35'-38"	38'-44"			
	15'-30"	35'-38"	38'-44"			
3RD	30'-33"		35'-39"	38'-44"		
	33'-36"			35'-44"		
	36'-39"				35'-36"	36'-44"
	39'-42"					
	42'-45"					
	45'-48"					
	48'-51"					
	51'-54"					
	15'-20"	35'-38"	38'-44"			
	20'-24"					
24'-27"						
15'-18"	35'-38"	38'-44"				
TIER	UNIT HEIGHT	5	4	3	2	1

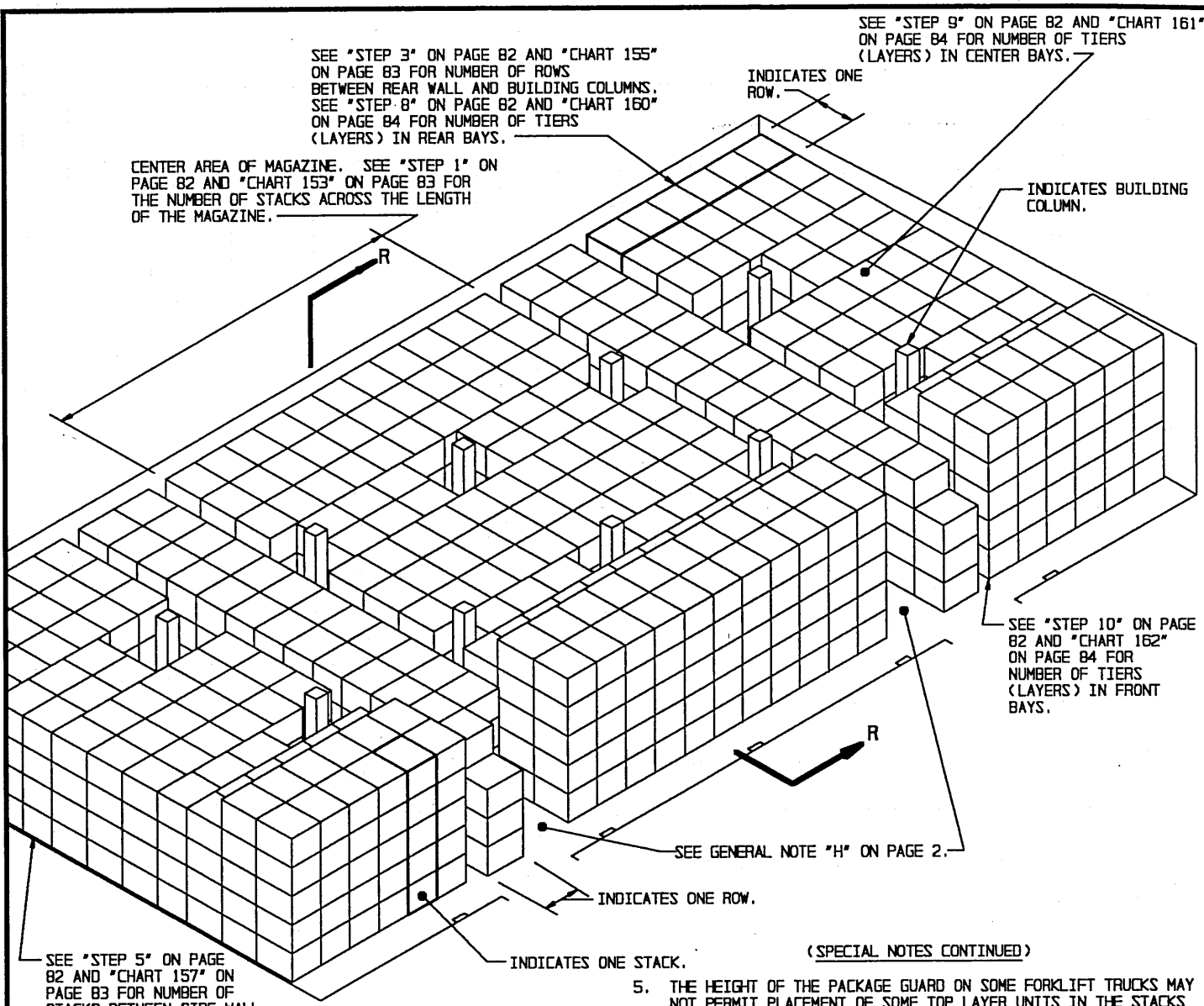
NUMBER OF UNITS WIDE IN FOURTH ROW FOR UNITS 52' WIDE

		CHART NO. 149			
		UNIT SIZE RANGE FOR PALLET LENGTH			
TIER	UNIT HEIGHT				
1ST	15'-54"	35'-42"	42'-44"		
2ND	15'-30"	35'-42"	42'-44"		
	30'-33"		35'-40"	40'-44"	
	33'-36"			35'-36"	36'-44"
3RD	15'-20"	35'-42"	42'-44"		
	20'-24"			35'-36"	36'-44"
TIER	UNIT HEIGHT	4	3	2	1
		NUMBER OF UNITS WIDE IN FOURTH ROW FOR UNITS 53" WIDE			

		CHART NO. 150			
		UNIT SIZE RANGE FOR PALLET LENGTH			
TIER	UNIT HEIGHT				
1ST	15'-54"	35'-37"	37'-44"		
2ND	15'-30"	35'-37"	37'-44"		
	30'-33"			35'-37"	37'-44"
	33'-36"				35'-44"
3RD	15'-20"	35'-37"	37'-44"		
	20'-24"				35'-44"
TIER	UNIT HEIGHT	4	3	2	1
		NUMBER OF UNITS WIDE IN FOURTH ROW FOR UNITS 54" WIDE			

		CHART NO. 151	
		UNIT SIZE RANGE IN MHE AISLE WIDTH	
AISLE WIDTH			
10'-10" TO 10'-11"		35'-39"	39'-54"
11'-0" TO 11'-2"		35'-40"	40'-54"
11'-3" TO 11'-5"		35'-41"	41'-54"
11'-6" TO 11'-8"		35'-42"	42'-54"
11'-9" TO 11'-11"		35'-43"	43'-54"
12'-0"		35'-44"	44'-45"
AISLE WIDTH		3 WIDE	2 WIDE

		CHART NO. 152											
		UNIT SIZE RANGE FOR PALLET LENGTH OR WIDTH											
TIER	UNIT HEIGHT	13	12	11	10	9	8	7	6	5	4	3	2
1ST 2ND	15'-54"	36'-36"	36'-36"	36'-36"	36'-42"	42'-46"	46'-50"	50'-54"					
	15'-30"	36'-36"	36'-36"	36'-36"	36'-42"	42'-46"	46'-52"	52'-54"					
3RD	30'-36"	35'	36'-36"	36'-36"	36'-42"	42'-46"	46'-51"	51'-54"					
	30'-39"	35'	36'-36"	36'-36"	36'-41"	41'-45"	45'-50"	50'-54"					
	36'-42"	35'	36'-36"	36'-37"	37'-41"	41'-45"	45'-50"	50'-54"					
	42'-45"	35'	36'-36"	36'-37"	37'-40"	40'-44"	44'-49"	49'-54"					
	45'-48"	35'	36'-36"	36'-40"	36'-40"	40'-44"	44'-49"	49'-54"	53'-54"				
	48'-51"	35'	36'-36"	36'-39"	36'-39"	39'-43"	43'-48"	48'-54"					
	51'-54"	35'	36'-36"	36'-38"	36'-38"	38'-42"	42'-47"	47'-53"					
	15'-20"	35'	36'-39"	36'-39"	39'-42"	42'-46"	46'-52"	52'-54"					
	20'-24"	35'	36'-38"	36'-38"	38'-42"	42'-46"	46'-51"	51'-54"					
	24'-27"	35'	36'-37"	36'-37"	37'-41"	41'-45"	45'-50"	50'-54"					
4TH	27'-30"	35'	36'-37"	36'-37"	37'-40"	40'-44"	44'-49"	49'-54"					
	30'-33"	35'	36'-36"	36'-36"	36'-39"	39'-43"	43'-48"	48'-54"					
	33'-36"	35'	35'	35'	35'-38"	38'-42"	42'-47"	47'-53"	53'-54"				
	36'-39"	35'	35'	35'	35'-37"	37'-41"	41'-46"	46'-52"	52'-54"				
	39'-42"	35'	35'	35'	35'-36"	36'-40"	40'-44"	44'-49"	49'-54"				
	42'-45"	35'	35'	35'	35'-38"	38'-41"	41'-46"	46'-52"	52'-54"				
	45'-48"	35'	35'	35'	35'-38"	38'-41"	41'-46"	46'-52"	52'-54"	52'-54"			
	48'-51"	35'	35'	35'	35'-38"	38'-42"	42'-48"	48'-54"	48'-54"	48'-54"	48'-54"		
	51'-54"	35'	35'	35'	35'-38"	38'-42"	42'-48"	48'-54"	48'-54"	48'-54"	48'-54"	48'-54"	
	15'-18"	35'	36'-38"	36'-38"	38'-41"	41'-45"	45'-50"	50'-54"					
5TH	18'-22"	35'	36'-37"	36'-37"	37'-40"	40'-43"	43'-48"	48'-54"					
	22'-27"	35'	35'	35'	35'-38"	38'-42"	42'-46"	46'-51"	51'-54"				
	27'-30"	35'	35'	35'	35'-37"	37'-40"	40'-45"	45'-51"	51'-54"				
	30'-33"	35'	35'	35'	35'-38"	38'-43"	43'-48"	48'-54"					
	33'-36"	35'	35'	35'	35'-36"	36'-36"	36'-40"	40'-45"	45'-52"	52'-54"			
	36'-39"	35'	35'	35'	35'-38"	38'-43"	43'-48"	48'-54"	48'-54"	48'-54"	48'-54"		
	39'-42"	35'	35'	35'	35'-38"	38'-42"	42'-47"	47'-53"	47'-53"	47'-53"	47'-53"		
	42'-45"	35'	35'	35'	35'-38"	38'-42"	42'-47"	47'-53"	47'-53"	47'-53"	47'-53"	47'-54"	
	45'-48"	35'	35'	35'	35'-38"	38'-42"	42'-47"	47'-53"	47'-53"	47'-53"	47'-53"	47'-54"	47'-54"
	48'-51"	35'	35'	35'	35'-38"	38'-42"	42'-47"	47'-53"	47'-53"	47'-53"	47'-53"	47'-54"	47'-54"
6TH	15'-18"	35'	36'-37"	36'-37"	37'-40"	40'-43"	43'-48"	48'-54"					
	18'-21"	35'	35'	35'	35'-38"	38'-42"	42'-46"	46'-51"	51'-54"				
	21'-24"	35'	35'	35'	35'-36"	36'-40"	40'-44"	44'-49"	49'-54"				
	24'-27"	35'	35'	35'	35'-36"	36'-40"	40'-44"	44'-49"	49'-54"				
	27'-30"	35'	35'	35'	35'-36"	36'-40"	40'-44"	44'-49"	49'-54"				
	30'-33"	35'	35'	35'	35'-36"	36'-40"	40'-44"	44'-49"	49'-54"				
	33'-35"	35'	35'	35'	35'-36"	36'-40"	40'-44"	44'-49"	49'-54"				
	15'-18"	35'	35'	35'	35'-38"	38'-41"	41'-46"	46'-51"	51'-54"				
	18'-21"	35'	35'	35'	35'-36"	36'-40"	40'-44"	44'-49"	49'-54"				
	21'-24"	35'	35'	35'	35'-36"	36'-40"	40'-44"	44'-49"	49'-54"				
7TH	24'-27"	35'	35'	35'	35'-36"	36'-40"	40'-44"	44'-49"	49'-54"				
	15'-18"	35'	35'	35'	35'-36"	36'-40"	40'-44"	44'-49"	49'-54"				
	18'-21"	35'	35'	35'	35'-36"	36'-40"	40'-44"	44'-49"	49'-54"				
	21'-24"	35'	35'	35'	35'-36"	36'-40"	40'-44"	44'-49"	49'-54"				
	15'-18"	35'	35'	35'	35'-36"	36'-40"	40'-44"	44'-49"	49'-54"				
	18'-21"	35'	35'	35'	35'-36"	36'-40"	40'-44"	44'-49"	49'-54"				
	21'-24"	35'	35'	35'	35'-36"	36'-40"	40'-44"	44'-49"	49'-54"				
	15'-18"	35'	35'	35'	35'-36"	36'-40"	40'-44"	44'-49"	49'-54"				
	18'-21"	35'	35'	35'	35'-36"	36'-40"	40'-44"	44'-49"	49'-54"				
	21'-24"	35'	35'	35'	35'-36"	36'-40"	40'-44"	44'-49"	49'-54"				
8TH	15'-18"	35'	35'	35'	35'-36"	36'-40"	40'-44"	44'-49"	49'-54"				
	18'-21"	35'	35'	35'	35'-36"	36'-40"	40'-44"	44'-49"	49'-54"				
	15'-18"	35'	35'	35'	35'-36"	36'-40"	40'-44"	44'-49"	49'-54"				
	18'-21"	35'	35'	35'	35'-36"	36'-40"	40'-44"	44'-49"	49'-54"				
	15'-18"	35'	35'	35'	35'-36"	36'-40"	40'-44"	44'-49"	49'-54"				
	18'-21"	35'	35'	35'	35'-36"	36'-40"	40'-44"	44'-49"	49'-54"				
	15'-18"	35'	35'	35'	35'-36"	36'-40"	40'-44"	44'-49"	49'-54"				
	18'-21"	35'	35'	35'	35'-36"	36'-40"	40'-44"	44'-49"	49'-54"				
	15'-18"	35'	35'	35'	35'-36"	36'-40"	40'-44"	44'-49"	49'-54"				
	18'-21"	35'	35'	35'	35'-36"	36'-40"	40'-44"	44'-49"	49'-54"				
TIER	UNIT HEIGHT	NUMBER OF UNITS LONG IN THE AISLE											



SEE "STEP 3" ON PAGE 82 AND "CHART 155" ON PAGE 83 FOR NUMBER OF ROWS BETWEEN REAR WALL AND BUILDING COLUMNS. SEE "STEP 8" ON PAGE 82 AND "CHART 160" ON PAGE 84 FOR NUMBER OF TIERS (LAYERS) IN REAR BAYS.

SEE "STEP 9" ON PAGE 82 AND "CHART 161" ON PAGE 84 FOR NUMBER OF TIERS (LAYERS) IN CENTER BAYS.

CENTER AREA OF MAGAZINE. SEE "STEP 1" ON PAGE 82 AND "CHART 153" ON PAGE 83 FOR THE NUMBER OF STACKS ACROSS THE LENGTH OF THE MAGAZINE.

INDICATES ONE ROW.

INDICATES BUILDING COLUMN.

SEE "STEP 10" ON PAGE 82 AND "CHART 162" ON PAGE 84 FOR NUMBER OF TIERS (LAYERS) IN FRONT BAYS.

SEE GENERAL NOTE "H" ON PAGE 2.

INDICATES ONE ROW.

INDICATES ONE STACK.

SEE "STEP 5" ON PAGE 82 AND "CHART 157" ON PAGE 83 FOR NUMBER OF STACKS BETWEEN SIDE WALL AND BUILDING COLUMN.

ISOMETRIC VIEW

(100'-8" L X 50'-0" W RECTANGULAR MAGAZINE)

SPECIAL NOTES:

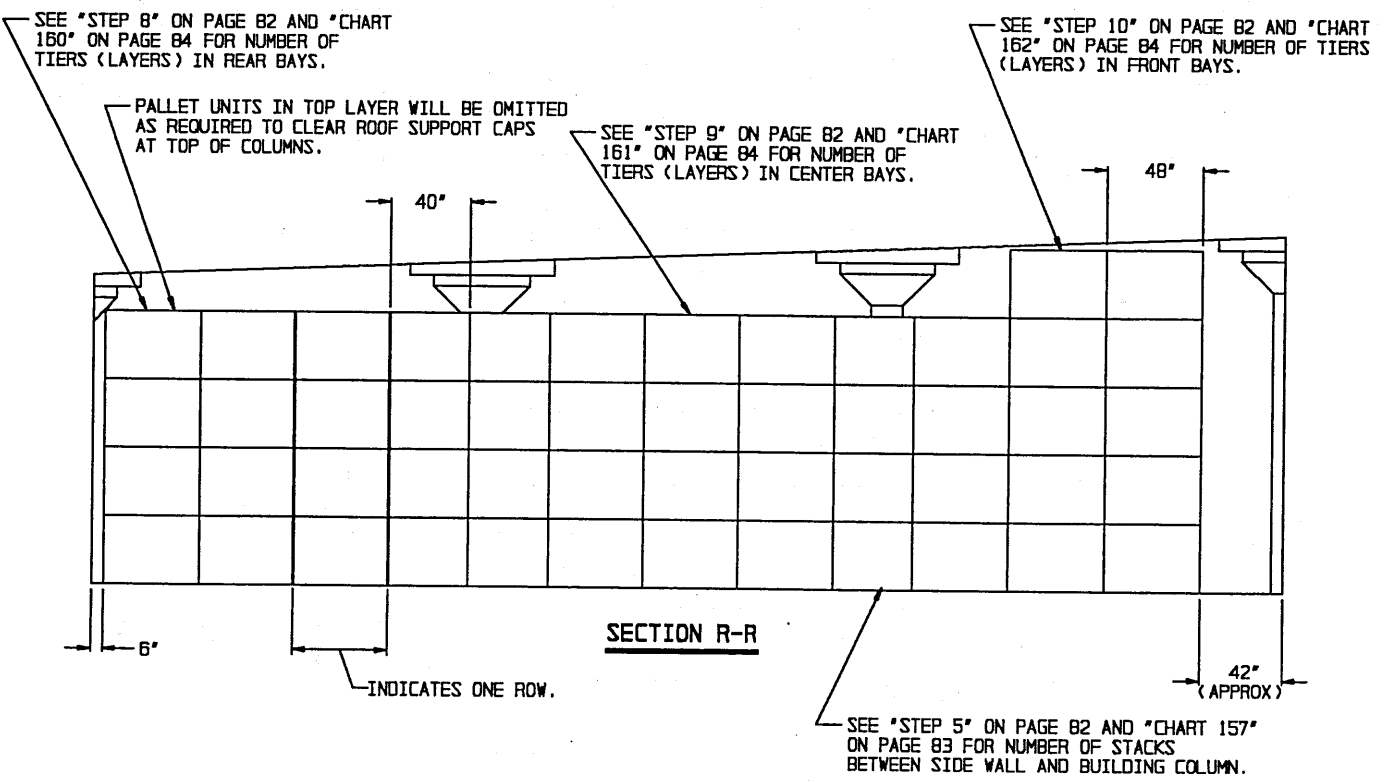
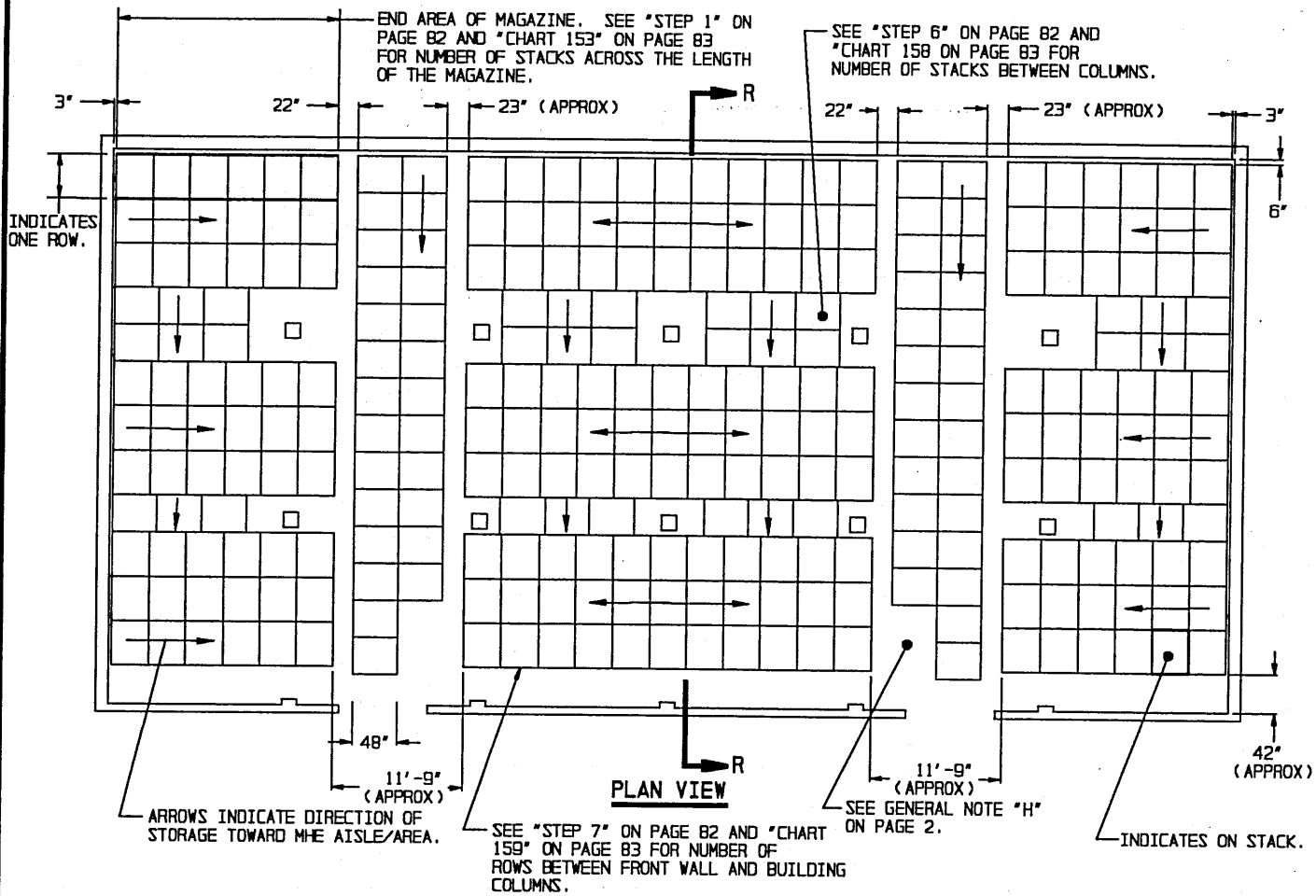
1. THE TYPICAL PALLETIZED UNIT SHOWN HAS OVERALL DIMENSIONS OF 40" LONG BY 48" WIDE BY 34-1/2" HIGH. THE QUANTITY OF UNITS, THE NUMBER OF STACKS, ROWS AND TIERS (LAYERS) WILL VARY DEPENDENT UPON THE SIZE OF THE UNIT BEING STORED. SEE THE SPECIAL NOTES AND CHARTS ON PAGES 82 THRU 84 FOR GUIDANCE. AS MANY UNITS AS POSSIBLE WILL BE STORED WITHIN THE MAGAZINE.
2. PALLETIZED UNITS WILL BE STACKED IN VERTICAL ALIGNMENT. STAGGERED STACKING AS SHOWN FOR IGLOO, ARCH TYPE, STRADLEY, AND OVAL ARCH MAGAZINE STORAGE IS NOT APPLICABLE FOR STORAGE IN RECTANGULAR MAGAZINES.
3. A SIX INCH (6") MINIMUM SPACE WILL BE ALLOWED BETWEEN THE REAR WALL AND THE PALLETIZED UNITS. A MINIMUM OF THREE INCHES (3") WILL BE PROVIDED BETWEEN A SIDE WALL AND THE UNITS. CLEARANCE IS NOT REQUIRED BETWEEN THE STORED UNITS AND THE BUILDING COLUMNS.
4. THE ARROWS ON THE PLAN VIEWS HEREIN INDICATE THE DIRECTION OF STORAGE FROM THE SIDE WALLS AND/OR CENTER AREA TOWARD THE MHE AISLE, OR FROM THE REAR WALL TOWARD THE FRONT WALL, OR WITHIN THE MHE AISLE FROM THE REAR WALL TOWARD THE DOOR OPENINGS. PALLET UNITS STORED ALONG THE REAR WALL, AS WELL AS SOME UNITS POSITIONED AT RIGHT ANGLES TO THE MHE AISLE NEAR THE TEN BUILDING COLUMNS, NEED NOT BE STORED IN THE DIRECTION INDICATED BY THE "DIRECTION OF STORAGE" ARROWS IF THE LIFTED PALLET UNITS WILL CLEAR THE ROOF SUPPORT CAPS AT THE TOP OF THE COLUMNS, AND THOSE WITHIN THE REAR WALLS (IF PRESENT).

(SPECIAL NOTES CONTINUED)

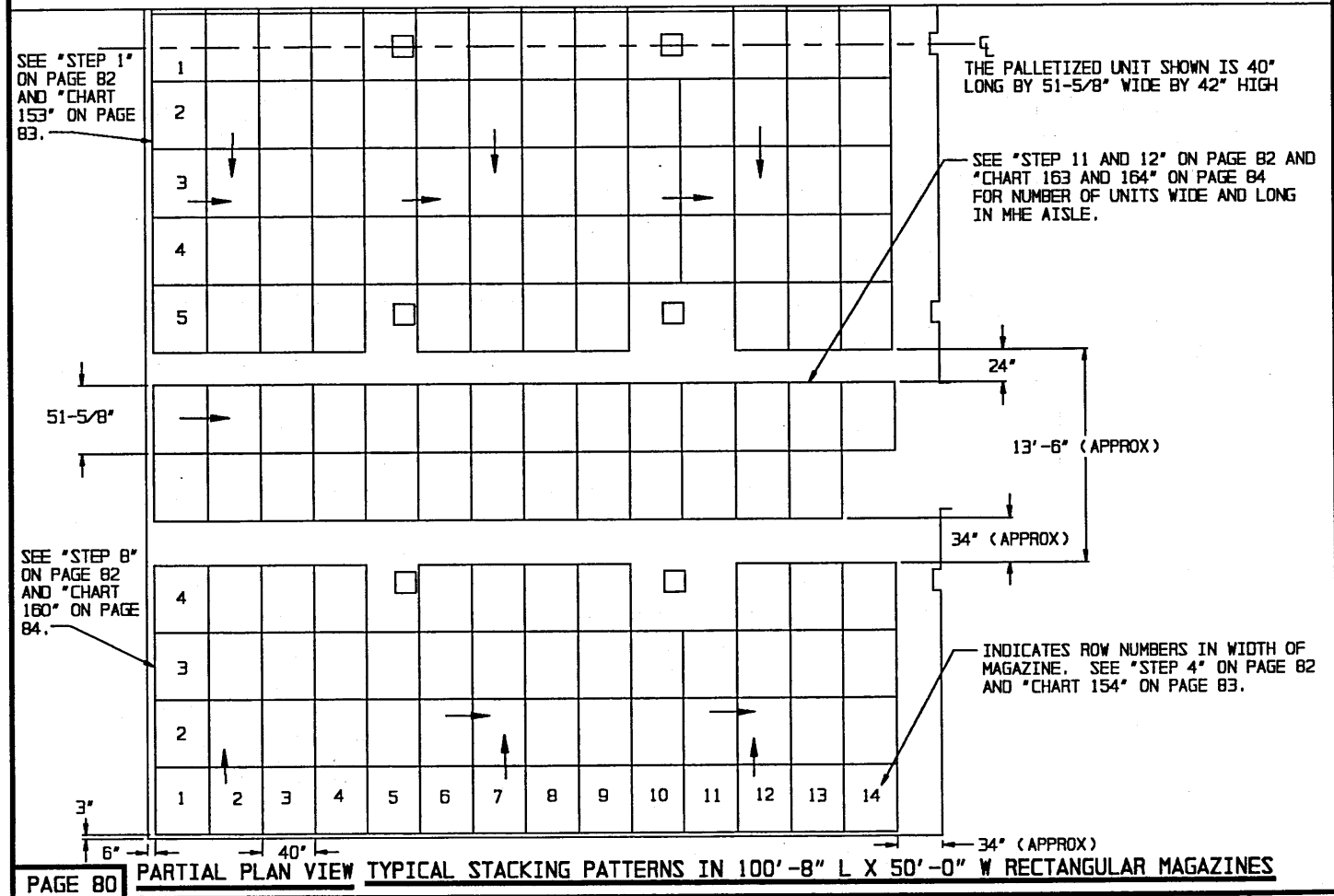
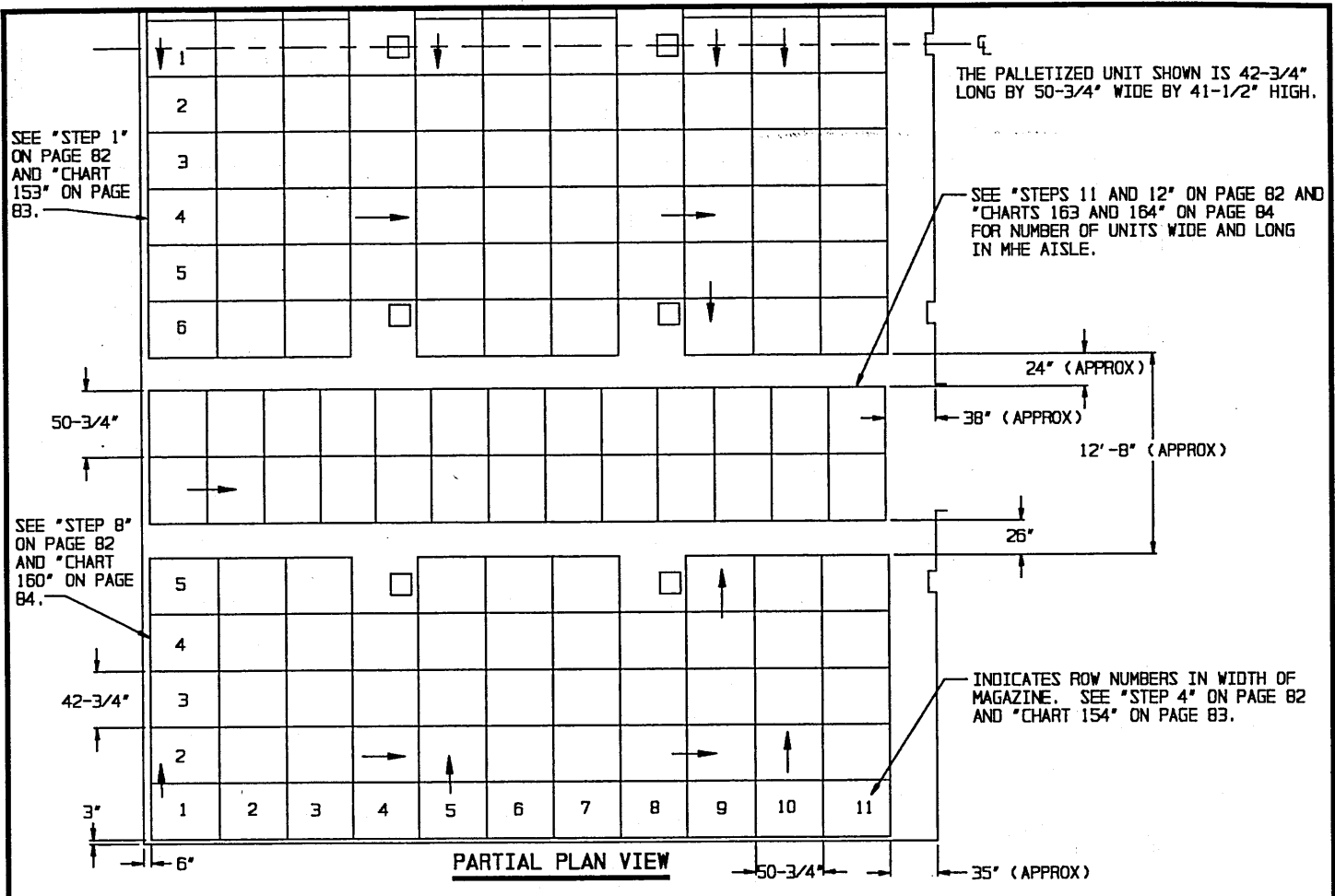
5. THE HEIGHT OF THE PACKAGE GUARD ON SOME FORKLIFT TRUCKS MAY NOT PERMIT PLACEMENT OF SOME TOP LAYER UNITS IN THE STACKS SHOWN IN THE STORAGE VIEWS HEREIN UNLESS THE TWO UPPER PALLET UNITS ARE HANDLED AS ONE LIFT OR THE PACKAGE GUARD IS REMOVED (TINE CARRIAGE WILL IN MOST CASES PROVIDE ADEQUATE PACKAGE GUARD PROTECTION). ONLY A FORKLIFT OF ADEQUATE CAPACITY WILL BE USED WHEN LIFTING TWO PALLET UNITS AS ONE LIFT.
6. AS SHOWN BY THE PARTIAL PLAN VIEWS ON PAGES 80 AND 81, PALLET UNITS STORED IN THE END AREA AND IN THE CENTER AREA CAN BE STORED EITHER ALL IN ONE POSITION, WITH EITHER THE LENGTH OR THE WIDTH BEING PARALLEL TO THE SIDE WALL, OR CAN BE STORED USING A COMBINATION OF POSITIONS. LIKEWISE, PALLET UNITS IN THE MHE AISLE CAN BE STORED EITHER LENGTHWISE OR CROSSWISE OR A COMBINATION OF THE TWO POSITIONS.
7. REFER TO PAGE 82 FOR GUIDANCE IN THE STORAGE OF MULTIPLE LOTS.
8. THE NUMBER OF STACKS LONG IN THE CENTER AREA ROW AND IN THE END AREA ROWS OF THE MAGAZINE IS BASED ON HAVING A MATERIAL HANDLING EQUIPMENT OPERATING AISLE (DISTANCE FROM A STACK IN AN END AREA TO A STACK IN THE CENTER AREA) OF 7'-7" PLUS THE LENGTH OR WIDTH OF THE PALLET UNIT, AS APPLICABLE, OR THE LENGTH OF THE FORKLIFT TRUCK TINES (40"), WHICHEVER IS THE GREATEST.
9. IF DESIRED, AND IF NOT IN VIOLATION OF SURVEILLANCE REQUIREMENTS/ PROCEDURES, ONE SURVEILLANCE "CONTROL UNIT" SAMPLE MAY BE WITHHELD FROM EACH STORED LOT. IF THE MAGAZINE CONTAINS ONLY ONE (1) LOT IT IS RECOMMENDED THAT THIS "CONTROL UNIT" BE PLACED JUST INSIDE THE DOOR WHERE IT IS EASILY ACCESSIBLE. IF THE MAGAZINE CONTAINS SEVERAL LOTS, THE "CONTROL UNIT" SAMPLES SHOULD BE PLACED ADJACENT TO THE MHE OPERATING AISLE FOR ACCESSIBILITY.

(CONTINUED AT RIGHT)

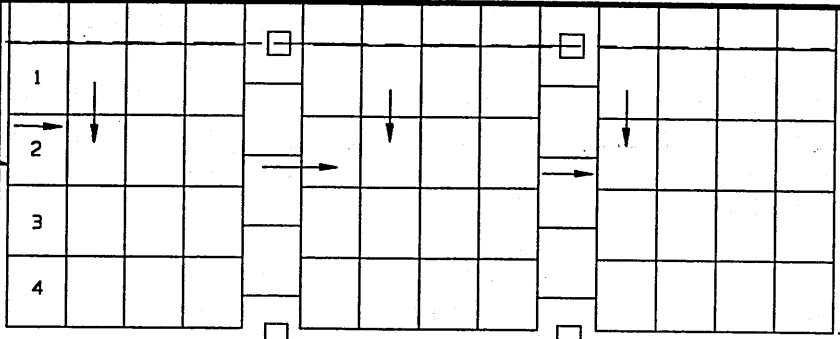
TYPICAL STORAGE PROCEDURES IN 100'-8" L X 50'-0" W RECTANGULAR MAGAZINES



TYPICAL STORAGE PROCEDURES IN 100'-8" L X 50'-0" W RECTANGULAR MAGAZINES



SEE "STEP 1"
ON ON PAGE 82
AND "CHART
153, ON PAGE
83.

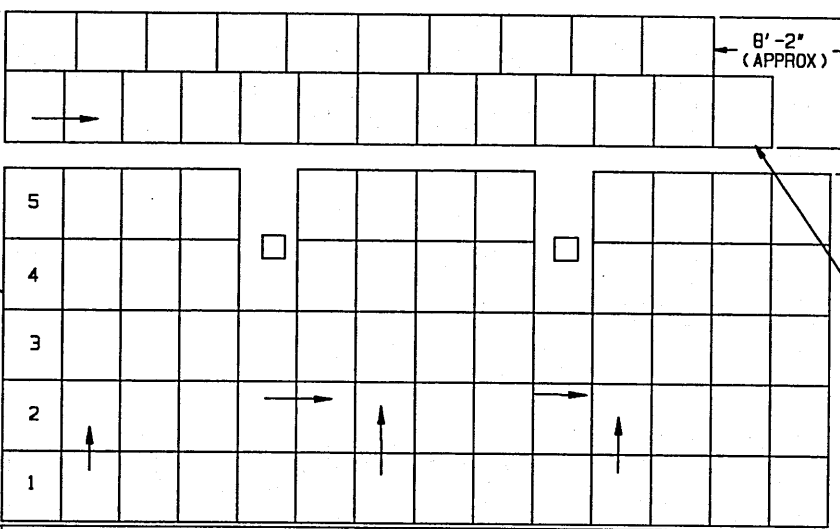


THE PALLETIZED UNIT SHOWN IS 41-1/4"
LONG BY 49-1/2" WIDE BY 46-1/2" HIGH.

41-1/4"
49-1/2"

46" (APPROX)
8'-2" (APPROX)
12'-11" (APPROX)

SEE "STEP 8"
ON PAGE 82
AND "CHART
160" ON PAGE
84.



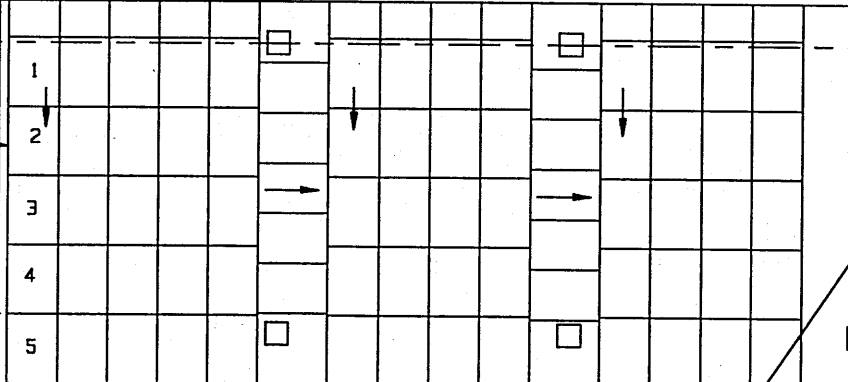
49-1/2"
3"

SEE "STEPS 11 AND 12" ON PAGE 82
AND "CHARTS 163 AND 164"
ON PAGE 84 FOR NUMBER OF UNITS
WIDE AND LONG IN MHE AISLE.

PARTIAL PLAN VIEW

6" 16" (APPROX)

SEE "STEP 1"
ON PAGE 82
AND "CHART
153" ON PAGE
83.



THE PALLETIZED UNIT SHOWN IS 35-1/4"
LONG BY 48-5/8" WIDE BY 41-1/4" HIGH.

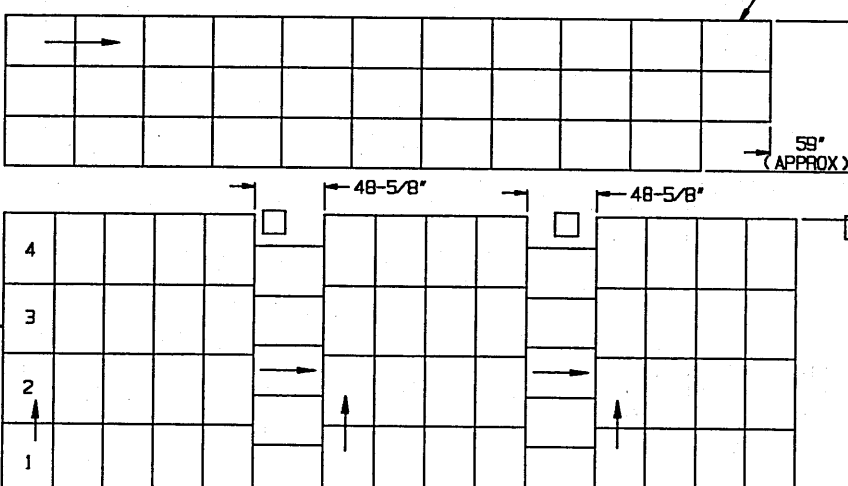
48-5/8"

SEE "STEPS 11 AND 12" ON PAGE 82
AND "CHARTS 163 AND 164" ON
PAGE 84 FOR NUMBER OF UNITS
WIDE AND LONG IN MHE AISLE.

35-1/4"

24"
13'-7" (APPROX)

SEE "STEP 8"
ON PAGE 82
AND "CHART
160" ON PAGE
84.



3"

58" (APPROX)
33" (APPROX)

PARTIAL PLAN VIEW TYPICAL STACKING PATTERNS IN 100'-8" L X 50'-0" W RECTANGULAR MAGAZINES

6" 35'-1/4" 48-5/8" 48-5/8" 38" (APPROX)

SPECIAL NOTES:

(SPECIAL NOTES CONTINUED)

1. THE CHARTS ON PAGES 83 AND 84 ARE PRESENTED AS GUIDANCE IN THE DEVELOPMENT OF A PATTERN FOR THE STORAGE OF PALLETIZED UNITS OF AMMUNITION AND COMPONENTS IN 100'-8" LONG BY 50'-0" WIDE RECTANGULAR MAGAZINES. TO A CERTAIN EXTENT, THE CHARTS MAY ALSO BE USED IN CALCULATING THE QUANTITY OF UNITS WHICH CAN BE STORED. NOTICE: THE CHARTS ARE FOR GUIDANCE PURPOSES ONLY. VARIATIONS IN PALLETIZED UNIT OVERALL SIZES, THE COMPACTNESS OF PLACEMENT WITHIN A MAGAZINE, AS WELL AS VARIANCE IN THE INSIDE DIMENSIONS OF THE RECTANGULAR MAGAZINE CAN CAUSE DISCREPANCIES WITHIN THE CHARTS.
2. THE FOLLOWING STEP-BY-STEP PROCEDURES ARE PRESENTED AS GUIDANCE IN USING THE DEPICTED CHARTS. SEE THE "EXAMPLE" ON THIS PAGE.

STEP 1

LOCATE IN THE LEFT HAND COLUMN OF CHART NO. 153 ON PAGE 83 THE LENGTH OR WIDTH DIMENSION RANGE WHICH INCLUDES THE DIMENSION OF THE UNIT TO BE STORED IN THE 100'-8" LENGTH OF THE MAGAZINE. OPPOSITE THAT LENGTH OR WIDTH FIGURE IS A COLUMN WHICH INDICATES THE NUMBER OF STACKS WHICH CAN BE PLACED IN THE END AREAS OF THE MAGAZINE, AND A COLUMN WHICH INDICATES THE NUMBER OF STACKS WHICH CAN BE PLACED IN THE CENTER AREA.

STEP 2

LOCATE IN THE LEFT HAND COLUMN OF CHART 154 THE LENGTH OR WIDTH DIMENSION RANGE WHICH INCLUDES THE DIMENSION OF THE UNIT TO BE STORED IN THE 50'-0" WIDTH OF THE MAGAZINE. OPPOSITE THAT LENGTH OR WIDTH DIMENSION IS INDICATED THE TOTAL NUMBER OF ROWS WHICH CAN BE STORED.

STEP 3

LOCATE IN THE LEFT HAND COLUMN OF CHART 155 THE LENGTH OR WIDTH DIMENSION RANGE WHICH INCLUDES THE DIMENSION OF THE UNIT TO BE STORED IN THE 50'-0" WIDTH OF THE MAGAZINE. OPPOSITE THAT LENGTH OR WIDTH DIMENSION IS INDICATED THE NUMBER OF ROWS WHICH CAN BE PLACED BETWEEN THE REAR WALL OF THE MAGAZINE AND THE REARMOSEST ROW OF BUILDING COLUMNS.

STEP 4

LOCATE IN THE LEFT HAND COLUMN OF CHART 156 THE LENGTH OR WIDTH RANGE WHICH INCLUDES THE DIMENSION OF THE UNIT TO BE STORED IN THE 50'-0" WIDTH OF THE MAGAZINE. OPPOSITE THAT LENGTH OR WIDTH DIMENSION IS INDICATED THE ROW NUMBERS OF THE ROWS WHICH WILL FALL BEHIND THE BUILDING COLUMNS, AS NUMBERED FROM THE REAR OF THE MAGAZINE TOWARD THE DOOR. NOTE THAT THESE ROW NUMBERS ARE ONLY APPLICABLE TOWARD THE DOOR. NOTE THAT THESE ROW NUMBERS ARE ONLY APPLICABLE IF ALL THE UNITS IN THE MAGAZINE, WITH EXCEPTION OF THOSE IN THE MATERIAL HANDLING EQUIPMENT AISLE, ARE ORIENTATED IN THE SAME DIRECTION. SEE THE "PARTIAL PLAN VIEWS" ON PAGE 80 FOR TYPICAL APPLICATIONS. ALSO NOTE THAT A COMBINATION OF PALLET UNIT ORIENTATIONS IS PERMISSIBLE AND SHOULD BE USED IF SUCH PLACEMENT RESULTS IN INCREASED STORAGE QUANTITIES.

STEP 5

LOCATE IN THE LEFT HAND COLUMN OF CHART 157 ON PAGE 83 THE LENGTH OR WIDTH RANGE WHICH INCLUDES THE DIMENSION OF THE UNIT TO BE STORED IN THE 100'-8" LENGTH OF THE MAGAZINE. OPPOSITE THAT LENGTH OR WIDTH DIMENSION IS INDICATED THE NUMBER OF STACKS WHICH CAN BE PLACED BETWEEN THE SIDEWALL OF THE MAGAZINE AND THE ADJACENT BUILDING COLUMN.

STEP 6

LOCATE IN THE LEFT HAND COLUMN OF CHART 158 THE LENGTH OR WIDTH RANGE WHICH INCLUDES THE DIMENSION OF THE UNIT TO BE STORED IN THE 100'-8" LENGTH OF THE MAGAZINE. OPPOSITE THAT LENGTH OR WIDTH DIMENSION IS INDICATED THE NUMBER OF STACKS WHICH CAN BE PLACED BETWEEN LONGITUDINALLY ADJACENT BUILDING COLUMNS IN THE CENTER AREA.

STEP 7

LOCATE IN THE LEFT HAND COLUMN OF CHART 159 THE LENGTH OR WIDTH RANGE WHICH INCLUDES THE DIMENSION OF THE UNIT TO BE STORED IN THE 50'-0" WIDTH OF THE MAGAZINE. OPPOSITE THAT LENGTH OR WIDTH DIMENSION IS INDICATED THE NUMBER OF ROWS WHICH CAN BE PLACED BETWEEN THE BUILDING COLUMNS NEAREST THE DOORS AND THE PILASTERS WITHIN THE FRONT WALL OF THE MAGAZINE.

(CONTINUED AT RIGHT)

STEP 8

LOCATE IN THE LEFT HAND COLUMN OF CHART 160 THE HEIGHT RANGE WHICH INCLUDES THE HEIGHT OF THE UNIT TO BE STORED. OPPOSITE THAT HEIGHT FIGURE IS INDICATED THE NUMBER OF TIERS (LAYERS) WHICH CAN BE STORED IN THE REAR BAYS. THIS IS THE AREA FURTHEST FROM THE DOOR, BETWEEN THE REARMOSEST ROW OF COLUMNS AND THE REAR WALL.

STEP 9

LOCATE IN THE LEFT HAND COLUMN OF CHART 161 THE HEIGHT RANGE WHICH INCLUDES THE HEIGHT OF THE UNIT TO BE STORED. OPPOSITE THAT HEIGHT FIGURE IS INDICATED THE NUMBER OF TIERS (LAYERS) WHICH CAN BE STORED IN THE CENTER BAYS. THIS IS THE AREA BETWEEN THE TWO ROWS OF COLUMNS.

STEP 10

LOCATE IN THE LEFT HAND COLUMN OF CHART 162 THE HEIGHT RANGE WHICH INCLUDES THE HEIGHT OF THE UNIT TO BE STORED. OPPOSITE THAT HEIGHT FIGURE IS INDICATED THE NUMBER OF TIERS (LAYERS) WHICH CAN BE STORED IN THE FRONT BAYS. THIS IS THE AREA IMMEDIATELY INSIDE THE DOORS.

STEP 11

LOCATE IN THE LEFT HAND COLUMN OF CHART 163 THE LENGTH OR WIDTH RANGE WHICH INCLUDES THE DIMENSION OF THE UNIT TO BE STORED IN THE 100'-8" LENGTH OF THE MAGAZINE. THE COLUMN IMMEDIATELY ADJACENT INDICATES THE NUMBER OF ROWS WHICH CAN BE PLACED IN THE MHE AREA WIDTH WHEN THE UNITS ARE ORIENTED THE SAME AS THE UNITS IN THE LATERALLY ADJACENT ROWS. THE NEXT COLUMN INDICATES THE NUMBER OF ROWS AND THE LENGTH OR WIDTH DIMENSION RANGE OF THE UNITS WHEN THEY ARE ROTATED 90° TO THOSE IN THE LATERALLY ADJACENT ROWS.

STEP 12

LOCATE IN THE LEFT HAND COLUMN OF CHART NO. 164 THE LENGTH OR WIDTH RANGE WHICH INCLUDES THE DIMENSION OF THE UNIT TO BE STORED IN THE LENGTH OF THE MHE AISLE (THE 50'-0" WIDTH OF THE MAGAZINE). OPPOSITE THAT LENGTH OR WIDTH DIMENSION IS INDICATED THE NUMBER OF STACKS IN THE ROWS WITHIN THE MHE AISLE, WHEN SUFFICIENT SPACE IS ALLOWED AT THE FRONT OF THE MAGAZINE FOR PLACEMENT OF THE UNITS WITH A FORKLIFT TRUCK. NOTE THAT ADDITIONAL STACKS MAY BE POSITIONED IN ONE OR MORE OF THE ROWS WHEN THE ROWS ARE ALIGNED WITH THE DOOR OPENING AND/OR WHEN THE AVAILABLE MHE PERMITS.

EXAMPLE

THE PALLETIZED UNIT SHOWN IN THE "PARTIAL PLAN VIEW" AT THE TOP OF PAGE 80 HAS BEEN SELECTED FOR THE EXAMPLE. THE UNIT IS 42-3/4" LONG BY 50-3/4" WIDE BY 41-1/2" HIGH. A STORAGE PATTERN CAN BE DETERMINED BY FOLLOWING THE DOTTED-LINE EXAMPLE WITHIN CHARTS 153 THROUGH 164 IN CONJUNCTION WITH USING THE STEP-BY-STEP PROCEDURES SPECIFIED ON THIS PAGE.

TO FIND THE NUMBER OF PALLET STACKS IN THE 100'-8" LENGTH OF THE MAGAZINE LOOK IN THE LEFT HAND COLUMN OF CHART 153 UNDER THE UNIT LENGTH OR WIDTH. THE 42-3/4" UNIT LENGTH IS WITHIN THE 42" TO 43" RANGE. FOLLOWING THE ARROWS ALONG THE DOTTED LINE TO THE RIGHT, THE FIRST COLUMN INDICATES THAT 5 STACKS CAN BE STORED IN EACH END AREA AND THE SECOND COLUMN INDICATES THAT 11 STACKS CAN BE STORED IN THE CENTER AREA. USING THE SAME PROCEDURE, THE NUMBER OF ROWS ACROSS THE 50'0" WIDTH OF THE MAGAZINE CAN BE DETERMINED FROM CHART 154. CHART 155 SPECIFIES THE NUMBER OF ROWS WHICH CAN BE PLACED BETWEEN THE REAR WALL OF THE MAGAZINE AND THE REARMOSEST ROW OF BUILDING COLUMNS. BY FOLLOWING THE ARROW ALONG THE DOTTED LINE TO THE RIGHT IN CHART 156 WE FIND THAT ROW NUMBER 4 AND ROW NUMBER 8 WILL BE BEHIND THE COLUMNS WHEN ALL THE UNITS ARE POSITIONED SO THE 50-3/4" WIDTH DIMENSION IS PLACED SO AS TO BE IN THE WIDTH OF THE MAGAZINE. CHARTS 157, 158, AND 159 ON PAGE 83 SPECIFY THE NUMBER OF STACKS BETWEEN THE SIDE WALL AND THE ADJACENT COLUMN, THE NUMBER OF STACKS BETWEEN LONGITUDINALLY ADJACENT COLUMNS, AND THE NUMBER OF ROWS BETWEEN THE FRONT WALL OF THE MAGAZINE AND THE FRONT ROW OF COLUMNS.

CHARTS 160, 161, AND 162 INDICATE THE NUMBER OF TIERS (LAYERS) THAT CAN BE STORED IN THE REAR BAY, CENTER BAY, AND FRONT BAY, RESPECTIVELY. CHART 163 INDICATES IN THE SECOND COLUMN THE NUMBER OF ROWS WHICH CAN BE PLACED IN THE MHE AISLE WHEN POSITIONED WITH THE DIMENSION SPECIFIED IN THE FIRST COLUMN LENGTHWISE IN THE MAGAZINE. THE THIRD COLUMN OF THE CHART INDICATES ONE OR MORE ALTERNATIVE PLACEMENT DIMENSIONS WHICH MAY BE MORE ADVANTAGEOUS. NOTE THAT A COMBINATION OF PALLET UNIT POSITIONS IS PERMITTED, AS TYPICALLY SHOWN BY THE "PARTIAL PLAN VIEW" AT THE TOP OF PAGE 81.

(CONTINUED ON PAGE 83)

CHART NO. 153		
NUMBER OF STACKS ACROSS THE LENGTH		
UNIT LENGTH OR WIDTH	NUMBER OF STACKS	
	END AREA	CENTER AREA
35"	6	14
OVER 35" TO 36"	6	14
OVER 36" TO 37"	6	13
OVER 37" TO 38"	6	12
OVER 38" TO 39"	6	12
OVER 39" TO 40"	6	11
OVER 40" TO 41"	5	12
OVER 41" TO 42"	5	12
OVER 42" TO 43"	5	11
OVER 43" TO 44"	5	11
OVER 44" TO 45"	5	10
OVER 45" TO 46"	5	10
OVER 46" TO 47"	5	9
OVER 47" TO 48"	5	9
OVER 48" TO 49"	4	10
OVER 49" TO 50"	4	10
OVER 50" TO 51"	4	9
OVER 51" TO 52"	4	9
OVER 52" TO 53"	4	9
OVER 53" TO 54"	4	8

CHART NO. 157	
NUMBER OF STACKS BETWEEN SIDE WALL AND COLUMN	
UNIT LENGTH OR WIDTH	NUMBER OF STACKS
35" TO 36-1/2"	5
OVER 36-1/2" TO 45-3/4"	4
OVER 45-3/4" TO 54"	3

CHART NO. 158	
NUMBER OF STACKS BETWEEN COLUMNS	
UNIT LENGTH OR WIDTH	NUMBER OF STACKS
35" TO 37"	5
OVER 37" TO 46-1/2"	4
OVER 46-1/2" TO 54"	3

CHART NO. 154	
NUMBER OF ROWS ACROSS THE WIDTH	
UNIT LENGTH OR WIDTH	NUMBER OF ROWS
35" TO 36"	16
OVER 36" TO 38-1/2"	15
OVER 38-1/2" TO 41"	14
OVER 41" TO 44-1/2"	13
OVER 44-1/2" TO 48"	12
OVER 48" TO 52-1/2"	11
OVER 52-1/2" TO 54"	10

CHART NO. 159	
NUMBER OF ROWS BETWEEN FRONT WALL AND COLUMNS	
UNIT LENGTH OR WIDTH	NUMBER OF ROWS
35" TO 35-1/2"	5
OVER 35-1/2" TO 44-1/2"	4
OVER 44-1/2" TO 54"	3

CHART NO. 155	
NUMBER OF ROWS BETWEEN REAR WALL AND COLUMNS	
UNIT LENGTH OR WIDTH	NUMBER OF ROWS
35" TO 36"	5
OVER 36" TO 45"	4
OVER 45" TO 54"	3

(SPECIAL NOTES CONTINUED FROM PAGE 82)

CHART 164 ON PAGE 84 INDICATES THE NUMBER OF STACKS WHICH CAN BE PLACED IN THE LENGTH OF THE MHE AISLE. ADDITIONAL UNITS MAY BE POSITIONED IN ONE OR BOTH ROWS IF THE SPACE AND/OR AVAILABLE MHE PERMITS.

- THE UNIT SIZE RANGE (LENGTH OR WIDTH) AND THE UNIT HEIGHT DIMENSIONS COVER ALL THE SIZES WITHIN THE RANGE SPECIFIED.

CHART NO. 156	
ROWS WHICH FALL BEHIND COLUMNS	
UNIT LENGTH OR WIDTH	ROW NUMBERS
35" TO 38-1/4"	5, 6 AND 11
OVER 38-1/4" TO 39-1/4"	5, 6, 10 AND 11
OVER 39-1/4" TO 40"	5, 10 AND 11
OVER 40" TO 42-1/2"	5 AND 10
OVER 42-1/2" TO 45"	5 AND 9
OVER 45" TO 48"	4 AND 9
OVER 48" TO 49-1/2"	4 AND 8
OVER 49-1/2" TO 49-3/4"	4, 8, AND 9
OVER 49-3/4" TO 54"	4 AND 8

CHART NO. 160	
NUMBER OF TIERS IN REAR BAYS	
UNIT HEIGHT	NUMBER OF TIERS
OVER 15" TO 15"	10
OVER 15" TO 17"	9
OVER 17" TO 19"	8
OVER 19" TO 22"	7
OVER 22" TO 26"	6
OVER 26" TO 31"	52
OVER 31" TO 39"	4
OVER 39" TO 52"	3
OVER 52" TO 54"	2

CHART NO. 161	
NUMBER OF TIERS IN CENTER BAYS	
UNIT HEIGHT	NUMBER OF TIERS
15" TO 16"	10
OVER 16" TO 18"	9
OVER 18" TO 20"	8
OVER 20" TO 23"	7
OVER 23" TO 27"	6
OVER 27" TO 32"	5
OVER 32" TO 41"	4
OVER 41" TO 54"	3

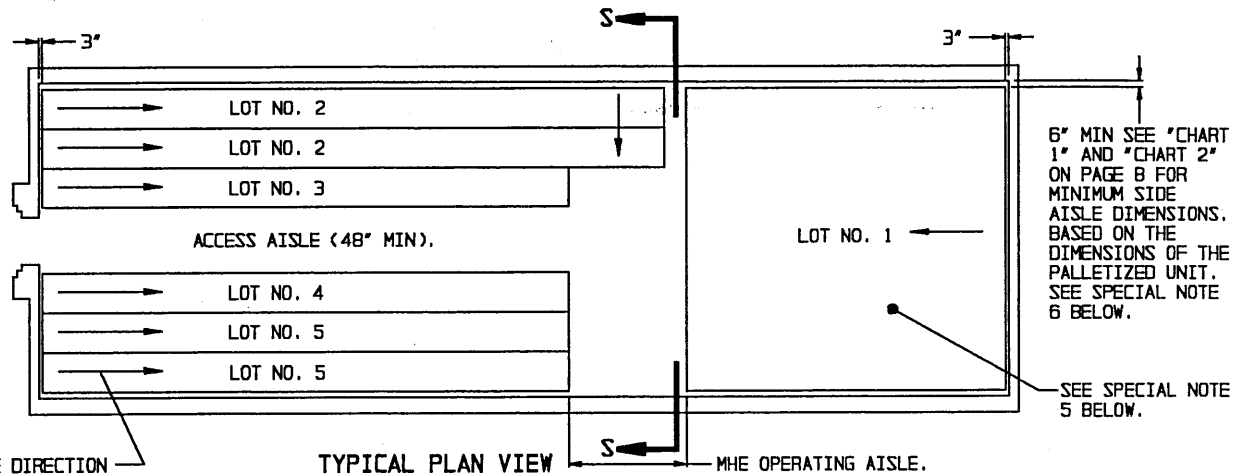
CHART NO. 162	
NUMBER OF TIERS IN FRONT BAYS	
UNIT HEIGHT	NUMBER OF TIERS
OVER 15" TO 15"	11
OVER 15" TO 17"	10
OVER 17" TO 19"	9
OVER 19" TO 21"	8
OVER 21" TO 24"	7
OVER 24" TO 28"	6
OVER 28" TO 34"	5
OVER 34" TO 43"	4
OVER 43" TO 54"	3

CHART NO. 163		
NUMBER OF ROWS WIDE IN MHE AISLE		
UNIT DIM LENGTHWISE IN MAGAZINE	UNIT AT SAME POSITION	ALTERNATIVE UNIT POSITION
OVER 35" TO 35"	3	2 AT 45-1/2" TO 51-1/2"
OVER 35" TO 36"	3	2 AT 45-1/2" TO 48"
OVER 36" TO 37"	2	2 AT 45-1/2" TO 51
OVER 37" TO 38"	2	2 AT 45-1/2" TO 54"
OVER 38" TO 39"	2	2 AT 45-1/2" TO 48"
OVER 39" TO 40"	2	2 AT 45-1/2" TO 46
OVER 40" TO 41"	2	2 AT 48" TO 54"
OVER 41" TO 42"	2	2 AT 48" TO 51"
OVER 42" TO 43"	2	2 AT 48" TO 54
OVER 43" TO 44"	2	2 AT 48" TO 51"
OVER 44" TO 45"	2	2 AT 48" TO 54"
OVER 45" TO 46"	2	3 AT 35"
OVER 46" TO 47"	2	3 AT 35" TO 39"
OVER 47" TO 48"	2	3 AT 35" TO 36"
OVER 48" TO 49"	2	2 AT 40" TO 44" OR 3 AT 35" TO 39"
OVER 49" TO 50"	2	2 AT 40" TO 44" OR 3 AT 35" TO 38"
OVER 50" TO 51"	2	2 AT 40" TO 44" OR 3 AT 35" TO 39"
OVER 51" TO 52"	2	2 AT 40" TO 44" OR 3 AT 35" TO 39"
OVER 52" TO 53"	2	2 AT 40" TO 44"
OVER 53" TO 54"	2	2 AT 40" TO 44"

CHART NO. 164 *	
NUMBER OF STACKS LONG IN MHE AREA *	
UNIT LENGTH OR WIDTH	NUMBER OF STACKS
35"	13
OVER 35" TO 38"	12
OVER 38" TO 41-1/2"	11
OVER 41-1/2" TO 46"	10
OVER 46" TO 51"	9
OVER 51" TO 54"	8

* SEE GENERAL NOTE "H" ON PAGE 2.

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ARROWS INDICATE DIRECTION OF STORAGE FROM FRONT AND/OR REAR TOWARD CENTER OF THE LENGTH OF THE MAGAZINE.

TYPICAL PLAN VIEW
80'-0" ARCH TYPE MAGAZINE (IGLOO)

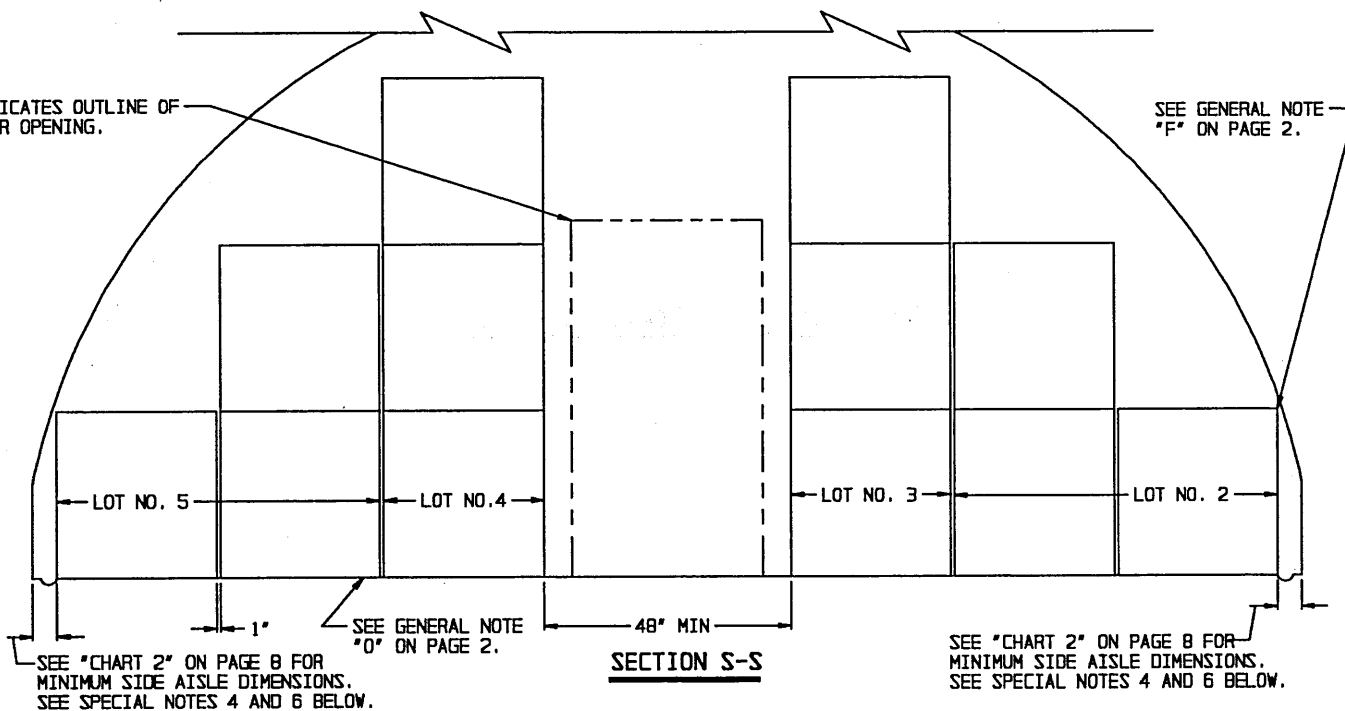
6" MIN SEE "CHART 1" AND "CHART 2" ON PAGE 8 FOR MINIMUM SIDE AISLE DIMENSIONS. BASED ON THE DIMENSIONS OF THE PALLETIZED UNIT. SEE SPECIAL NOTE 6 BELOW.

SEE SPECIAL NOTE 5 BELOW.

MHE OPERATING AISLE.

INDICATES OUTLINE OF DOOR OPENING.

SEE GENERAL NOTE "F" ON PAGE 2.



SECTION S-S

SEE "CHART 2" ON PAGE 8 FOR MINIMUM SIDE AISLE DIMENSIONS. SEE SPECIAL NOTES 4 AND 6 BELOW.

SEE "CHART 2" ON PAGE 8 FOR MINIMUM SIDE AISLE DIMENSIONS. SEE SPECIAL NOTES 4 AND 6 BELOW.

SPECIAL NOTES:

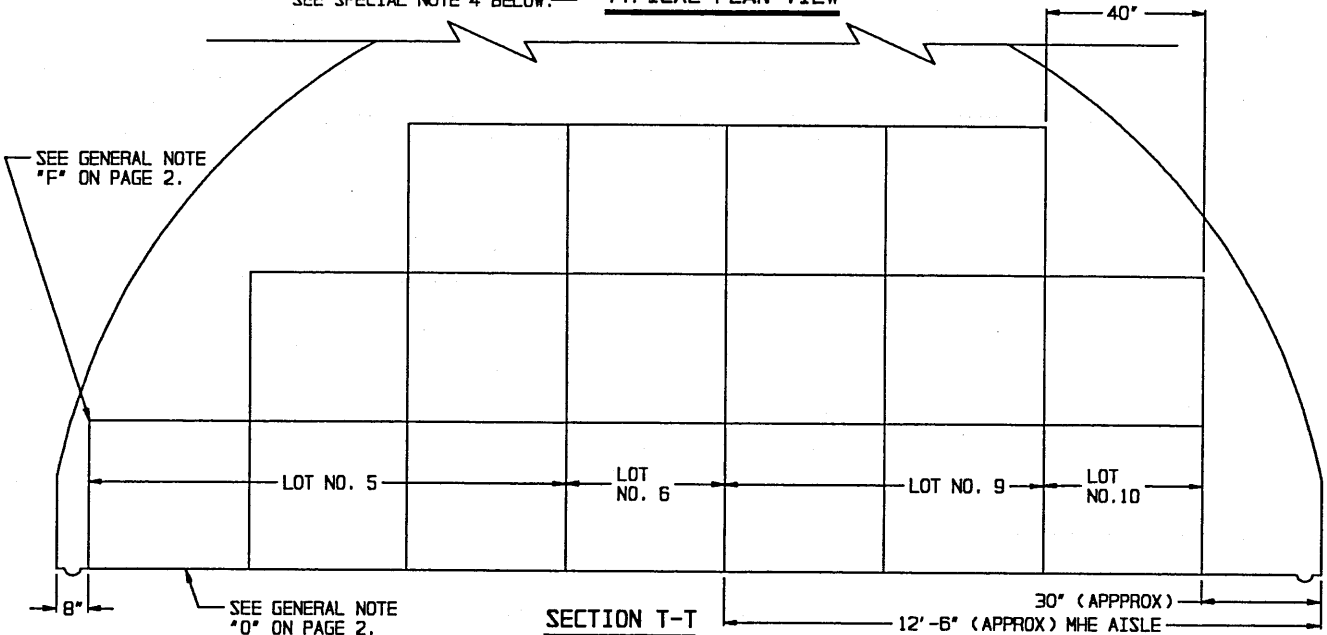
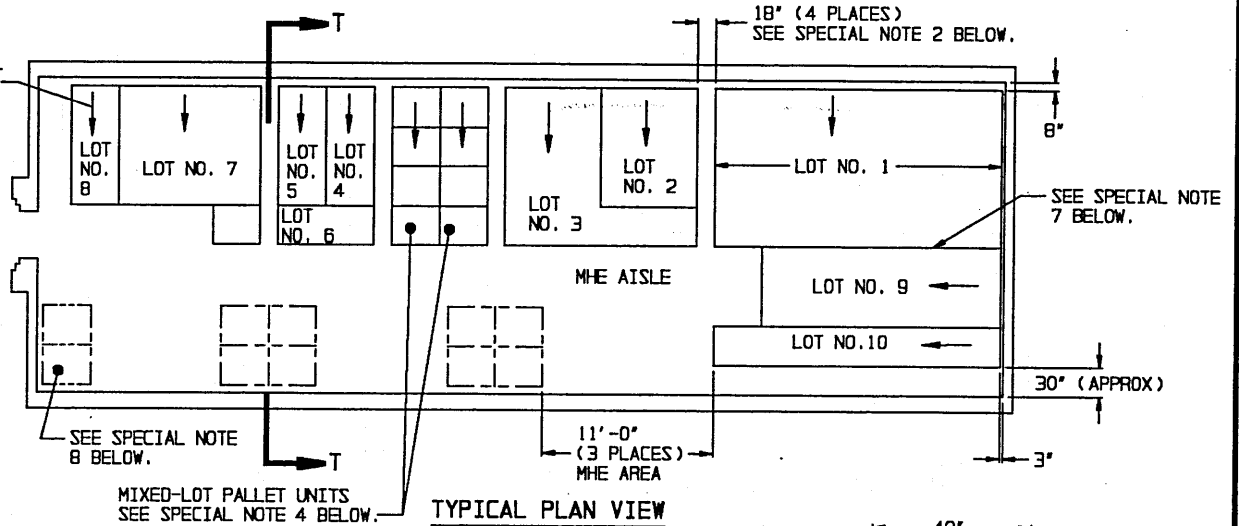
1. THE MULTIPLE LOT STORAGE PLAN SHOWN IS TYPICAL ONLY. ADAPTATIONS MAY BE MADE TO THE STORAGE PLAN AS THE NUMBER AND SIZES OF LOTS TO BE STORED IN THE MAGAZINE REQUIRE.
2. THE LARGEST LOT WILL BE STORED IN TYPE "A" STACKS ACROSS THE REAR OF THE MAGAZINE. IF THE LOT OCCUPIES LESS THAN 1/4 OF THE MAGAZINE, STORAGE IN THE REAR OF MAGAZINE OF MORE THAN ONE (1) LOT MAY BE ERRECTED IN ROWS SIMILAR TO THAT SHOWN IN THE FRONTAL AREA. A 48" ACCESS CENTER AISLE WILL NOT BE REQUIRED FOR LOTS STORED AT THE REAR OF MAGAZINE. THE SMALLER LOTS WILL BE STORED IN ROWS RUNNING THE LENGTH OF THE MAGAZINE. LOTS WILL NOT BE MIXED WITHIN STORAGE STACKS, BUT ONLY TO THE EXTENT THAT ITEMS OF ONE LOT WILL NOT BE STACKED ON TOP OF ITEMS OF ANOTHER LOT.
3. EXCEPT FOR EACH ROW ADJACENT TO THE ACCESS CENTER AISLE, LOTS CONSISTING OF NARROW UNITS MUST BE STORED TWO (2) UNITS WIDE TO PROVIDE SUFFICIENT OPERATING WIDTH FOR THE MATERIALS HANDLING EQUIPMENT (MHE). IF THE UNIT DIMENSION WHICH IS POSITIONED ACROSS THE MAGAZINE, LENGTH OR WIDTH, AS APPLICABLE, IS GREAT ENOUGH TO PROVIDE SUFFICIENT MHE OPERATING WIDTH, LOTS NEED NOT BE STORED IN DOUBLE ROWS.

(SPECIAL NOTES CONTINUED)

4. THE SIDE AISLE DIMENSIONS FOR MULTIPLE LOT STORAGE, AS SPECIFIED IN CHARTS 1 AND 2 ON PAGE 8 MAY NEED TO BE INCREASED TO PROVIDE OVERHEAD CLEARANCE FOR THE MHE.
5. THE TYPICAL STACKING PATTERNS ON PAGES 6 AND 7, DEPICTING PALLETIZED UNITS STAGGERED IN SOME OF THE UPPER TIERS OF THE STACK, ARE ONLY APPLICABLE WHEN STORING A LARGE LOT IN THE REAR OF THE MAGAZINE, OR WHEN STORING ONE LOT TO A MAGAZINE. WHEN STORING MULTIPLE LOTS IN THE WIDTH OF THE MAGAZINE, UNITS MUST BE STACKED IN VERTICAL ALIGNMENT.
6. CHARTS 1 AND 2 ON PAGE 8 ARE APPLICABLE FOR SIDE AISLE DIMENSIONS IN 26'-6" WIDE BY 12'-9" HIGH IGLOO MAGAZINES. REFER TO CHARTS 21 AND 22 ON PAGE 16 FOR SIDE AISLE DIMENSIONS IN 25'-0" WIDE BY 10'-0" HIGH ARCH TYPE MAGAZINES. CHARTS 37 AND 38 ON PAGE 24 AND CHARTS 54 AND 55 ON PAGE 32 ARE APPLICABLE FOR 25'-0" WIDE BY 11'-0" AND 12'-1-3/4" HIGH ARCH TYPE MAGAZINES, RESPECTIVELY. CHARTS 72 AND 73 ON PAGE 40 WILL BE USED FOR SIDE AISLE DIMENSIONS IN 26'-6" WIDE BY 12'-1-3/4" HIGH ARCH TYPE MAGAZINES.

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ARROWS INDICATE DIRECTION OF STORAGE FROM WALL TOWARD MHE AISLE.

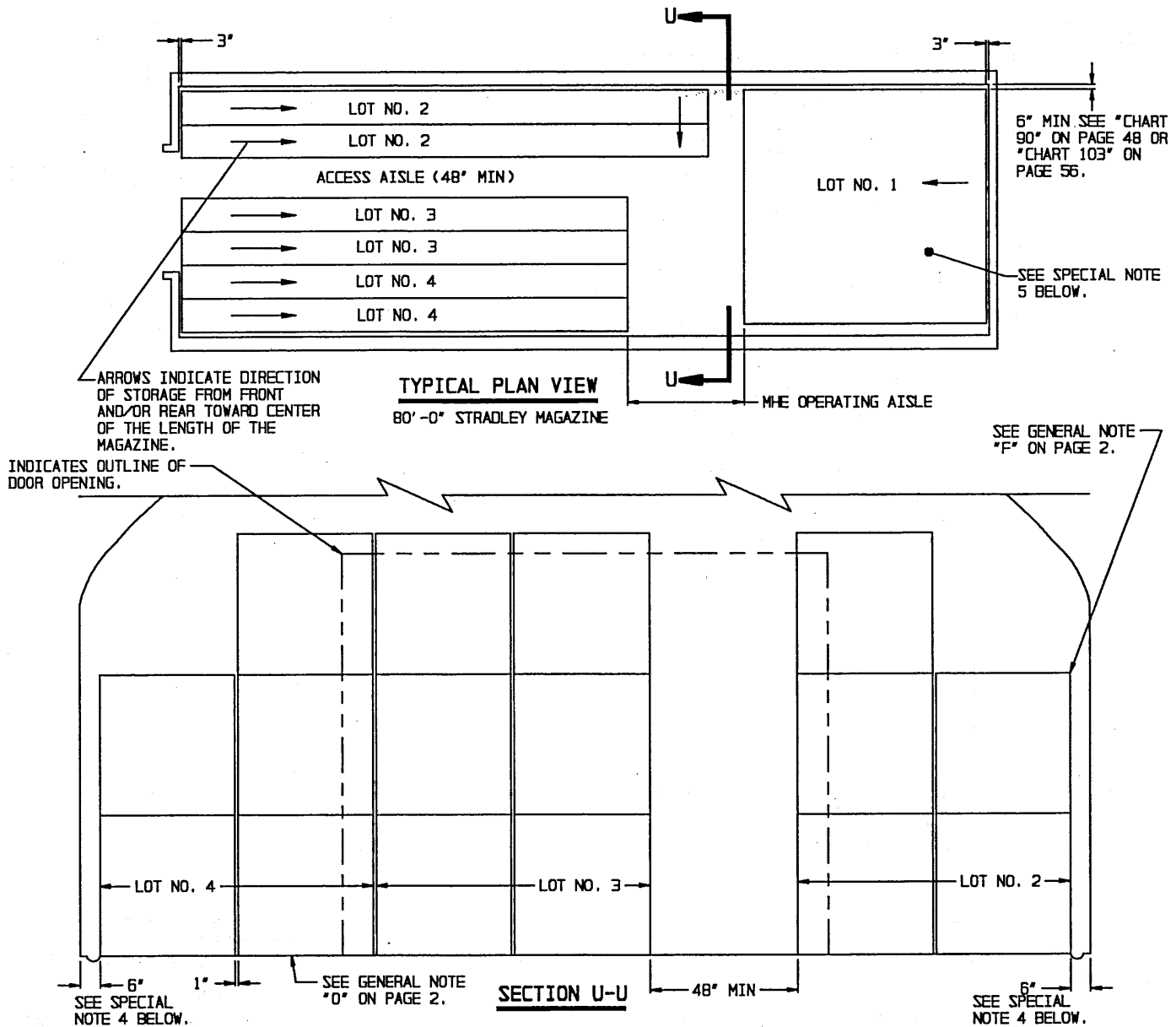


SPECIAL NOTES:

1. THE STORAGE PLANS AND CONFIGURATIONS SHOWN ON THIS PAGE ARE TYPICAL ONLY AND APPLY TO STORAGE OF NUMEROUS SMALL LOTS. THE PALLET UNITS SHOWN HAVE OVERALL DIMENSIONS OF 40" LONG BY 48" WIDE BY 37-5/8" HIGH. ADAPTATIONS MAY BE MADE TO SUIT THE DIMENSIONS OF THE PALLET TO BE STORED AND AS NUMBER AND SIZES OF LOTS IN MAGAZINE REQUIRE.
2. AN INSPECTION/INVENTORY 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 BOXES WITHIN THAT UNIT. HOWEVER, ALL ITEMS AND 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. A "LIFT" MAY CONSIST OF ONE (1) OR MORE PALLET UNITS, PROVIDING THE CAPACITY OF MHE PERMITS, AND SAFE HANDLING IS NOT JEOPARDIZED.
6. FOR STORAGE OF MULTIPLE LOTS, THE DISTANCE FROM THE SIDEWALL WILL BE BASED ON THE OVERHEAD CLEARANCE REQUIRED FOR MHE.
7. 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.
8. AREAS INCLOSED 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-FOOT MHE OPERATING AREA HAS BEEN SPECIFIED FOR ACCESS TO EACH "ADDITIONAL STORAGE 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 FORLIFT 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 INCHES WIDE. AN AISLE SLIGHTLY WIDER THAN 48" WILL ENHANCE FORKLIFT TRUCK MOVEMENT WITHIN A MAGAZINE; HOWEVER, THIS AISLE SHOULD NOT BE MADE WIDER IF A LOSS IN STORAGE RESULTS.

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TYPICAL MULTIPLE-LOT STORAGE IN IGLOO AND ARCH-TYPE MAGAZINES



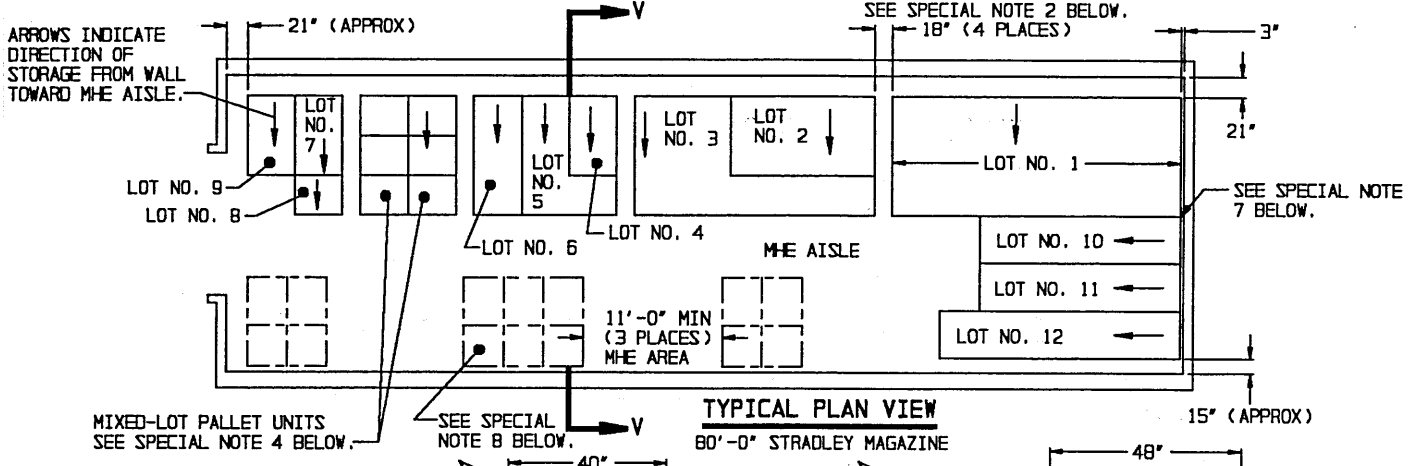
SPECIAL NOTES:

1. THE MULTIPLE LOT STORAGE PLAN SHOWN IS TYPICAL ONLY. ADAPTATIONS MAY BE MADE TO THE STORAGE PLAN AS THE NUMBER AND SIZES OF LOTS TO BE STORED IN THE MAGAZINE REQUIRE.
2. THE LARGEST LOT WILL BE STORED IN TYPE "A" STACKS ACROSS THE REAR OF THE MAGAZINE. IF THE LOT OCCUPIES LESS THAN 1/4 OF THE MAGAZINE, STORAGE IN THE REAR OF MAGAZINE OF MORE THAN ONE (1) LOT MAY BE ERRECTED IN ROWS SIMILAR TO THAT SHOWN IN THE FRONTAL AREA. A 48" ACCESS CENTER AISLE WILL NOT BE REQUIRED FOR LOTS STORED AT THE REAR OF MAGAZINE. THE SMALLER LOTS WILL BE STORED IN ROWS RUNNING THE LENGTH OF THE MAGAZINE. LOTS WILL NOT BE MIXED WITHIN STORAGE STACKS, BUT ONLY TO THE EXTENT THAT ITEMS OF ONE LOT WILL NOT BE STACKED ON TOP OF ITEMS OF ANOTHER LOT.
3. EXCEPT FOR EACH ROW ADJACENT TO THE ACCESS AISLE, LOTS CONSISTING OF NARROW UNITS MUST BE STORED TWO (2) UNITS WIDE TO PROVIDE SUFFICIENT OPERATING WIDTH FOR THE MATERIALS HANDLING EQUIPMENT (MHE). IF THE UNIT DIMENSION WHICH IS POSITIONED ACROSS THE MAGAZINE, LENGTH OR WIDTH, AS APPLICABLE, IS GREAT ENOUGH TO PROVIDE SUFFICIENT MHE OPERATING WIDTH, LOTS NEED NOT BE STORED IN DOUBLE ROWS.

(SPECIAL NOTES CONTINUED)

4. THE 6" SIDE AISLE DIMENSION (8" FOR OVAL ARCH TYPE MAGAZINES) MAY NEED TO BE INCREASED, OR THE TOP UNIT IN THE OUTER ROW MAY NEED TO BE OMITTED, IN ORDER TO PROVIDE OVERHEAD CLEARANCE FOR THE MHE.
5. THE TYPICAL STACKING PATTERN Y ON PAGE 47 FOR STRADLEY MAGAZINES OR ON PAGE 55 FOR OVAL ARCH TYPE MAGAZINES, DEPICTING PALLETIZED UNITS STAGGERED IN SOME OF THE UPPER TIERS OF THE STACK, ARE ONLY APPLICABLE WHEN STORING A LARGE LOT IN THE REAR OF THE MAGAZINE, OR WHEN STORING ONE LOT TO A MAGAZINE. WHEN STORING MULTIPLE LOTS IN THE WIDTH OF THE MAGAZINE, UNITS MUST BE STACKED IN VERTICAL ALIGNMENT.
6. THE ACCESS AISLE, WHICH IS SHOWN IN AN OFF-CENTER LOCATION, MAY BE LOCATED ON THE CENTER OF THE MAGAZINE IF DESIRED.

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MIXED-LOT PALLET UNITS
SEE SPECIAL NOTE 4 BELOW.

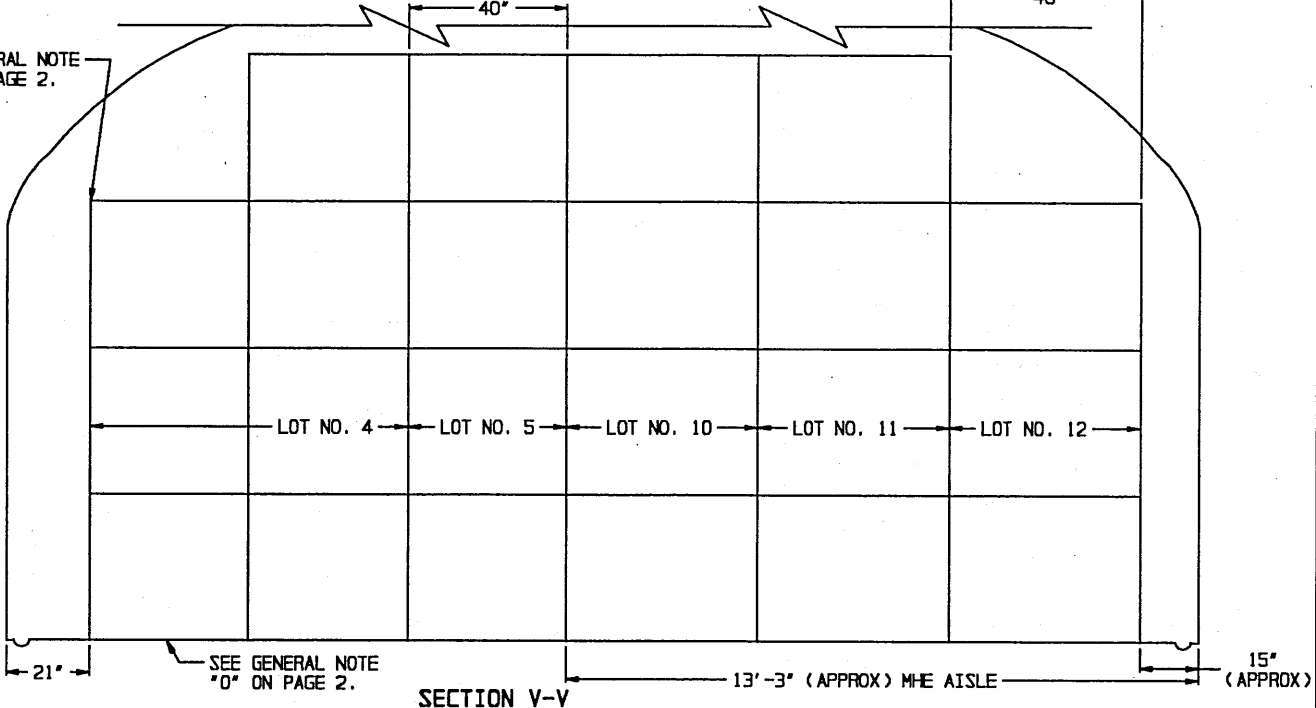
SEE SPECIAL NOTE 8 BELOW.

TYPICAL PLAN VIEW

80'-0" STRADLEY MAGAZINE

15" (APPROX)

SEE GENERAL NOTE "F" ON PAGE 2.



SECTION V-V

SEE GENERAL NOTE "O" ON PAGE 2.

13'-3" (APPROX) MHE AISLE

15" (APPROX)

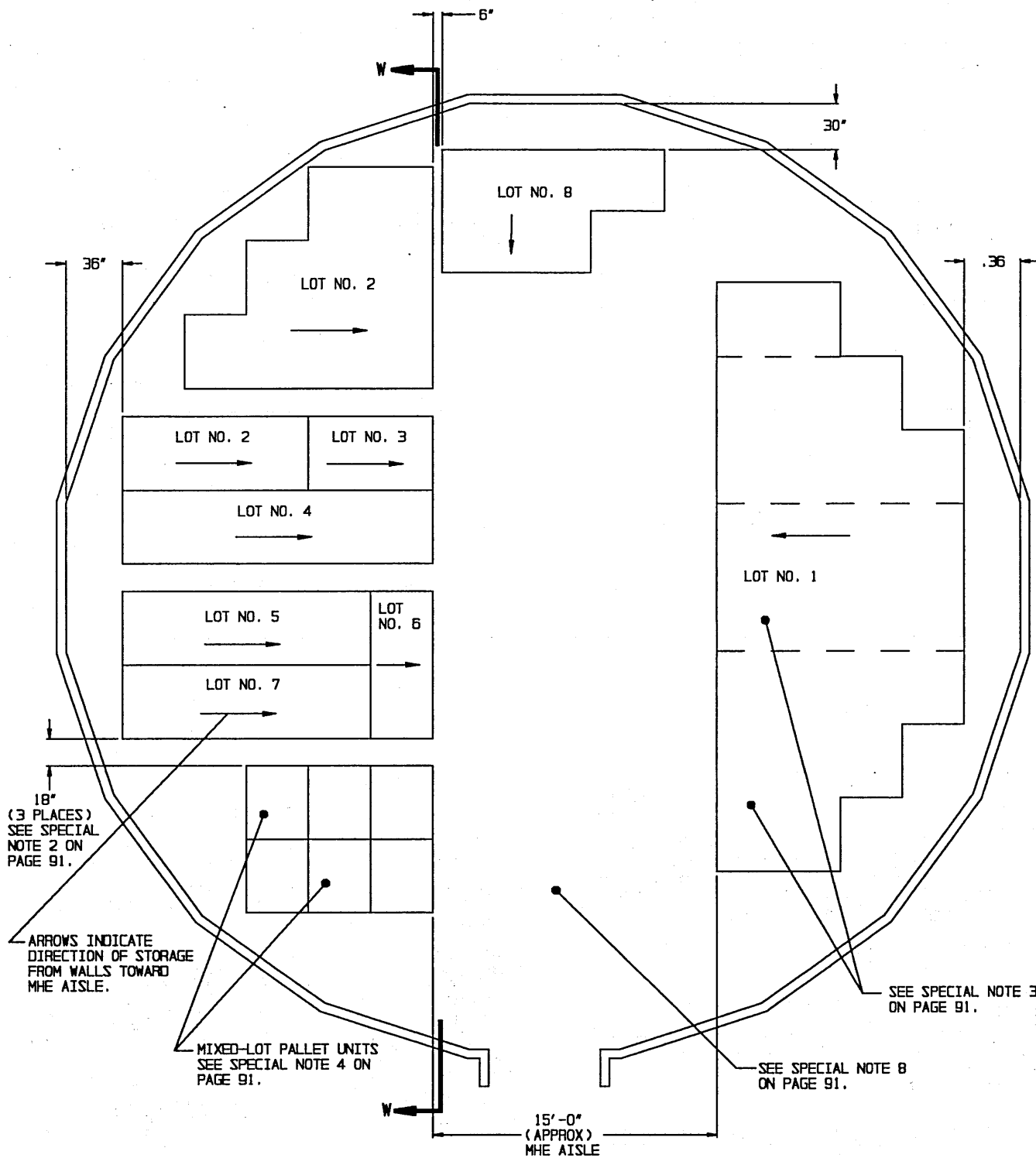
SPECIAL NOTES:

(SPECIAL NOTES CONTINUED)

1. THE STORAGE PLANS AND CONFIGURATIONS SHOWN ON THIS PAGE ARE TYPICAL ONLY AND APPLY TO STORAGE OF NUMEROUS SMALL LOTS. THE PALLET UNITS SHOWN HAVE OVERALL DIMENSIONS OF 40" LONG BY 48" WIDE BY 37" HIGH. ADAPTATIONS MAY BE MADE TO SUIT THE DIMENSIONS OF THE PALLET TO BE STORED AND AS NUMBER AND SIZES OF LOTS IN MAGAZINE REQUIRE.
2. AN INSPECTION/INVENTORY 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 BOXES WITHIN THAT UNIT. HOWEVER, ALL ITEMS AND 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. A "LIFT" MAY CONSIST OF ONE (1) OR MORE PALLET UNITS, PROVIDING THE CAPACITY OF MHE PERMITS, AND SAFE HANDLING IS NOT JEOPARDIZED.
6. FOR STORAGE OF MULTIPLE LOTS, THE DISTANCE FROM THE SIDEWALL WILL BE BASED ON THE OVERHEAD CLEARANCE REQUIRED FOR MHE.
7. 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.
8. AREAS INCLOSED 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-FOOT MHE OPERATING AREA HAS BEEN SPECIFIED FOR ACCESS TO EACH "ADDITIONAL STORAGE 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 FORLIFT 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 INCHES WIDE. AN AISLE SLIGHTLY WIDER THAN 48 INCHES WILL ENHANCE FORKLIFT TRUCK MOVEMENT WITHIN A MAGAZINE; HOWEVER, THIS AISLE SHOULD NOT BE MADE WIDER IF A LOSS IN STORAGE RESULTS.

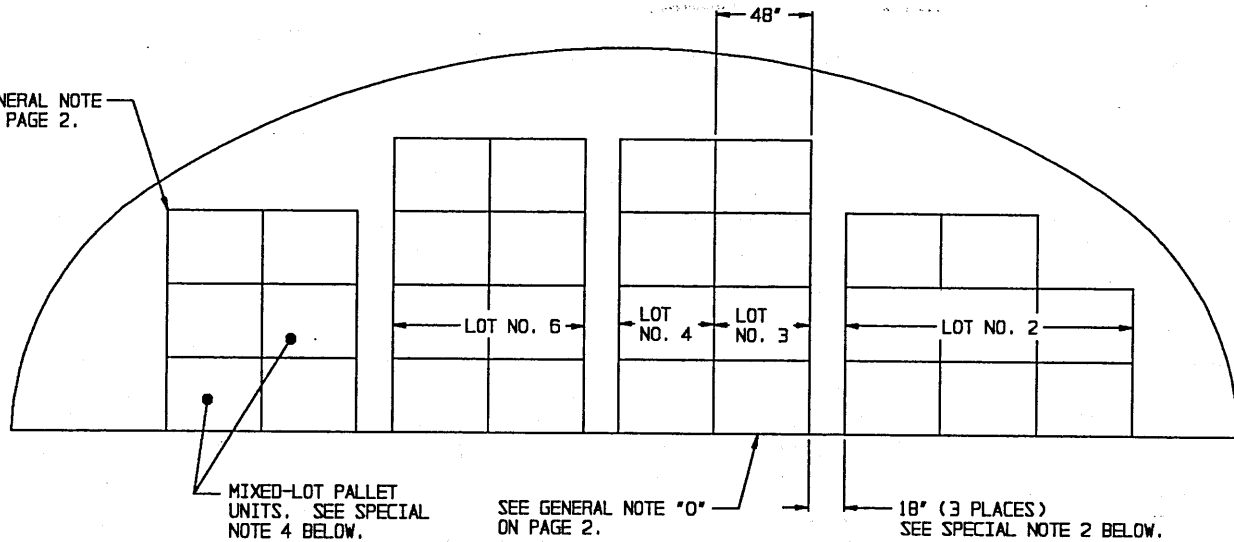
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TYPICAL MULTIPLE-LOT STORAGE IN STRADLEY AND OVAL ARCH-TYPE MAGAZINES



TYPICAL PLAN VIEW

SEE GENERAL NOTE
"F" ON PAGE 2.



SECTION W-W

SPECIAL NOTES:

1. THE STORAGE PLANS SHOWN ARE TYPICAL ONLY. ADAPTATIONS MAY BE MADE TO SUIT THE DIMENSIONS OF THE PALLET TO BE STORED AND AS NUMBER AND SIZES OF LOTS IN MAGAZINE REQUIRE.
2. AN INSPECTION/INVENTORY AISLE NOT LESS THAN 18" WIDE MUST BE PROVIDED AT ONE SIDE OF EACH "BURIED" LOT;
3. GENERALLY, THE LARGEST LOT SHOULD BE STORED ON ONE SIDE OF THE MAGAZINE. HOWEVER, BOTH SIDES MAY BE USED TO STORE MORE THAN ONE LOT BY ERECTING ROWS SIMILAR TO THOSE SHOWN ON THE LEFT SIDE. EACH ADDITIONAL 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 BOXES WITHIN THAT UNIT. HOWEVER, ALL ITEMS AND 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. A "LIFT" MAY CONSIST OF ONE (1) OR MORE PALLET UNITS, PROVIDING THE CAPABILITY OF MHE PERMITS, AND SAFE HANDLING IS NOT JEOPARDIZED.
6. FOR STORAGE OF MULTIPLE LOTS, THE DISTANCE FROM THE WALL WILL BE BASED ON THE OVERHEAD CLEARANCE REQUIRED FOR MHE.
7. WHEN TWO LOTS ARE STORED ADJACENT TO EACH OTHER THEY SHOULD BE SEPARATED BY AT LEAST 1" TO PROVIDE CLEARANCE REQUIRED FOR REMOVAL OF EITHER LOT.
8. THE MHE AISLE MAY BE USED TO STORE ONE OR MORE STACKS OF ADDITIONAL LOTS OR ADDITIONAL ITEMS THAT ARE FROM A LOT ADJACENT TO THE MHE AISLE. THIS ADDITIONAL STORAGE IS TO BE ARRANGED IN A MANNER SIMILAR TO ARRANGEMENTS DEPICTED ON PAGES 87 AND 89 FOR THE "ADDITIONAL STORAGE LOCATIONS" (SHOWN BY DOTTED LINES). ADEQUATE SPACE FOR MHE OPERATION, AS DESCRIBED ON PAGES 87 AND 89, MUST BE MADE AVAILABLE FOR THE ADDITIONAL STORAGE. ALSO, COMPLIANCE WITH ALL OF THE MULTIPLE-LOT CRITERIA AS SET FORTH ON THIS PAGE MUST BE OBSERVED.

MIXED-LOT PALLET UNITS.
SEE SPECIAL NOTE 4 BELOW.

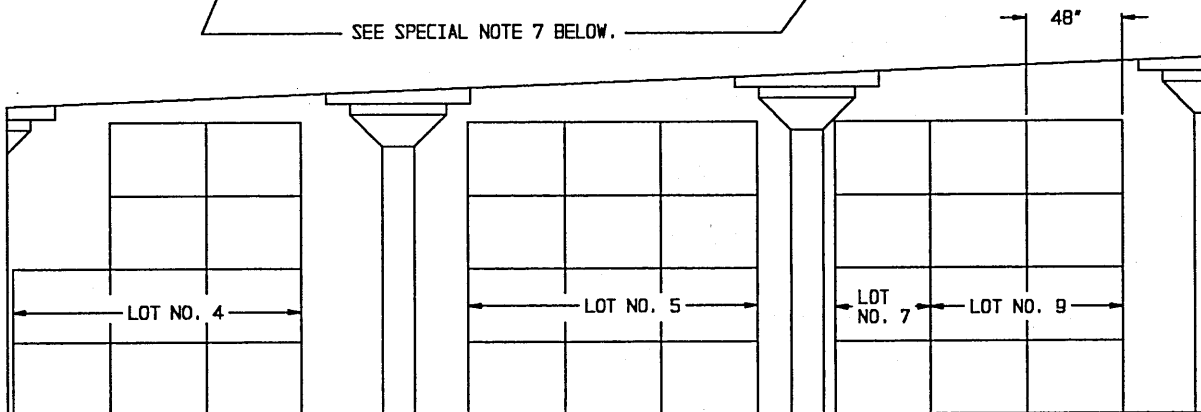
ARROWS INDICATE DIRECTION OF
STORAGE FROM WALLS AND/OR
CENTER AREA TOWARD THE MHE
AISLE OF THE MAGAZINE.

SEE
SPECIAL
NOTE 3
BELOW.

MIXED-LOT PALLET UNITS.
SEE SPECIAL NOTE 4 BELOW.

SEE SPECIAL NOTE 7 BELOW.

TYPICAL PLAN VIEW



SEE GENERAL NOTE
"0" ON PAGE 2.

SECTION X-X

42"
(APPROX)

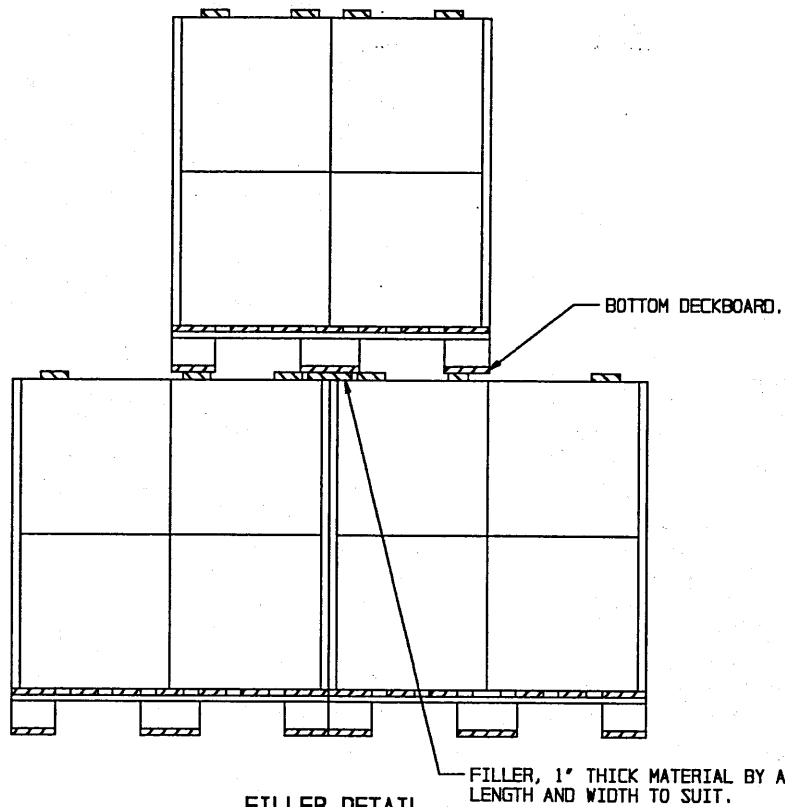
SPECIAL NOTES:

(SPECIAL NOTES CONTINUED)

1. THE STORAGE PLANS SHOWN ARE TYPICAL ONLY. ADAPTATIONS MAY BE MADE TO SUIT THE DIMENSIONS OF THE PALLET TO BE STORED AND AS NUMBER AND SIZES OF LOTS IN MAGAZINE REQUIRE.
2. AN INSPECTION/INVENTORY 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 OR ON ONE SIDE OF THE MAGAZINE. HOWEVER, THESE AREAS MAY BE USED TO STORE MORE THAN ONE LOT BY ERECTING ROWS SIMILAR TO THOSE SHOWN IN THE CENTER AREA OR AS TYPICALLY INDICATED BY DOTTED LINES. EACH ADDITIONAL 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 BOXES WITHIN THAT UNIT. HOWEVER, ALL ITEMS AND LOTS WITHIN THE PALLET UNIT MUST HAVE THE SAME NATIONAL STOCK NUMBER AND CONDITION CODE.

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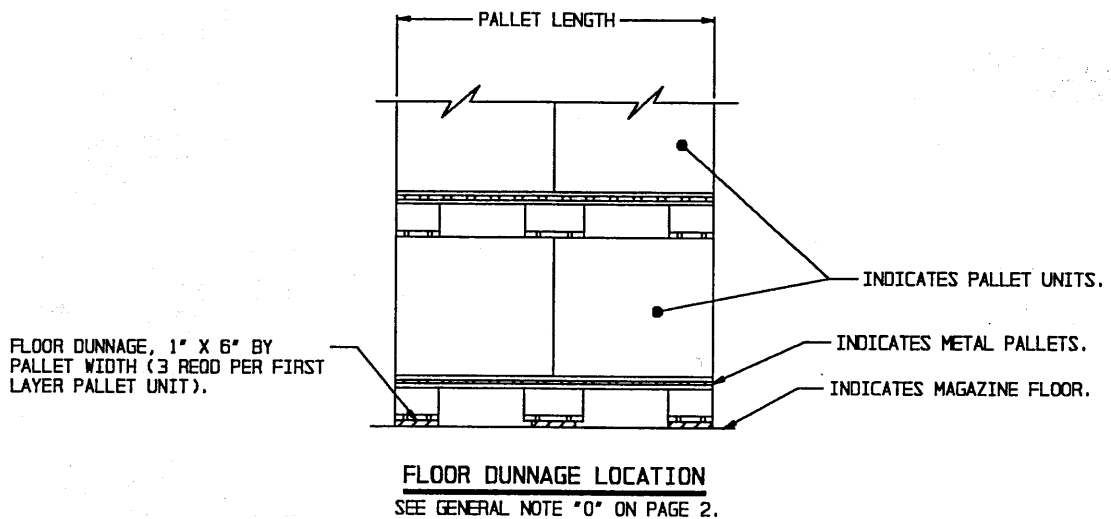
5. EACH LOT WITHIN THE MAGAZINE MUST BE ACCESSIBLE FOR MOVEMENT BY MHE. PALLET UNITS OF A SINGLE-LOT OR MIXED-LOT PALLET UNITS ARE CONSIDERED "ACCESSIBLE" IF NO MORE THAN TWENTY-FOUR (24) "LIFTS" OF ANOTHER LOT OR LOTS HAVE TO BE MADE TO GAIN ACCESS TO THE SINGLE-LOT OR MIXED-LOT UNITS. A "LIFT" MAY CONSIST OF ONE (1) OR MORE PALLET UNITS, PROVIDING THE CAPACITY OF MHE PERMITS, AND SAFE HANDLING IS NOT JEOPARDIZED.
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. THE MHE AISLE MAY BE USED TO STORE ONE OR MORE STACKS OF ADDITIONAL LOTS OR ADDITIONAL ITEMS THAT ARE FROM A LOT ADJACENT TO THE MHE AISLE. THIS ADDITIONAL STORAGE IS TO BE ARRANGED IN A MANNER SIMILAR TO ARRANGEMENTS DEPICTED ON PAGES 87 AND 89 FOR THE "ADDITIONAL STORAGE LOCATIONS" (SHOWN BY DOTTED LINES). ADEQUATE SPACE FOR MHE OPERATION, AS DESCRIBED ON PAGES 87 AND 89, MUST BE MADE AVAILABLE FOR THE ADDITIONAL STORAGE. ALSO, COMPLIANCE WITH ALL OF THE MULTIPLE-LOT CRITERIA AS SET FORTH ON THIS PAGE MUST BE OBSERVED.
8. THE DEPICTED MULTIPLE-LOT STORAGE PROCEDURES FOR RECTANGULAR MAGAZINES MAY BE USED AS GUIDANCE FOR THE STORAGE OF MULTIPLE LOTS IN TYPE II AND TYPE III AMMUNITION BUNKERS.



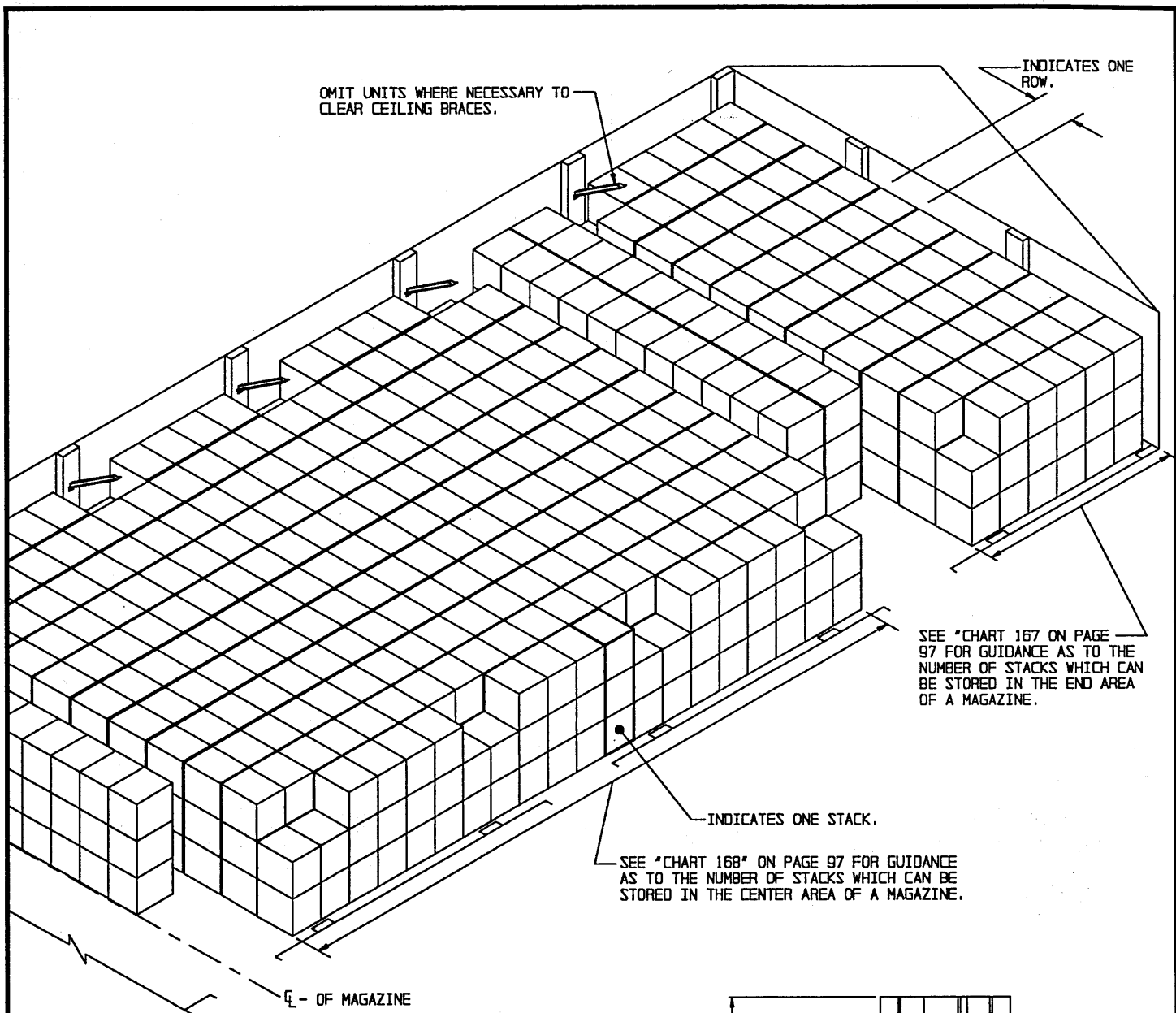
SPECIAL NOTES:

1. WHEN AN UPPER TIER OF PALLETIZED UNITS IS STAGGERED ABOVE A LOWER TIER IT MAY BE NECESSARY TO INSTALL FILLER PIECES UNDER THE BOTTOM DECKBOARD AS SHOWN ABOVE, TO PROVIDE SUPPORT AND STACK STABILITY.
2. IF A SPECIFIC UNIT SHOULD HAVE CLEATES UNDER THE MIDDLE BOTTOM DECKBOARD AND NOT UNDER THE TWO OUTER BOTTOM DECKBOARDS, THEN ONE INCH (1") THICK MATERIAL WILL BE REQUIRED UNDER EACH OF THE OUTER BOTTOM DECKBOARDS TO STABILIZE THE STACK.

FOR "GENERAL NOTES" AND "MATERIAL SPECIFICATIONS" SEE PAGE 2.

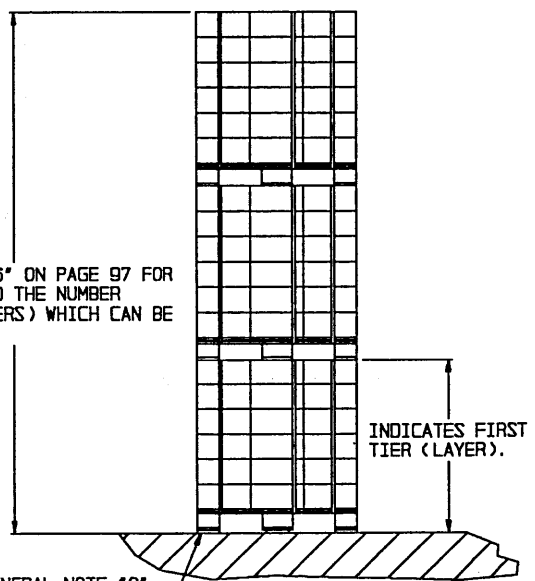


DETAILS



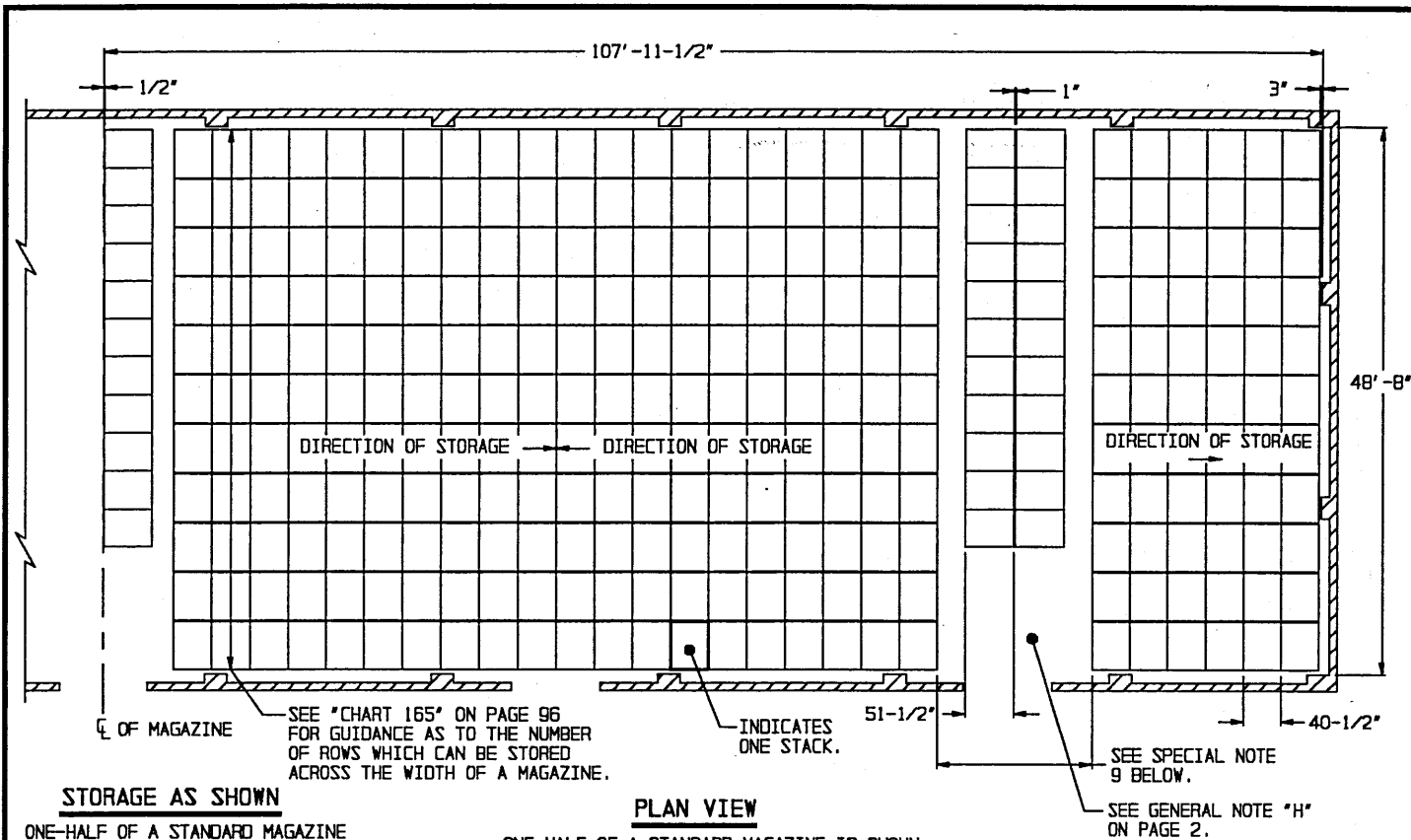
ISOMETRIC VIEW

ONE-HALF OF A STANDARD MAGAZINE IS SHOWN.



SEE GENERAL NOTE "0" ON PAGE 2.

TYPICAL STACK



STORAGE AS SHOWN

ONE-HALF OF A STANDARD MAGAZINE

ITEM	QUANTITY
PALLETIZED UNIT - - -	939

PALLETIZED UNIT - - - 939

SPECIAL NOTES:

1. THE TYPICAL PALLETIZED UNIT SHOWN HAS OVERALL DIMENSIONS OF 40-1/2' LONG BY 51-1/2' WIDE BY 46' HIGH. THE QUANTITY OF UNITS, THE NUMBER OF STACKS, ROWS, AND TIERS (LAYERS) WILL VARY DEPENDENT UPON THE SIZE OF THE UNIT BEING STORED. SEE THE SPECIAL NOTES AND CHARTS ON PAGES 96 AND 97 FOR GUIDANCE. AS MANY UNITS AS POSSIBLE WILL BE STORED WITHIN THE MAGAZINE.
2. PALLETIZED UNITS WILL BE STACKED IN VERTICAL ALIGNMENT. STAGGERED STACKING AS SHOWN FOR IGL00, STRADLEY, AND OVAL-ARCH MAGAZINE STORAGE IS NOT APPLICABLE FOR STORAGE IN STANDARD MAGAZINES.
3. A THREE INCH (3") MINIMUM SPACE MUST BE PROVIDED BETWEEN THE STORED PALLETIZED UNITS AND THE PILASTERS OF THE MAGAZINE. AS MANY UNITS AS POSSIBLE WILL BE STORED ACROSS THE WIDTH OF THE MAGAZINE. THE EXCESS SPACE REMAINING SHOULD BE EQUALLY DIVIDED BETWEEN THE ROWS. AT LEAST ONE INCH (1") SHOULD BE MAINTAINED SO AS TO FACILITATE STORAGE PLACEMENT AND TO PROVIDE FOR LOT SEPARATION, AS APPLICABLE.
4. IN SOME INSTANCES, LOTS CONSISTING OF NARROW UNITS MUST BE STORED TWO (2) UNITS WIDE TO PROVIDE SUFFICIENT OPERATING WIDTH FOR THE MATERIALS HANDLING EQUIPMENT (MHE). IF THE UNIT DIMENSION WHICH IS POSITIONED ACROSS THE WIDTH OF THE MAGAZINE, LENGTH OR WIDTH OF THE PALLETIZED UNIT AS APPLICABLE, IS GREAT ENOUGH TO PROVIDE SUFFICIENT MHE OPERATING WIDTH, 2-WIDE STORING WILL NOT BE NECESSARY.
5. FOR STANDARD MAGAZINES WITH CEILINGS, THE MAXIMUM HEIGHT OF STACKS WILL BE 13'-6". SEE "CHART 166" ON PAGE 97 FOR GUIDANCE AS TO THE NUMBER OF TIERS (LAYERS) WHICH CAN BE STORED, BASED ON THE HEIGHT OF THE UNIT. IN STANDARD MAGAZINES THAT DO NOT HAVE CEILINGS, PALLETIZED UNITS MAY BE STORED BETWEEN THE TRUSSES TO WITHIN 18" OF THE ROOF RAFTERS AS LONG AS THE MAXIMUM FLOOR LOAD AS PRESCRIBED BY LOCAL STANDARDS IS NOT EXCEEDED AND THE STABILITY OF THE STACK IS MAINTAINED.
6. PALLETIZED UNITS WILL BE OMITTED WHERE NECESSARY TO CLEAR CEILING BRACES.
7. CAUTION: THE ALLOWABLE "EXPLOSIVE LIMIT" ESTABLISHED FOR A MAGAZINE IS NOT TO BE EXCEEDED.

(CONTINUED AT RIGHT)

(SPECIAL NOTES CONTINUED)

8. MAXIMUM FLOOR LOADS PRESCRIBED BY THE LOCAL POST ENGINEER WILL NOT BE EXCEEDED.
9. CHARTS ARE SHOWN ON PAGES 96 AND 97 WHICH CAN BE USED AS GUIDANCE IN DEVELOPING A STORAGE PATTERN AND IN CALCULATING THE QUANTITY OF UNITS WHICH CAN BE STORED. THE NUMBER OF STACKS SPECIFIED IN CHARTS 167 AND 168 ARE BASED ON A MATERIALS HANDLING EQUIPMENT (MHE) AISLE OF AT LEAST 7'-7" PLUS THE LENGTH OR WIDTH OF THE PALLET UNIT, AS APPLICABLE, OR THE LENGTH OF THE FORKLIFT TRUCK TINES (40") WHICHEVER IS THE GREATEST. THE NUMBER OF STACKS AND/OR THE SIZE RANGE OF UNITS MAY VARY IF THE AVAILABLE MHE CAN OPERATE IN NARROWER AISLES.
10. THE BASIC PATTERN AS SHOWN CAN ALSO BE USED FOR THE STORING OF MORE THAN ONE LOT. LOTS MAY BE STORED WITH ONE OR MORE ROWS FOR EACH LOT. 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 TWENTY-FOUR (24) "LIFTS" OF ANOTHER LOT OR LOTS HAVE TO BE MADE TO GAIN ACCESS TO THAT LOT. A "LIFT" MAY CONSIST OF ONE (1) OR MORE PALLET UNITS, PROVIDING THE CAPACITY OF THE MHE PERMITS, AND SAFE HANDLING IS NOT JEOPARDOIZED.
11. IF DESIRED, AND IF NOT IN VIOLATION OF SURVEILLANCE REQUIREMENTS/PROCEDURES, ONE (1) SURVEILLANCE "CONTROL UNIT" SAMPLE MAY BE WITHHELD FROM EACH STORED LOT. IF THE MAGAZINE CONTAINS ONLY ONE (1) LOT IT IS RECOMMENDED THAT THIS "CONTROL UNIT" BE PLACED JUST INSIDE THE DOOR WHERE IT IS EASILY ACCESSIBLE. IF THE MAGAZINE CONTAINS SEVERAL LOTS, THE "CONTROL UNIT" SAMPLES SHOULD BE PLACED ADJACENT TO THE MHE OPERATING AISLE FOR ACCESSIBILITY.

SPECIAL NOTES:

1. THE CHARTS ON THIS PAGE AND ON PAGE 97 ARE PRESENTED AS GUIDANCE IN THE DEVELOPMENT OF A PATTERN FOR THE STORAGE OF PALLETIZED UNITS OF AMMUNITION AND COMPONENTS IN STANDARD MAGAZINES. TO A CERTAIN EXTENT, THE CHARTS MAY ALSO BE USED IN CALCULATING THE QUANTITY OF UNITS WHICH CAN BE STORED. NOTICE: THE CHARTS ARE FOR GUIDANCE PURPOSES ONLY. VARIATIONS IN PALLETIZED UNIT OVERALL SIZES, THE COMPACTNESS OF PLACEMENT WITHIN A MAGAZINE, AS WELL AS VARIANCE IN THE INSIDE DIMENSIONS OF THE STANDARD MAGAZINE CAN CAUSE DISCREPANCIES WITHIN THE CHARTS.
2. THE FOLLOWING STEP-BY-STEP PROCEDURES ARE PRESENTED AS GUIDANCE IN USING THE DEPICTED CHARTS. SEE THE "EXAMPLE" BELOW.

CHART NO. 165		NUMBER OF ROWS ACROSS THE WIDTH	
UNIT LENGTH OR WIDTH		NUMBER OF ROWS	
	35"		16
OVER 35"	TO 37"		15
OVER 37"	TO 40"		14
OVER 40"	TO 43"		13
OVER 43"	TO 47"		12
OVER 47"	TO 52"	---	11
OVER 52"	TO 54"		10

STEP 1

LOCATE IN THE LEFT HAND COLUMN OF CHART 165 THE LENGTH OR WIDTH DIMENSION RANGE WHICH INCLUDES THE DIMENSION OF THE UNIT TO BE STORED. OPPOSITE THAT LENGTH OR WIDTH FIGURE IS INDICATED THE NUMBER OF ROWS WHICH CAN BE STORED ACROSS THE WIDTH OF THE MAGAZINE AT THAT DIMENSION.

STEP 2

LOCATE IN THE LEFT HAND COLUMN OF CHART 166 THE HEIGHT RANGE WHICH INCLUDES THE HEIGHT OF THE UNIT TO BE STORED. OPPOSITE THAT HEIGHT FIGURE IS INDICATED THE NUMBER OF TIERS (LAYERS) WHICH CAN BE STORED BENEATH THE TRUSSES OF THE MAGAZINE.

STEP 3

LOCATE IN THE LEFT HAND COLUMN OF CHART 167 THE LENGTH OR WIDTH DIMENSION RANGE WHICH INCLUDES THE DIMENSION OF THE UNIT TO BE STORED. OPPOSITE THAT LENGTH OR WIDTH FIGURE IS INDICATED THE NUMBER OF STACKS WHICH CAN BE STORED IN THE LENGTH OF AN END AREA OF A MAGAZINE.

STEP 4

REPEAT STEP 3 FOR CHART 168 TO DETERMINE THE NUMBER OF STACKS WHICH CAN BE STORED IN THE LENGTH OF A CENTER AREA OF A MAGAZINE.

EXAMPLE

THE PALLETIZED UNIT SHOWN IN THE TYPICAL STORAGE VIEWS ON PAGES 94 AND 95 HAS BEEN SELECTED FOR THE EXAMPLE. THE UNIT IS 40-1/2" LONG BY 51-1/2" WIDE BY 46" HIGH. A STORAGE PATTERN CAN BE DETERMINED BY FOLLOWING THE DOTTED-LINE EXAMPLE WITHIN THE CHARTS, IN CONJUNCTION WITH USING THE STEP-BY-STEP PROCEDURES SPECIFIED ABOVE. THE 47" TO 52" DIMENSION RANGE IS INDICATED IN THE LEFT HAND COLUMN OF CHART 165, WHICH IN THIS EXAMPLE REPRESENTS THE PALLET UNIT WIDTH. IN THE SECOND COLUMN OF THE CHART IS INDICATED THE FIGURE 11 WHICH SPECIFIES THE NUMBER OF ROWS WHICH CAN BE POSITIONED ACROSS THE WIDTH OF THE MAGAZINE. THE OVER 40" TO 54" DIMENSION RANGE INDICATED IN THE LEFT HAND COLUMN OF CHART 166 INCLUDES THE HEIGHT OF THE UNIT BEING STORED. IN THE SECOND COLUMN IS INDICATED THE FIGURE 3 WHICH SPECIFIES THE NUMBER OF TIERS (LAYERS) WHICH CAN BE POSITIONED WITHOUT EXTENDING ABOVE THE BOTTOM SURFACES OF THE TRUSSES. THE OVER 38" TO 44" DIMENSION RANGE INDICATED IN THE LEFT HAND COLUMN OF CHART 167 INCLUDES EITHER LENGTH OR WIDTH OF THE UNIT. IN THE RIGHT HAND COLUMN OF THE CHART IS INDICATED THE FIGURE 6 WHICH SPECIFIES THE NUMBER OF STACKS WHICH CAN BE STORED IN THE LENGTH OF AN END AREA OF A MAGAZINE. THE OVER 39" TO 41" DIMENSION RANGE INDICATED IN THE LEFT HAND COLUMN OF CHART 168 INCLUDES THE LENGTH OF THE PALLET UNIT. IN THE RIGHT HAND COLUMN OF THE CHART IS INDICATED THE FIGURE 20 WHICH SPECIFIES THE NUMBER OF STACKS WHICH CAN BE STORED IN THE LENGTH OF A CENTER AREA OF A MAGAZINE.

FOR STORAGE WITHIN THE MHE AISLE, THE OVER 50" TO 51-1/2" DIMENSION RANGE INDICATED IN THE LEFT HAND COLUMN OF CHART 169 ON PAGE 97 INCLUDES THE WIDTH OF THE UNIT BEING STORED. IN THE SECOND COLUMN IS INDICATED THE FIGURE 2 WHICH SPECIFIES THE NUMBER OF ROWS WHICH CAN BE POSITIONED IN THE AISLE WIDTH WHEN THE UNITS ARE ORIENTED THE SAME AS THE UNITS IN THE LATERALLY ADJACENT ROWS. THE 40" TO 44" DIMENSION RANGE IN CHART 170 INCLUDES THE LENGTH OF THE UNIT BEING STORED. IN THE SECOND COLUMN IS INDICATED THE FIGURE 10 WHICH SPECIFIES THE NUMBER OF UNITS LONG IN EACH ROW. ADDITIONAL UNITS MAY BE POSITIONED IN ONE OR BOTH ROWS IF THE SPACE AND/OR AVAILABLE MHE PERMITS.

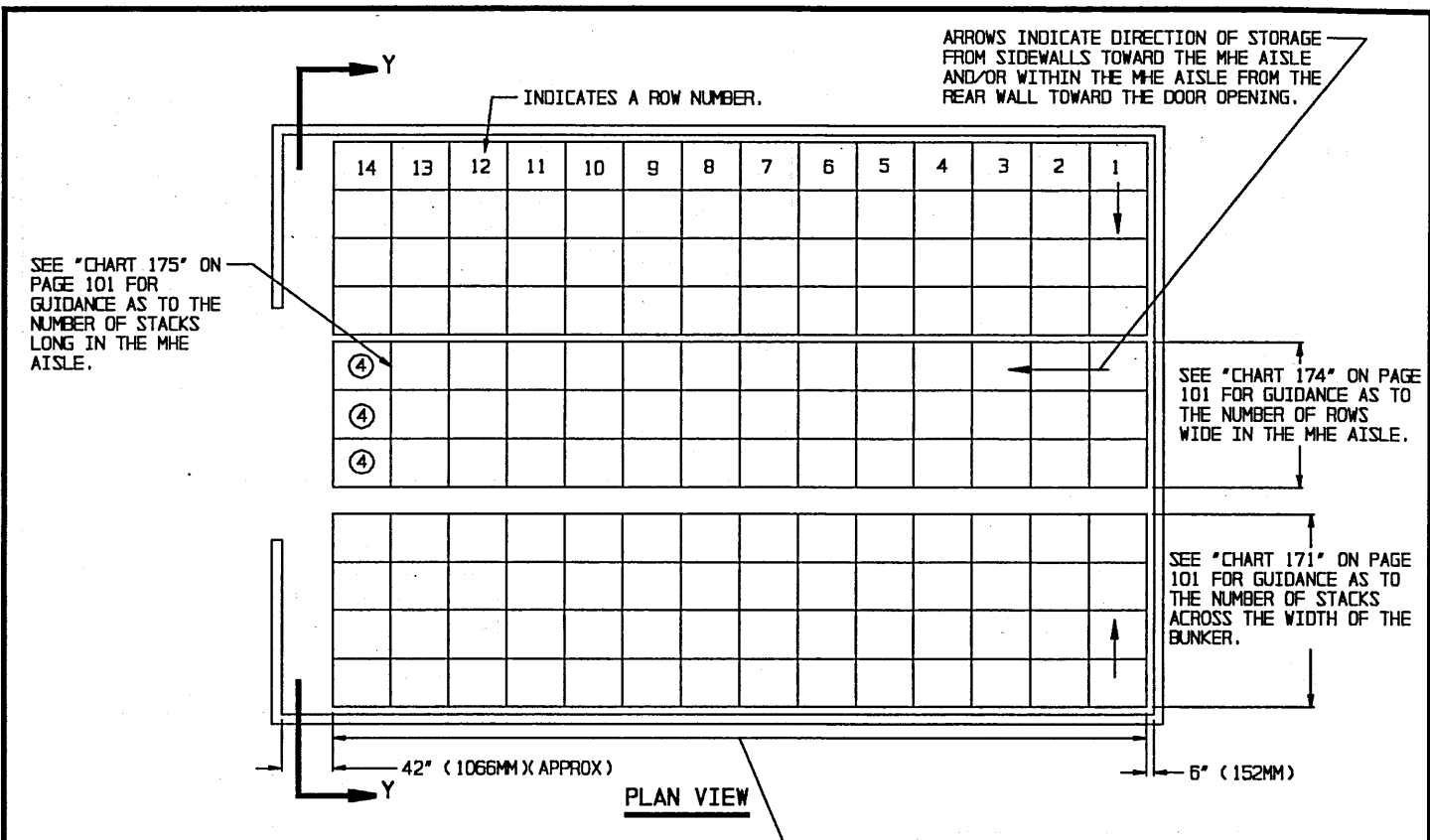
CHART NO. 166	
MAXIMUM NUMBER OF TIERS UNDER TRUSSES	
UNIT HEIGHT	NUMBER OF TIERS
15" TO 16"	10
OVER 16" TO 18"	9
OVER 18" TO 20"	8
OVER 20" TO 23"	7
OVER 23" TO 27"	6
OVER 27" TO 32"	5
OVER 32" TO 40"	4
OVER 40" TO 54"	3

CHART NO. 169		
NUMBER OF ROWS WIDE IN MHE AREA		
UNIT DIM LENGTHWISE IN MAGAZINE	NUMBER OF ROWS WIDE	
	UNIT AT SAME POSITION	ALTERNATIVE UNIT POSITION
35" TO 36"	3	2 AT 45-1/2" TO 51-1/2"
OVER 36" TO 38"	2	2 AT 45-1/2" TO 51-1/2"
OVER 38" TO 39"	3	2 AT 45-1/2" TO 51-1/2"
OVER 39" TO 40"	3	2 AT 45-1/2" TO 54"
OVER 40" TO 44"	2	2 AT 48" TO 54"
OVER 44" TO 47"	3	3 AT 35" TO 39"
OVER 47" TO 50"	2	3 AT 35" TO 39" OR
		2 AT 40" TO 44"
OVER 50" TO 51-1/2"	2	2 AT 35" TO 39"
OVER 51-1/2" TO 54"	2	2 AT 40" TO 44"

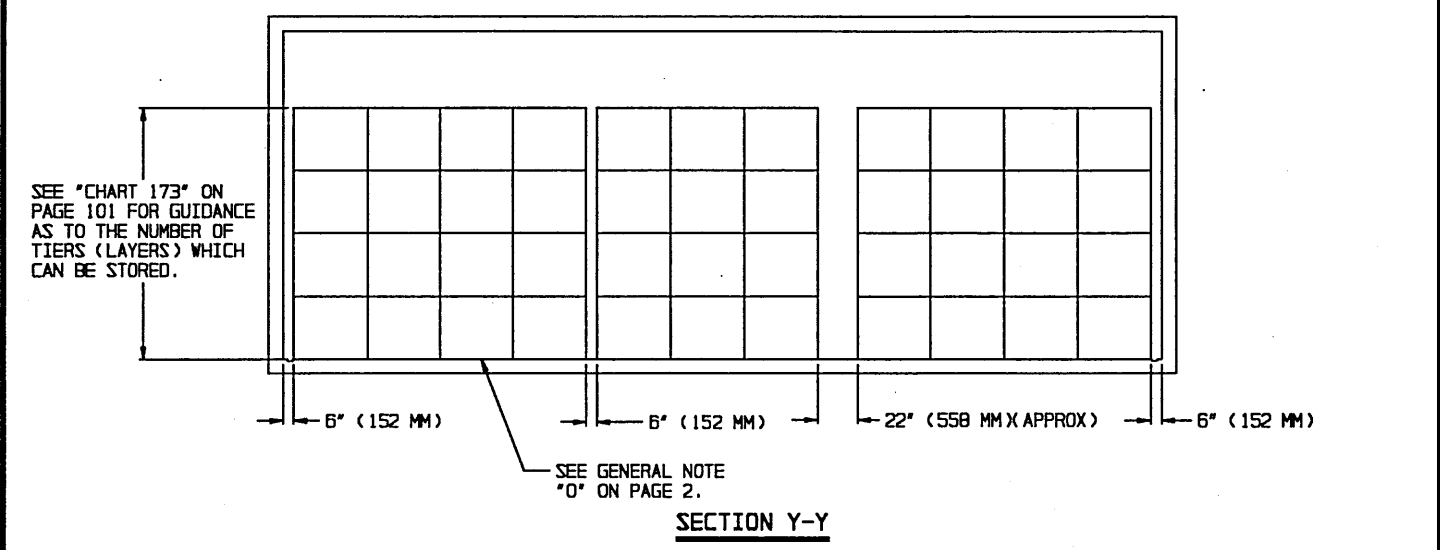
CHART NO. 167	
NUMBER OF STACKS LONG IN END AREA	
UNIT LENGTH OR WIDTH	NUMBER OF STACKS
35" TO 38"	7
OVER 38" TO 44"	6
OVER 44" TO 52"	5
OVER 52" TO 54"	4

CHART NO. 170	
NUMBER OF STACKS LONG IN MHE AREA	
UNIT LENGTH OR WIDTH	NUMBER OF STACKS
35" TO 38"	12
OVER 38" TO 40"	11
OVER 40" TO 44"	10
OVER 44" TO 48"	9
OVER 48" TO 54"	8

CHART NO. 168	
NUMBER OF STACKS LONG IN CENTER AREA	
UNIT LENGTH OR WIDTH	NUMBER OF STACKS
35" TO 36"	23
OVER 36" TO 37"	22
OVER 37" TO 39"	21
OVER 39" TO 41"	20
OVER 41" TO 43"	19
OVER 43" TO 45"	18
OVER 45" TO 48"	17
OVER 48" TO 51"	16
OVER 51" TO 54"	15

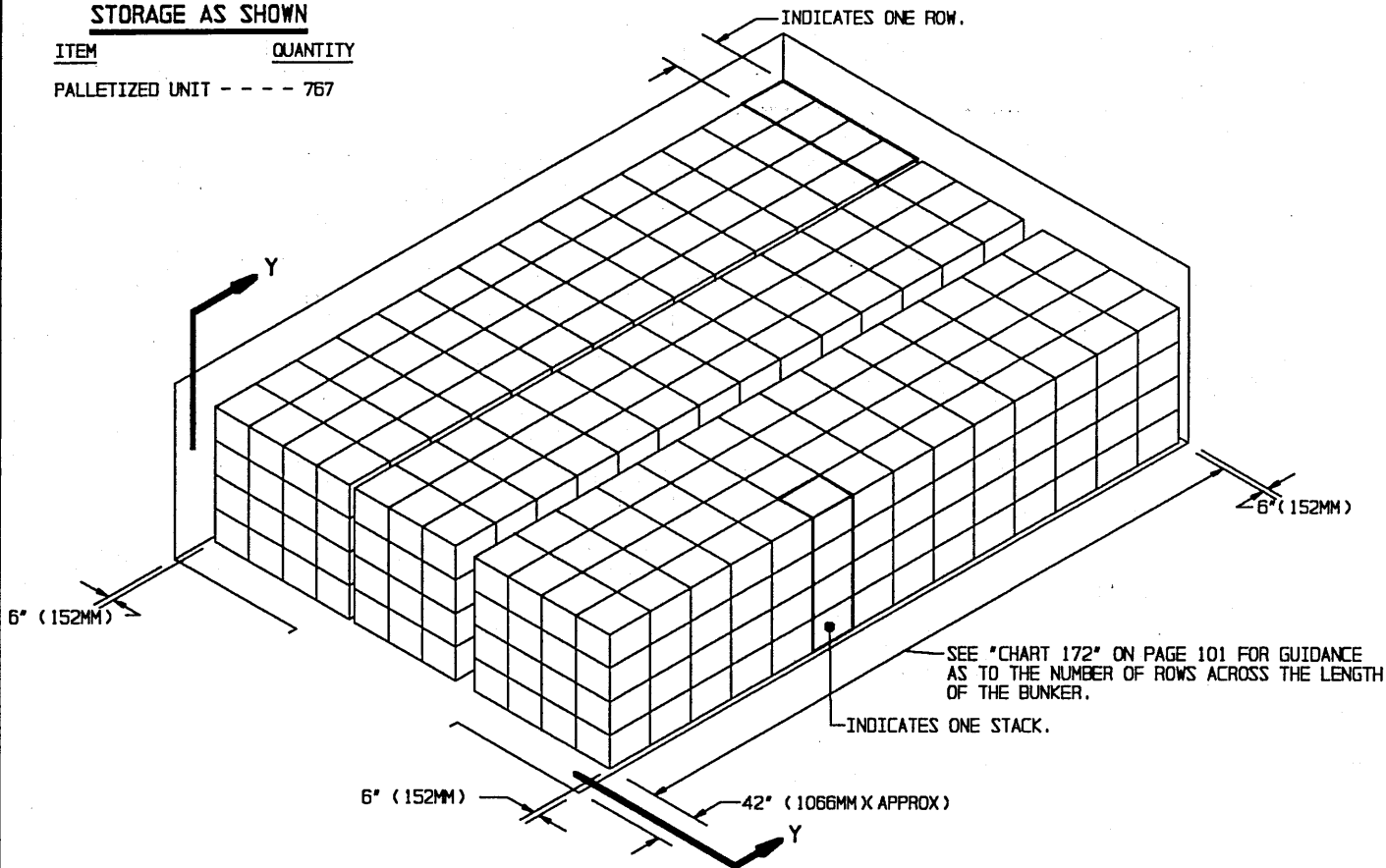


SEE "CHART 172" ON PAGE 101 FOR GUIDANCE AS TO THE NUMBER OF ROWS ACROSS THE LENGTH OF THE BUNKER.



STORAGE AS SHOWN

ITEM	QUANTITY
PALLETIZED UNIT - - - -	767



ISOMETRIC VIEW

SPECIAL NOTES:

1. THE TYPICAL PALLETIZED UNIT SHOWN HAS OVERALL DIMENSIONS OF 40' LONG BY 48" WIDE BY 34-1/2' HIGH. THE QUANTITY OF UNITS, THE NUMBER OF STACKS, ROWS AND TIERS (LAYERS) WILL VARY DEPENDENT UPON THE SIZE OF THE UNIT BEING STORED. SEE THE SPECIAL NOTES AND CHARTS ON PAGES 100 AND 101 FOR GUIDANCE. AS MANY UNITS AS POSSIBLE WILL BE STORED WITHIN THE AMMUNITION BUNKER.
2. PALLETIZED UNITS WILL BE STACKED IN VERTICAL ALIGNMENT. STAGGERED STACKING AS SHOWN FOR IGLOO, ARCH TYPE, STRADLEY AND OVAL-ARCH MAGAZINE STORAGE IS NOT APPLICABLE FOR STORAGE IN AMMUNITION BUNKERS.
3. 6" (152 MM) MINIMUM SPACE WILL BE PROVIDED BETWEEN THE REAR WALL AND/ OR A SIDE WALL AND THE PALLETIZED UNITS.
4. THE ARROWS ON THE PLAN VIEW ON PAGE 98 INDICATE THE DIRECTION OF STORAGE FROM THE WALLS TOWARD THE MHE AISLE, OR WITHIN THE MHE AISLE FROM THE REAR WALL TOWARD THE DOOR OPENING.
5. 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 STORAGE VIEWS HEREIN UNLESS TWO UPPER PALLET UNITS ARE HANDLED AS ONE LIFT OR THE PACKAGE GUARD IS REMOVED (TINE CARRIAGE WILL IN MOST CASES PROVIDE ADEQUATE PACKAGE GUARD PROTECTION). ONLY A FORKLIFT OF ADEQUATE CAPACITY WILL BE USED WHEN LIFTING TWO PALLET UNITS AS ONE LIFT.
6. PALLET UNITS ALONG EACH SIDE OF THE BUNKER MAY BE STORED WITH EITHER THE UNIT LENGTH OR THE UNIT WIDTH ACROSS THE WIDTH OF THE BUNKER. ONE POSITIONING MAY PROVIDE DENSER STORAGE THAN THE OTHER, AND THE BEST METHOD SHOULD BE PRIOR DETERMINED BY STUDYING THE CHARTS ON PAGE 101.

(SPECIAL NOTES CONTINUED)

7. IN SOME INSTANCES, ROWS OF NARROW UNITS MUST BE STORED TWO (2) UNITS WIDE TO PROVIDE SUFFICIENT OPERATING WIDTH FOR THE MATERIALS HANDLING EQUIPMENT (MHE). IF THE UNIT DIMENSION WHICH IS POSITIONED ACROSS THE WIDTH OF THE BUNKER, LENGTH OR WIDTH OF THE PALLETIZED UNIT AS APPLICABLE, IS GREAT ENOUGH TO PROVIDE SUFFICIENT MHE OPERATING WIDTH, 2-WIDE STORING WILL NOT BE NECESSARY.
8. REFER TO THE TYPICAL MULTIPLE-LOT STORAGE FOR RECTANGULAR MAGAZINE ON PAGE 92 FOR GUIDANCE IN THE STORAGE OF MULTIPLE LOTS IN A TYPE II BUNKER.
9. THE NUMBER OF STACKS LONG IN THE ROW ON EACH SIDE OF THE MAGAZINE IS BASED ON HAVING A MATERIAL HANDLING EQUIPMENT OPERATING AISLE (DISTANCE FROM A STACK ON ONE SIDE OF THE CENTER AISLE TO A STACK ON THE OPPOSITE SIDE OF THE AISLE) OF 7'-7" PLUS THE LENGTH OR WIDTH OF THE UNIT, AS APPLICABLE, OR THE LENGTH OF THE FORKLIFT TRUCK TINES (40'), WHICH EVER IS THE GREATEST.
10. IF DESIRED, AND NOT IN VIOLATION OF SURVEILLANCE REQUIREMENTS/ PROCEDURES, ONE (1) SURVEILLANCE "CONTROL UNIT" SAMPLE MAY BE WITHHELD FROM EACH STORED LOT. IF THE MAGAZINE CONTAINS ONLY ONE (1) LOT IT IS RECOMMENDED THAT THIS "CONTROL UNIT" BE PLACED JUST INSIDE THE DOOR WHERE IT IS EASILY ACCESSIBLE. IF THE MAGAZINE CONTAINS SEVERAL LOTS, THE "CONTROL UNIT" SAMPLES SHOULD BE PLACED ADJACENT TO THE MHE OPERATING AISLE FOR ACCESSIBILITY.

(CONTINUED AT RIGHT)

SPECIAL NOTES:

1. THE CHARTS ON PAGE 101 ARE PRESENTED AS GUIDANCE IN THE DEVELOPMENT OF A PLAN FOR THE STORAGE OF PALLETIZED UNITS OF AMMUNITION AND COMPONENTS IN 60'-0" LONG BY 40'-0" WIDE TYPE II AMMUNITION BUNKERS. TO A CERTAIN EXTENT, THE CHARTS MAY ALSO BE USED IN CALCULATING THE QUANTITY OF UNITS WHICH CAN BE STORED. NOTICE: THE CHARTS ARE FOR GUIDANCE PURPOSES ONLY. VARIATIONS IN PALLETIZED UNIT OVERALL SIZES, THE COMPACTNESS OF PLACEMENT WITHIN A BUNKER, AS WELL AS VARIANCE IN THE INSIDE DIMENSIONS OF THE BUNKER CAN CAUSE DISCREPANCIES WITHIN THE CHARTS.
2. THE FOLLOWING STEP-BY-STEP PROCEDURES ARE PRESENTED AS GUIDANCE IN USING THE DEPICTED CHARTS. SEE THE "EXAMPLE" BELOW.

STEP 1

LOCATE IN THE LEFT HAND COLUMN OF CHART 171 ON PAGE 101 THE LENGTH OR WIDTH DIMENSION RANGE WHICH INCLUDES THE DIMENSION OF THE UNIT TO BE STORED IN THE 40'-0" WIDTH OF THE BUNKER. OPPOSITE THAT LENGTH OR WIDTH FIGURE ARE TWO COLUMNS. THE FIRST COLUMN INDICATES THE NUMBER OF STACKS WHICH CAN BE PLACED BETWEEN ONE SIDE WALL AND THE MHE AISLE. THE SECOND COLUMN INDICATES THE NUMBER OF STACKS WHICH CAN BE PLACED ON THE OPPOSITE SIDE OF MHE AISLE.

STEP 2

LOCATE IN THE LEFT HAND COLUMN OF CHART 172 THE LENGTH OR WIDTH DIMENSION RANGE WHICH INCLUDES THE DIMENSION OF THE UNIT TO BE STORED IN THE 60'-0" LENGTH OF THE BUNKER. OPPOSITE THAT LENGTH OR WIDTH DIMENSION IS INDICATED THE TOTAL NUMBER OF ROWS WHICH CAN BE STORED BETWEEN THE 6" SPACE AT THE REAR OF THE BUNKER AND THE FRONT WALL.

STEP 3

LOCATE IN THE LEFT HAND COLUMN OF CHART 173 THE HEIGHT RANGE WHICH INCLUDES THE HEIGHT OF THE UNIT TO BE STORED. OPPOSITE THAT HEIGHT FIGURE IS INDICATED THE NUMBER OF TIERS (LAYERS) WHICH CAN BE STORED.

STEP 4

LOCATE IN THE LEFT HAND COLUMN OF CHART 174 THE LENGTH OR WIDTH RANGE WHICH INCLUDES THE DIMENSION OF THE UNIT WHICH IS TO BE STORED IN THE 40'-0" WIDTH OF THE BUNKER. THE COLUMN IMMEDIATELY ADJACENT INDICATES THE NUMBER OF ROWS WHICH CAN BE PLACED IN THE MHE AREA WIDTH WHEN THE UNITS ARE ORIENTED THE SAME AS THE UNITS IN THE LATERALLY ADJACENT ROWS. THE NEXT COLUMN INDICATES THE NUMBER OF ROWS AND THE LENGTH OR WIDTH DIMENSION RANGE OF THE UNITS WHEN THEY ARE ROTATED 90° TO THOSE IN LATERALLY ADJACENT ROWS.

STEP 5

LOCATE IN THE LEFT HAND COLUMN OF CHART 175 THE LENGTH OR WIDTH RANGE WHICH INCLUDES THE DIMENSION OF THE UNIT TO BE STORED IN THE LENGTH OF THE MHE AISLE. OPPOSITE THAT LENGTH OR WIDTH DIMENSION IS INDICATED THE NUMBER OF STACKS IN THE ROWS WITHIN THE MHE AISLE WHEN SUFFICIENT SPACE IS ALLOWED AT THE END OF THE ROWS FOR PERSONNEL TO ENTER THE DOOR AND PROCEED TO THE ACCESS AISLE. NOTE THAT ADDITIONAL STACKS MAY BE POSITIONED IN ONE OR MORE ROWS IF SPACE PERMITS.

EXAMPLE

THE PALLETIZED UNIT SHOWN IN THE VIEWS ON PAGES 98 AND 99 HAS BEEN SELECTED FOR THE EXAMPLE. THE UNIT IS 40" LONG BY 48" WIDE BY 34-1/2" HIGH. A STORAGE PATTERN CAN BE DETERMINED BY FOLLOWING THE DOTTED-LINE EXAMPLE WITHIN CHARTS 171 THROUGH 175 ON PAGE 101 IN CONJUNCTION WITH USING THE STEP-BY-STEP PROCEDURES ABOVE.

TO FIND THE NUMBER OF PALLET STACKS IN THE 40'-0" WIDTH OF THE BUNKER LOOK IN THE LEFT HAND COLUMN OF CHART 171 ON PAGE 101 UNDER THE UNIT LENGTH OR WIDTH. THE 40" IS WITHIN THE OVER 37" TO 42" RANGE. FOLLOWING THE ARROWS ALONG THE DOTTED LINE TO THE RIGHT, THE FIRST COLUMN INDICATES THAT 4 STACKS CAN BE STORED ON ONE SIDE OF THE MHE AISLE AND THE SECOND COLUMN INDICATES THAT 4 STACKS CAN BE STORED ON THE OPPOSITE SIDE.

(CONTINUED AT RIGHT)

(SPECIAL NOTES CONTINUED)

TO FIND THE NUMBER OF ROWS IN THE 60'-0" LENGTH OF THE BUNKER, LOOK IN THE LEFT HAND COLUMN OF CHART 172. THE 48" WIDTH IS WITHIN THE OVER 46-1/2" TO 50" RANGE. FOLLOWING THE ARROW ALONG THE DOTTED LINE TO THE RIGHT INDICATES THAT 14 ROWS CAN BE PLACED IN THE BUNKER.

TO FIND THE NUMBER OF TIERS (LAYERS) WHICH CAN BE STORED, LOCATE THE UNIT HEIGHT OF 34-1/2" WITHIN THE OVER 29" TO 34-3/4" RANGE IN CHART 173. FOLLOWING THE ARROW ALONG THE DOTTED LINE TO THE RIGHT WE FIND THAT 5 TIERS CAN BE STORED.

IN CHART 174 THE 40" LENGTH DIMENSION WHICH IS ACROSS THE WIDTH OF THE BUNKER IS WITHIN THE OVER 39" TO 41" RANGE. THE ADJACENT COLUMN INDICATES THE NUMBER OF ROWS WIDE IN THE MHE AISLE WHEN THE PALLET UNITS ARE ORIENTED THE SAME AS THE LATERALLY ADJACENT ROWS. THE FIGURE 3 IN THAT COLUMN SPECIFIES THAT 3 ROWS AT 40" ACROSS THE WIDTH OF THE MHE AISLE CAN BE POSITIONED.

IN CHART 175 THE 48" WIDTH DIMENSION WHICH IS POSITIONED LENGTHWISE WITHIN THE MHE AISLE IS WITHIN THE OVER 46" TO 49" RANGE. FOLLOWING THE ARROW ALONG THE DOTTED LINE TO THE RIGHT INDICATES THAT 14 STACKS CAN BE POSITIONED WITHIN THE LENGTH OF THE MHE AISLE. THIS ALLOWS SUFFICIENT SPACE FOR PASSAGE BETWEEN THE LAST PALLET STACKS AND THE DOOR.

3. THE UNIT SIZE RANGE (LENGTH OR WIDTH) AND THE UNIT HEIGHT DIMENSIONS COVER ALL THE SIZES WITHIN THE RANGE SPECIFIED.

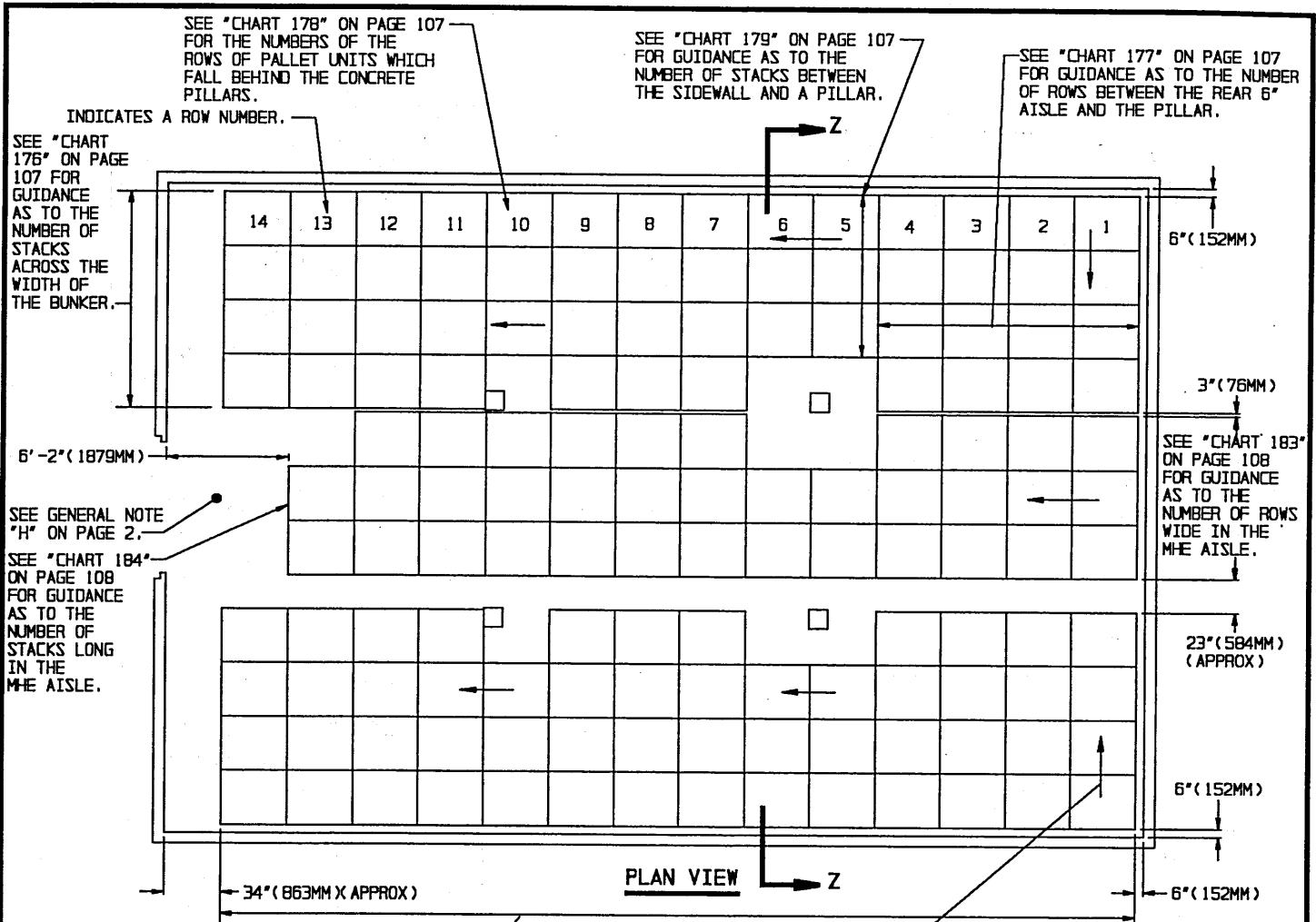
CHART NO. 171		
NUMBER OF STACKS ACROSS THE WIDTH		
UNIT LENGTH OR WIDTH	NUMBER OF STACKS	
	ONE SIDE	OPPOSITE SIDE
35" TO 37"	5	4
OVER 37" TO 42"	4	4
OVER 42" TO 48"	4	3
OVER 48" TO 54"	3	3

CHART NO. 174		
NUMBER OF ROWS WIDE IN MHE AISLE		
UNIT DIM ACROSS WIDTH OF MAGAZINE	NUMBER OF ROWS WIDE	
	UNIT AT SAME POSITION	ALTERNATIVE UNIT POSITION
35"	4	3 AT 45-1/2" TO 47"
OVER 35" TO 37"	3	2 AT 45-1/2" TO 51-1/2"
OVER 37" TO 38"	4	3 AT 45-1/2" TO 50-1/2"
OVER 38" TO 39"	3	3 AT 45-1/2" TO 48"
OVER 39" TO 41"	3	2 AT 48" TO 54"
OVER 41" TO 42"	2	2 AT 48" TO 54"
OVER 42" TO 43"	3	3 AT 48" TO 51-1/2", OR
OVER 43" TO 44"	3	2 AT 51-5/8" TO 54"
OVER 44" TO 45"	3	3 AT 48" TO 49", OR
OVER 45" TO 47"	2	2 AT 49-1/8" TO 54"
OVER 47" TO 48"	2	4 AT 35", OR
OVER 48" TO 49"	3	3 AT 35-1/8" TO 39"
OVER 49" TO 50"	3	3 AT 35" TO 39"
OVER 50" TO 54"	2	3 AT 40", OR
		2 AT 40-1/8" TO 44"
		4 AT 40" OR
		3 AT 40-1/8" TO 44"
		3 AT 40" TO 44"
		3 AT 40" TO 44"

CHART NO. 172	
NUMBER OF ROWS ACROSS THE LENGTH	
UNIT LENGTH OR WIDTH	NUMBER OF ROWS
35"	20
OVER 35" TO 37"	19
OVER 37" TO 39"	18
OVER 39" TO 41"	17
OVER 41" TO 44"	16
OVER 44" TO 46-1/2"	15
OVER 46-1/2" TO 50"	14
OVER 50" TO 54"	13

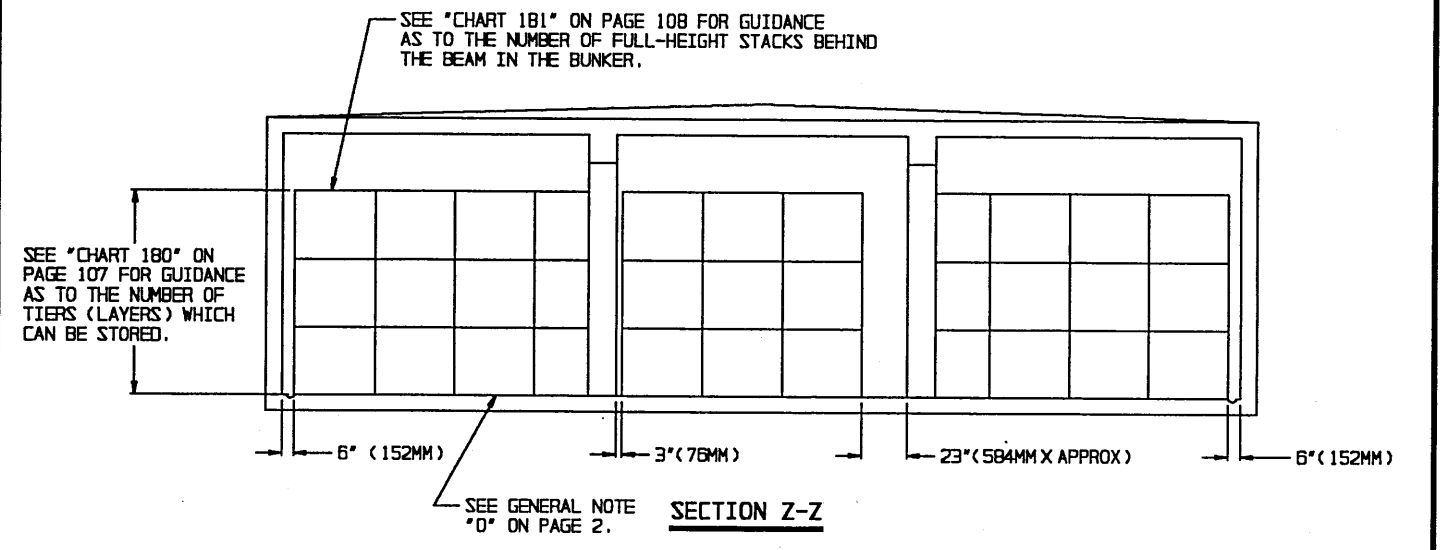
CHART NO. 175	
NUMBER OF STACKS LONG IN MHE AISLE	
UNIT LENGTH OR WIDTH	NUMBER OF STACKS
35" TO 36"	19
OVER 36" TO 38"	18
OVER 38" TO 40-1/2"	17
OVER 40-1/2 TO 43"	16
OVER 43" TO 46"	15
OVER 46" TO 48"	14
OVER 48" TO 53"	13
OVER 53" TO 54"	12

CHART NO. 173	
NUMBER OF TIERS	
UNIT HEIGHT	NUMBER OF TIERS
15" TO 15-3/4"	11
OVER 15-3/4" TO 17"	10
OVER 17" TO 19"	9
OVER 19" TO 21-1/2"	8
OVER 21-1/2" TO 24-1/2"	7
OVER 24-1/2" TO 29"	6
OVER 29" TO 34-3/4"	5
OVER 34-3/4" TO 43-1/2"	4
OVER 43-1/2" TO 54"	3



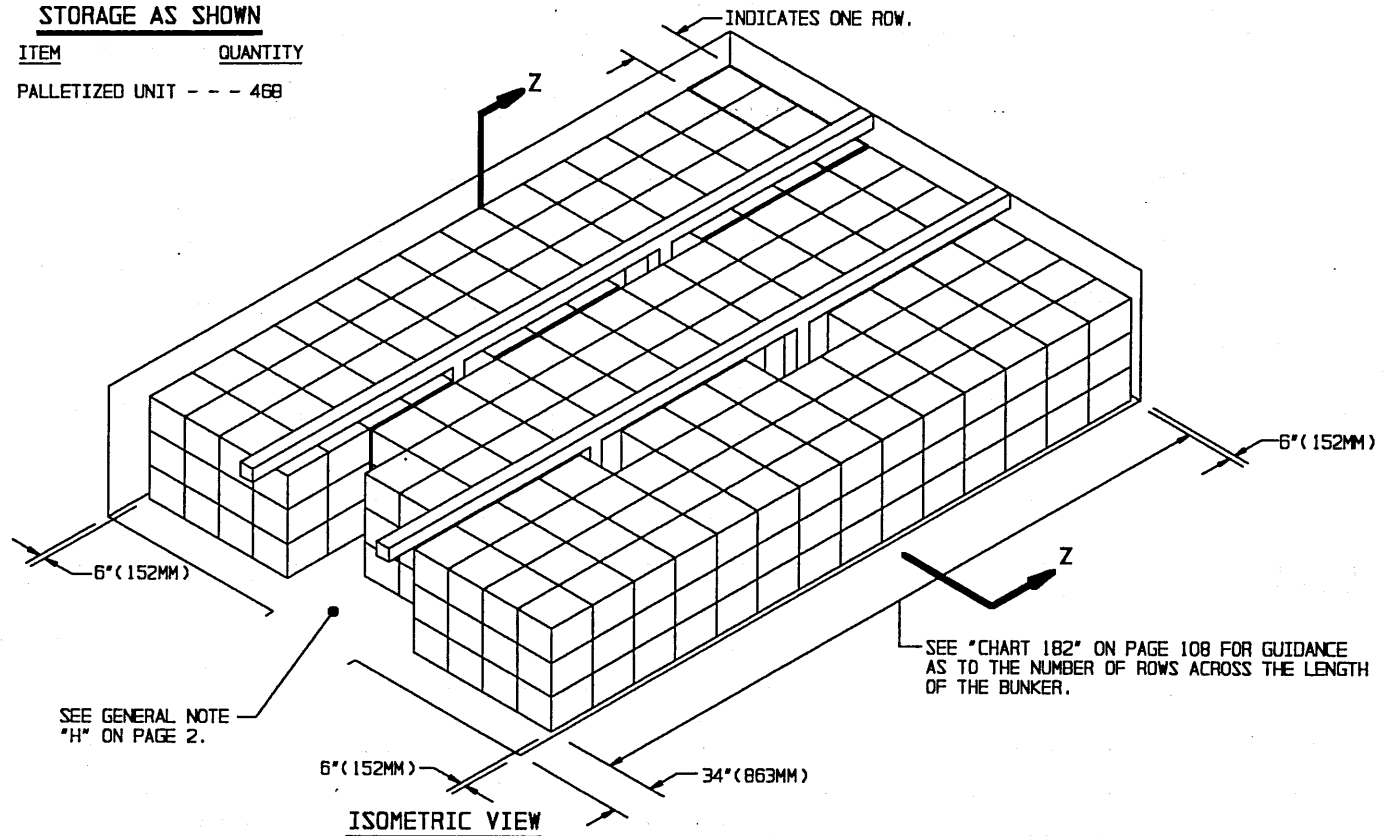
SEE "CHART 182" ON PAGE 108 FOR GUIDANCE AS TO THE NUMBER OF ROWS ACROSS THE LENGTH OF THE BUNKER.

ARROWS INDICATE DIRECTION OF STORAGE FROM SIDEWALL TOWARD THE MHE AISLE, OR FROM THE REAR TOWARD THE FRONT WALL, AND/OR WITHIN THE MHE AISLE FROM THE REAR WALL TOWARD THE DOOR OPENING.



STORAGE AS SHOWN

ITEM	QUANTITY
PALLETIZED UNIT - - -	468



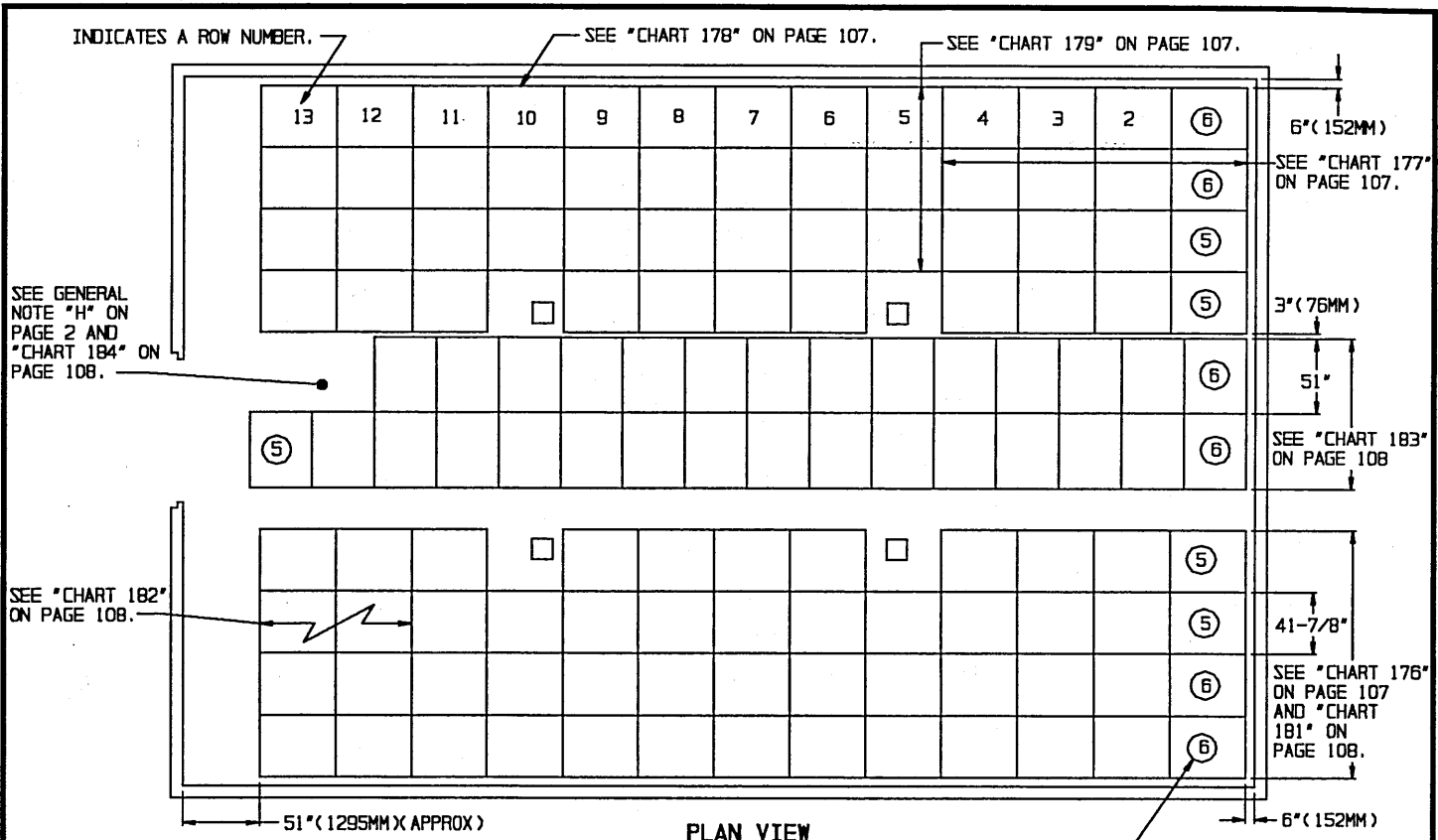
SPECIAL NOTES:

1. THE TYPICAL PALLETIZED UNIT SHOWN HAS OVERALL DIMENSIONS OF 40" LONG BY 48" WIDE BY 34-1/2" HIGH. THE QUANTITY OF UNITS, THE NUMBER OF STACKS, ROWS AND TIERS (LAYERS) WILL VARY DEPENDENT UPON THE SIZE OF THE UNIT BEING STORED. SEE THE SPECIAL NOTES AND CHARTS ON PAGES 106 THRU 108 FOR GUIDANCE. AS MANY UNITS AS POSSIBLE WILL BE STORED WITHIN THE AMMUNITION BUNKERS.
2. PALLETIZED UNITS WILL BE STACKED IN VERTICAL ALIGNMENT. STAGGERED STACKING AS SHOWN FOR IGLOO, ARCH TYPE, STRADLEY AND OVAL ARCH TYPE MAGAZINE STORAGE IS NOT APPLICABLE FOR STORAGE IN AMMUNITION BUNKERS.
3. A 6" (152MM) MINIMUM SPACE WILL BE PROVIDED BETWEEN THE REAR WALL, THE FRONT WALL, AND/OR THE SIDEWALLS AND THE PALLETIZED UNITS. CLEARANCE IS NOT REQUIRED BETWEEN THE STORED UNITS AND THE BUILDING PILLARS, ALTHOUGH A THREE INCH (3") (76MM) SPACE IS SHOWN TO FACILITATE STORAGE OPERATIONS.
4. THE ARROWS ON THE PLAN VIEW ON PAGE 102 INDICATE THE DIRECTION OF STORAGE FROM A SIDEWALL TOWARD THE MHE AISLE, OR FROM THE REAR TOWARD THE FRONT WALL, AND/OR WITHIN THE MHE AISLE FROM THE REAR WALL TOWARD THE DOOR OPENING.
5. 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 STORAGE VIEWS HEREIN UNLESS TWO UPPER PALLET UNITS ARE HANDLED AS ONE LIFT OR THE PACKAGE GUARD IS REMOVED (TINE CARRIAGE WILL IN MOST CASES PROVIDE ADEQUATE PACKAGE GUARD PROTECTION). ONLY A FORKLIFT OF ADEQUATE CAPACITY WILL BE USED WHEN LIFTING TWO PALLET UNITS AS ONE LIFT.
6. PALLET UNITS ALONG EACH SIDE OF THE BUNKER MAY BE STORED WITH EITHER THE UNIT LENGTH OR THE UNIT WIDTH ACROSS THE WIDTH OF THE BUNKER. ONE POSITIONING MAY PROVIDE DENSER STORAGE THAN THE OTHER, AND THE BEST METHOD SHOULD BE PRIOR DETERMINED BY STUDYING THE CHARTS ON PAGES 107 AND 108. FOR PLANNING PURPOSES, THE DISTANCE TO THE NEAR SIDE AND FAR SIDE OF THE FIRST COLUMN FROM THE 6" SPACE AT THE REAR IS 228" AND 242"; THE NEAR AND FAR SIDE OF THE SECOND COLUMN IS 466" AND 480" FROM THE 6" SPACE.

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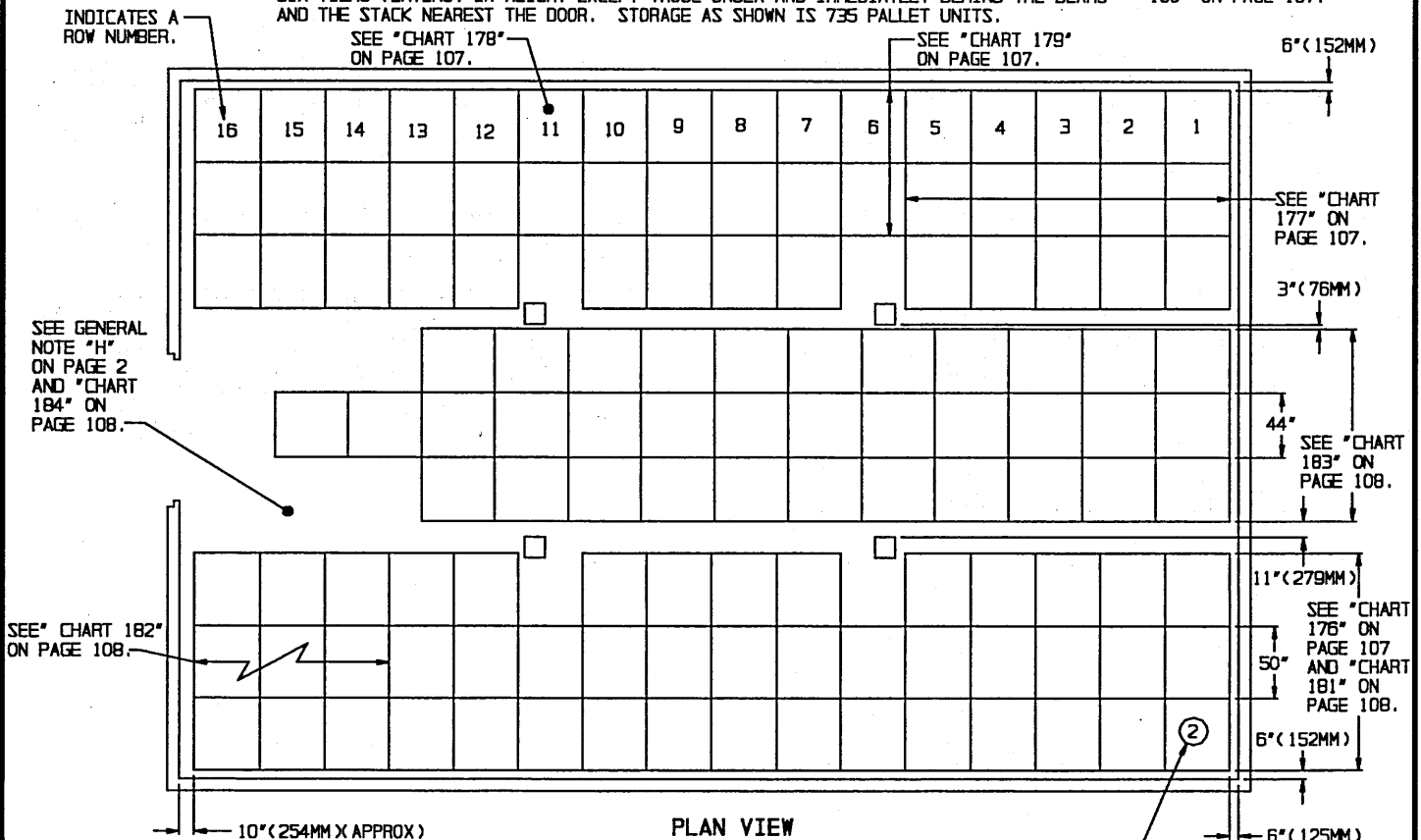
(SPECIAL NOTES CONTINUED)

7. IN SOME INSTANCES, ROWS OF NARROW UNITS MUST BE STORED (2) UNITS WIDE TO PROVIDE SUFFICIENT OPERATING WIDTH FOR THE MATERIALS HANDLING EQUIPMENT (MHE). IF THE UNIT DIMENSION WHICH IS POSITIONED ACROSS THE LENGTH OF THE BUNKER, LENGTH OR WIDTH OF THE PALLETIZED UNIT AS APPLICABLE, IS GREAT ENOUGH TO PROVIDE SUFFICIENT OPERATING WIDTH, 2-WIDE STORAGE WILL NOT BE NECESSARY.
8. REFER TO THE "TYPICAL MULTIPLE-LOT STORAGE FOR RECTANGULAR MAGAZINE" ON PAGE 92 FOR GUIDANCE IN THE STORAGE OF MULTIPLE LOTS IN A TYPE-III BUNKER.
9. IF DESIRED, AND IF NOT IN VIOLATION OF SURVEILLANCE REQUIREMENTS/PROCEDURES, ONE (1) SURVEILLANCE "CONTROL UNIT" SAMPLE MAY BE WITHHELD FROM EACH STORED LOT. IF THE MAGAZINE CONTAINS ONLY ONE (1) LOT IT IS RECOMMENDED THAT THIS "CONTROL UNIT" BE PLACED JUST INSIDE THE DOOR WHERE IT IS EASILY ACCESSIBLE. IF THE MAGAZINE CONTAINS SEVERAL LOTS, THE "CONTROL UNIT" SAMPLES SHOULD BE PLACED ADJACENT TO THE MHE OPERATING AISLE FOR ACCESSIBILITY.



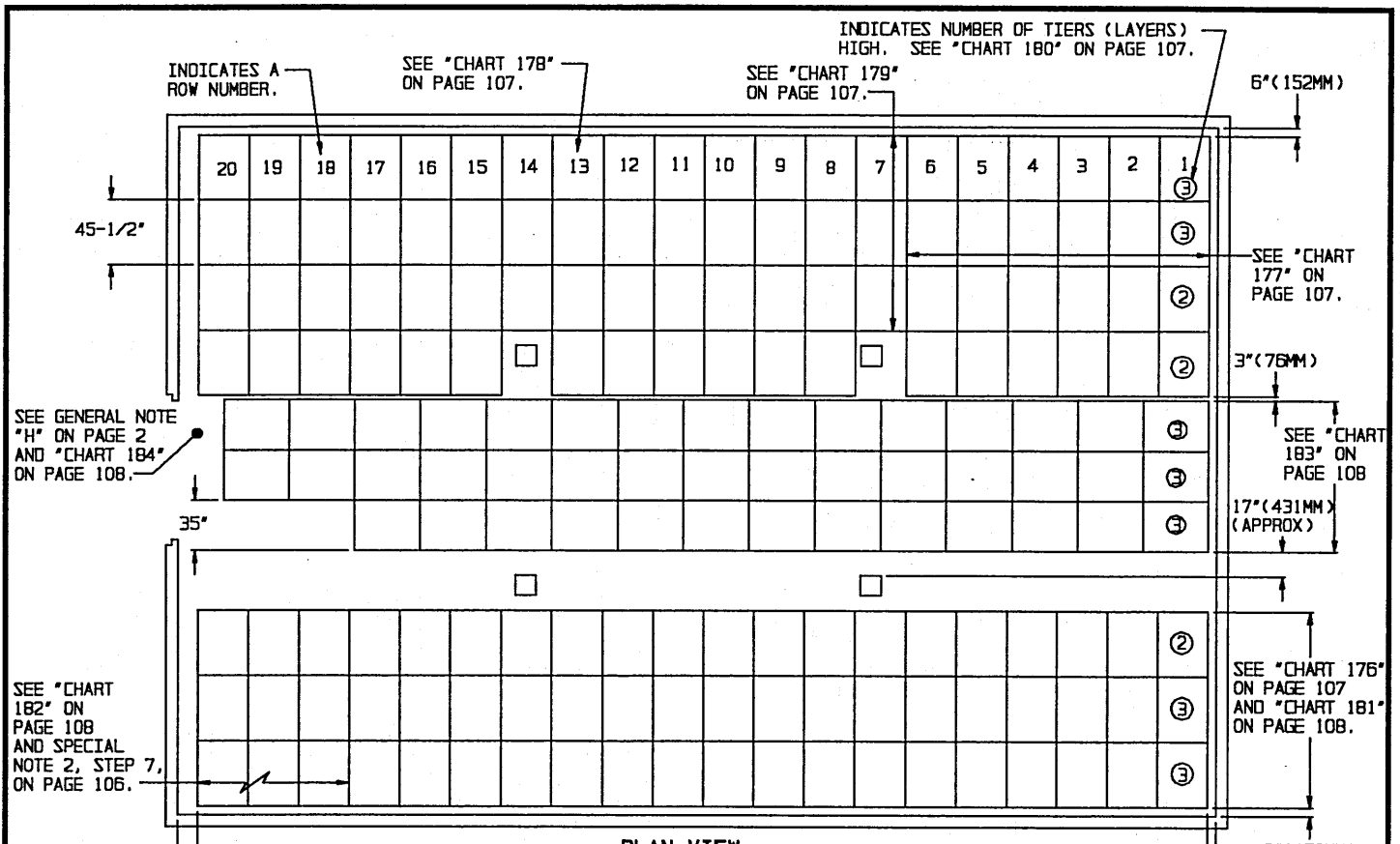
PLAN VIEW

THE PALLETIZED UNIT SHOWN IS 41-7/8" LONG BY 51" WIDE BY 20" HIGH. ALL STACKS ARE SIX TIERS (LAYERS) IN HEIGHT EXCEPT THOSE UNDER AND IMMEDIATELY BEHIND THE BEAMS AND THE STACK NEAREST THE DOOR. STORAGE AS SHOWN IS 735 PALLET UNITS.



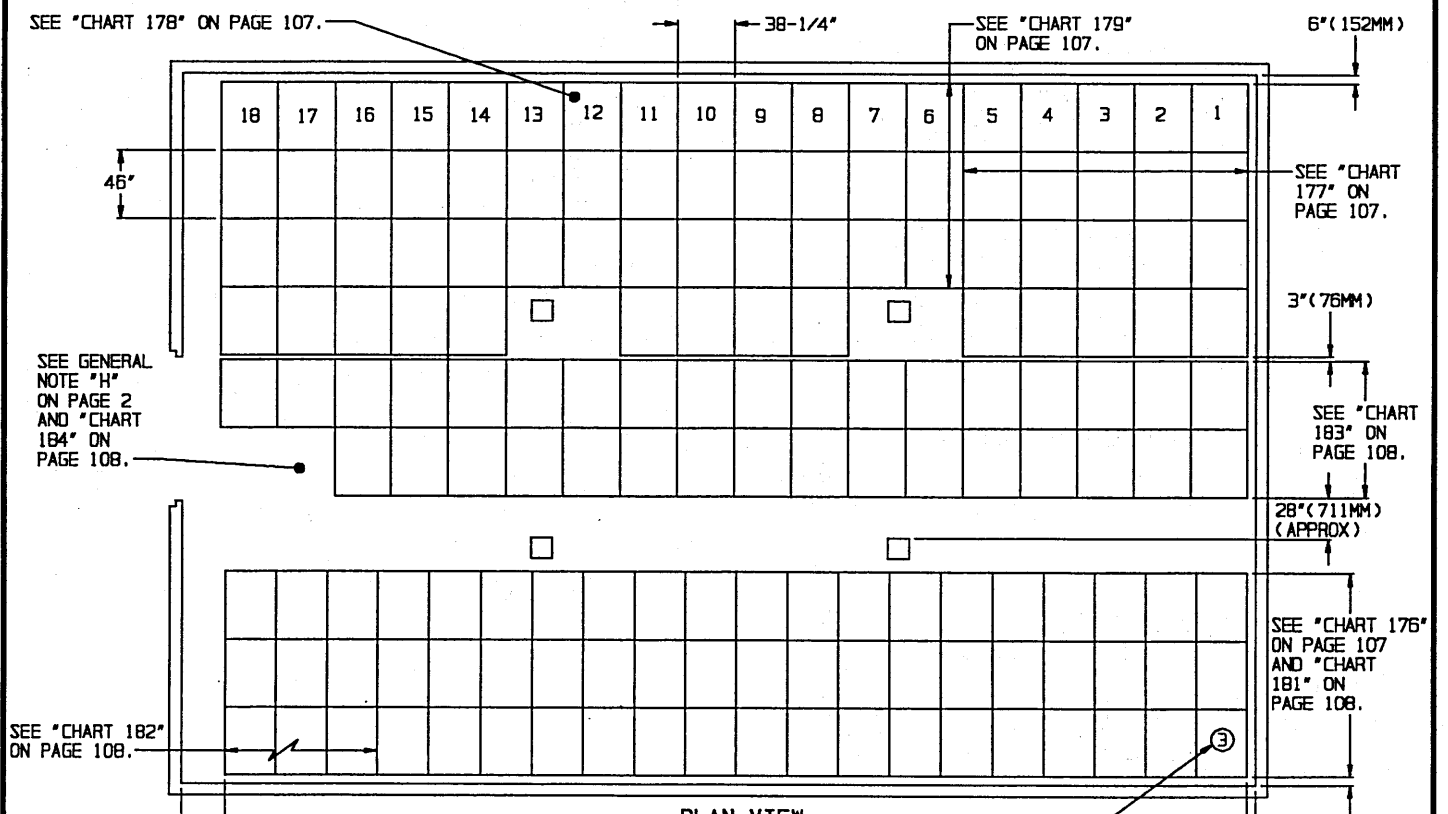
PLAN VIEW

THE PALLETIZED UNIT SHOWN IS 44" LONG BY 50" WIDE BY 52-1/2" HIGH. ALL STACKS ARE TWO TIERS (LAYERS) IN HEIGHT. STORAGE AS SHOWN IS 254 PALLET UNITS.



PLAN VIEW

THE PALLETIZED UNIT SHOWN IS 35' LONG BY 45-1/2' WIDE BY 42' HIGH. ALL STACKS ARE THREE TIERS (LAYERS) IN HEIGHT EXCEPT THOSE UNDER AND IMMEDIATELY BEHIND THE BEAMS. STORAGE AS SHOWN IS 525 PALLET UNITS.



PLAN VIEW

THE PALLETIZED UNIT SHOWN IS 38-1/4' LONG BY 46' WIDE BY 34' HIGH. ALL STACKS ARE THREE TIERS (LAYERS) IN HEIGHT. STORAGE AS SHOWN IS 474 PALLET UNITS.

TYPICAL STACKING PATTERNS IN 60'-0" L X 40'-0" W TYPE III AMMUNITION BUNKERS

SPECIAL NOTES:

1. THE CHARTS ON PAGE 107 AND 108 ARE PRESENTED AS GUIDANCE IN THE DEVELOPEMENT OF A PLAN FOR THE STORAGE OF PALLETIZED UNITS OF AMMUNITION AND COMPONENTS IN 60'-0" LONG BY 40'-0" WIDE TYPE III AMMUNITION BUNKERS. TO A CERTAIN EXTENT, THE CHARTS MAY ALSO BE USED IN CALCULATING THE QUANTITY OF UNITS WHICH CAN BE STORED. NOTICE: CHARTS ARE FOR GUIDANCE PURPOSES ONLY. VARIATIONS IN PALLETIZED UNIT OVER ALL SIZES, THE COMPACTNESS OF PLACEMENT WITHIN A BUNKER, AS WELL AS VARIANCE IN THE INSIDE DIMENSIONS OF THE BUNKER CAN CAUSE DISCREPANCIES WITHIN THE CHARTS.
2. THE FOLLOWING STEP-BY-STEP PROCEDURES ARE PRESENTED AS GUIDANCE IN USING THE DEPICTED CHARTS. SEE THE "EXAMPLE" AT RIGHT.

STEP 1

LOCATE IN THE LEFT HAND COLUMN OF CHART 176 ON PAGE 107 THE LENGTH OR WIDTH DIMENSION RANGE WHICH INCLUDES THE DIMENSION OF THE UNIT TO BE STORED IN THE 40'-0" WIDTH OF THE BUNKER. OPPOSITE THAT LENGTH OR WIDTH FIGURE ARE TWO COLUMNS. THE FIRST COLUMN INDICATES THE NUMBER OF STACKS WHICH CAN BE PLACED BETWEEN ONE SIDEWALL AND THE MHE AISLE. THE SECOND COLUMN INDICATES THE NUMBER OF STACKS WHICH CAN BE PLACED ON THE OPPOSITE SIDE OF THE MHE AISLE.

STEP 2

LOCATE IN THE LEFT HAND COLUMN OF CHART 177 THE LENGTH OR WIDTH DIMENSION RANGE WHICH INCLUDES THE DIMENSION OF THE UNIT TO BE STORED IN THE 60'-0" LENGTH OF THE BUNKER. OPPOSITE THAT LENGTH OR WIDTH DIMENSION IS INDICATED THE NUMBER OF ROWS WHICH CAN BE PLACED BETWEEN THE REAR WALL OF THE BUNKER AND THE REARMOST CONCRETE PILLAR WHEN A 6" SPACE IS ALLOWED AT THE WALL.

STEP 3

LOCATE IN THE LEFT HAND COLUMN OF CHART 178 THE LENGTH OR WIDTH DIMENSION RANGE WHICH INCLUDES THE DIMENSION OF THE UNIT TO BE STORED IN THE 60'-0" LENGTH OF THE BUNKER. OPPOSITE THAT LENGTH OR WIDTH DIMENSION IS INDICATED THE NUMBER OF THE ROWS WHICH WILL BE BEHIND THE CONCRETE PILLARS WHEN ALL UNITS ARE POSITIONED IN THE SAME DIRECTION.

STEP 4

LOCATE IN THE LEFT HAND COLUMN OF CHART 179 THE LENGTH OR WIDTH DIMENSION RANGE WHICH INCLUDES THE DIMENSION OF THE UNIT TO BE STORED IN THE 40'-0" WIDTH OF THE BUNKER. OPPOSITE THAT LENGTH OR WIDTH DIMENSION IS INDICATED THE NUMBER OF PALLETS WHICH CAN BE PLACED BETWEEN THE SIDEWALL OF THE BUNKER AND THE ADJACENT CONCRETE PILLAR.

STEP 5

LOCATE IN THE LEFT HAND COLUMN OF CHART 180 THE HEIGHT OF THE UNIT TO BE STORED. OPPOSITE THAT FIGURE ARE TWO COLUMNS. THE FIRST COLUMN INDICATES THE NUMBER OF TIERS (LAYERS) WHICH CAN BE POSITIONED UNDER THE BEAMS OF THE BUNKER. THAT IS ALSO THE MAXIMUM HEIGHT FOR PALLET STACKS WHICH ARE NOT AT LEAST 1" MORE THAN ONE FULL PALLET UNIT LENGTH OR WIDTH, AS APPLICABLE, BEHIND THE BEAM. THE SECOND COLUMN INDICATES THE NUMBER OF TIERS FOR ALL OTHER PALLET STACKS.

STEP 6

LOCATE IN THE LEFT HAND COLUMN OF CHART 181 ON PAGE 108 THE LENGTH OR WIDTH DIMENSION RANGE WHICH INCLUDES THE DIMENSION OF THE UNIT TO BE STORED IN THE 40'-0" WIDTH OF THE BUNKER. OPPOSITE THAT LENGTH OR WIDTH DIMENSION IS INDICATED THE NUMBER OF FULL-HEIGHT STACKS WHICH CAN BE PLACED BETWEEN THE SIDEWALL OF THE BUNKER AND THE BEAM.

STEP 7

LOCATE IN THE LEFT HAND COLUMN OF CHART 182 THE LENGTH OR WIDTH DIMENSION RANGE WHICH INCLUDES THE DIMENSION OF THE UNIT TO BE STORED IN THE 60'-0" LENGTH OF THE BUNKER. OPPOSITE THAT LENGTH OR WIDTH DIMENSION IS INDICATED THE NUMBER OF ROWS WHICH CAN BE PLACED IN THE LENGTH OF THE BUNKER, ALLOWING A 6" (152MM) SPACE ACROSS THE REAR OF THE BUNKER. NOTE THAT THE SPECIFIED FIGURE IS ONLY APPLICABLE WHEN ALL UNITS IN THE LENGTH OF THE BUNKER ARE POSITIONED IN THE SAME DIRECTION.

(CONTINUED AT RIGHT)

(SPECIAL NOTES CONTINUED)

STEP 8

LOCATE IN THE LEFT HAND COLUMN OF CHART 183 THE LENGTH OR WIDTH RANGE WHICH INCLUDES THE DIMENSION OF THE UNIT TO BE STORED IN THE 40'-0" WIDTH BUNKER. THE COLUMN IMMEDIATELY ADJACENT INDICATES THE NUMBER OF ROWS WHICH CAN BE PLACED IN THE MHE AREA WIDTH WHEN THE UNITS ARE ORIENTED THE SAME AS THE UNITS IN THE LATERALLY ADJACENT ROWS. THE NEXT COLUMN INDICATES THE NUMBER OF ROWS AND THE LENGTH OR WIDTH DIMENSION RANGE OF THE UNITS WHEN THEY ARE ROTATED 90° TO THOSE IN THE LATERALLY ADJACENT ROWS.

STEP 9

LOCATE IN THE LEFT HAND COLUMN OF CHART 184 THE LENGTH OR WIDTH RANGE WHICH INCLUDES THE DIMENSION OF THE UNIT TO BE STORED IN THE LENGTH OF THE MHE AISLE (THE 60'-0" LENGTH OF THE BUNKER). OPPOSITE THAT LENGTH OR WIDTH DIMENSION IS INDICATED THE NUMBER OF STACKS IN THE ROWS WITHIN THE MHE AISLE, WHEN SUFFICIENT SPACE IS ALLOWED AT THE FRONT OF THE BUNKER FOR PLACEMENT OF THE UNITS WITH A FORKLIFT TRUCK. NOTE THAT ADDITIONAL STACKS MAY BE POSITIONED IN ONE OR MORE OF THE ROWS WHEN THE ROWS ARE ALIGNED WITH THE DOOR OPENING AND/OR WHEN THE AVAILABLE MHE PERMITS.

EXAMPLE

THE PALLETIZED UNIT SHOWN AT THE TOP OF PAGE 104 HAS BEEN SELECTED FOR THE EXAMPLE. THE UNIT IS 41-7/8" LONG BY 51" WIDE BY 20" HIGH. A STORAGE PATTERN CAN BE DETERMINED BY FOLLOWING THE DOTTED-LINE EXAMPLE WITHIN CHARTS 176 THROUGH 184 IN CONJUNCTION WITH USING THE STEP-BY-STEP PROCEDURES AT LEFT.

TO FIND THE NUMBER OF PALLET STACKS IN THE 40'-0" WIDTH OF THE BUNKER LOOK IN THE LEFT HAND COLUMN OF CHART 176 ON PAGE 107 UNDER THE UNIT LENGTH OR WIDTH. THE 41-7/8" IS WITHIN THE OVER 37" TO 42" RANGE. FOLLOWING THE ARROWS ALONG THE DOTTED-LINE TO THE RIGHT, THE FIRST COLUMN INDICATES THAT 4 STACKS CAN BE STORED ON ONE SIDE OF THE MHE AISLE AND THE SECOND COLUMN INDICATES THAT 4 STACKS CAN ALSO BE STORED ON THE OPPOSITE SIDE. BY FOLLOWING THE ARROW ALONG THE DOTTED-LINE TO THE RIGHT FROM THE OVER 45" TO 54" RANGE IN CHART 177 WE FIND THAT 4 ROWS CAN BE PLACED BETWEEN THE REAR WALL OF THE BUNKER AND THE FIRST PILLAR WHEN ALLOWING A 6" (152MM) SPACE ACROSS THE REAR OF THE BUNKER. IN CHART 178 THE 51" WIDTH DIMENSION WHICH IS POSITIONED IN THE LENGTH OF THE BUNKER IS WITHIN THE 48" THRU 51" RANGE. FOLLOWING THE ARROW ALONG THE DOTTED-LINE TO THE RIGHT WE FIND THAT ROW 5 WILL FALL BEHIND THE FIRST PILLAR AND ROW 10 WILL FALL BEHIND THE SECOND PILLAR WHEN ALL THE UNITS ARE POSITIONED SO THE 51" WIDTH DIMENSION IS PLACED SO AS TO BE IN THE LENGTH OF THE BUNKER. TO FIND THE NUMBER OF STACKS BETWEEN THE SIDEWALL AND A PILLAR, LOCATE THE OVER 36" TO 48" DIMENSION IN THE FIRST COLUMN OF CHART 179 WHICH INCLUDES THE 41-7/8" LENGTH DIMENSION THAT IS POSITIONED ACROSS THE WIDTH OF THE BUNKER. FOLLOWING THE ARROW ALONG THE DOTTED-LINE TO THE RIGHT, THE SECOND COLUMN INDICATED THAT 3 PALLET STACKS CAN BE POSITIONED.

TO FIND THE NUMBER OF TIERS (LAYERS) WHICH CAN BE STORED, LOCATE THE UNIT HEIGHT OF 20" WITHIN THE OVER 19-1/2" TO 21-1/2" RANGE IN THE LEFT HAND COLUMN OF CHART 180. FOLLOWING THE ARROWS ALONG THE DOTTED LINE TO THE RIGHT, THE FIRST COLUMN INDICATES THAT 5 PALLET UNITS CAN BE STACKED UNDER THE BEAM AND ALSO JUST BEHIND THE BEAM IF THE STACK IS NOT AT LEAST 1" MORE THAN THE PALLET DIMENSION BEHIND THE BEAM. THE SECOND COLUMN INDICATES THAT 6 TIERS (LAYERS) CAN BE STORED IN ALL OTHER LOCATIONS WITHIN THE BUNKER, WITH THE POSSIBLE EXCEPTION OF STACKS ADJACENT TO THE DOOR OPENING WHICH MAY BE LIMITED BECAUSE OF THE DOOR HEIGHT. IN CHART 181 ON PAGE 108 THE NUMBER OF FULL-HEIGHT STACKS WHICH CAN BE PLACED BETWEEN THE BEAM AND THE SIDEWALL OF THE BUNKER CAN BE DETERMINED BY LOCATING THE UNIT LENGTH OF 41-7/8" (THE DIMENSION POSITIONED ACROSS THE WIDTH) WHICH IS WITHIN THE OVER 35" TO 46-1/2" RANGE. FOLLOWING THE ARROW TO THE RIGHT WE FIND THAT 2 FULL HEIGHT STACKS CAN BE POSITIONED

(CONTINUED ON PAGE 107)

(SPECIAL NOTES CONTINUED FROM PAGE 106)

TO FIND THE NUMBER OF ROWS IN THE 60'-0" LENGTH OF THE BUNKER, LOOK IN THE LEFT HAND COLUMN OF CHART 182. THE 51" WIDTH IS WITHIN THE OVER 50-1/4" TO 54" RANGE. FOLLOWING THE ARROW ALONG THE DOTTED LINE TO THE RIGHT INDICATES THAT 13 ROWS CAN BE PLACED IN THE BUNKER WHEN ALLOWING A 6" (152MM) SPACE ACROSS THE REAR. IN CHART 183 THE 41-7/8" DIMENSION WHICH IS ACROSS THE WIDTH OF THE BUNKER IS WITHIN THE OVER 41" TO 42" RANGE. THE ADJACENT COLUMN INDICATES THE NUMBER OF ROWS WIDE IN THE MHE AISLE WHEN THE PALLET UNITS ARE ORIENTED THE SAME AS THE LATERALLY ADJACENT ROWS. THE FIGURE 2 IN THAT COLUMN SPECIFIES THAT 2 ROWS AT 41-7/8" LONG CAN BE POSITIONED ACROSS THE WIDTH OF THE MHE AISLE; HOWEVER, FOLLOWING THE ARROW ALONG THE DOTTED LINE TO THE RIGHT INDICATES THAT 2 ROWS WITH THE 51" WIDTH ACROSS THE WIDTH OF THE BUNKER CAN BE POSITIONED IN THE WIDTH OF THE MHE AISLE. NOTE THAT GREATER DENSITY OF STORAGE CAN BE OBTAINED BY SELECTING THE LARGEST DIMENSION OF THE UNIT TO BE POSITIONED ACROSS THE WIDTH OF THE MHE AISLE. IN CHART 184 THE 41-7/8" DIMENSION WHICH IS POSITIONED LENGTHWISE WITHIN THE MHE AISLE IS WITHIN THE OVER 41-3/4" TO 44-3/4" RANGE. FOLLOWING THE ARROW ALONG THE DOTTED LINE TO THE RIGHT INDICATES THAT 13 STACKS CAN BE POSITIONED WITHIN THE LENGTH OF THE MHE AISLE. THIS ALLOWS SUFFICIENT SPACE INSIDE THE DOOR OPENING FOR THE FORKLIFT TRUCK OPERATING AREA. NOTE THAT ADDITIONAL STACKS MAY BE STORED IF THE ROWS ARE ALIGNED WITH THE DOOR OPENING OR IF THE AVAILABLE MHE PERMITS.

3. THE UNIT SIZE RANGE (LENGTH OR WIDTH) AND THE UNIT HEIGHT DIMENSIONS COVER ALL THE SIZES WITHIN THE RANGE SPECIFIED.

CHART NO. 179	
NUMBER OF STACKS BETWEEN SIDE WALL AND PILLAR	
UNIT LENGTH OR WIDTH	NUMBER OF STACKS
35" TO 36"	4
OVER 36" TO 48"	3
OVER 48" TO 54"	2

CHART NO. 180		
NUMBER OF TIERS (LAYERS) HIGH		
UNIT HEIGHT	UNDER BEAM	ELSEWHERE
15" TO 16"	7	8
OVER 16" TO 16-1/2"	7	7
OVER 16-1/2" TO 18-1/2"	6	7
OVER 18-1/2" TO 19-1/2"	6	6
OVER 19-1/2" TO 21-1/2"	5	6
OVER 21-1/2" TO 23-1/2"	5	5
OVER 23-1/2" TO 26"	4	5
OVER 26" TO 29-1/2"	4	4
OVER 29-1/2" TO 32-1/2"	3	4
OVER 32-1/2" TO 39"	3	3
OVER 39" TO 43"	2	3
OVER 43" TO 54"	2	2

CHART NO. 176		
NUMBER OF STACKS ACROSS THE WIDTH		
UNIT LENGTH OR WIDTH	NUMBER OF STACKS	
	ONE SIDE	OPPOSITE SIDE
35" TO 37"	5	4
OVER 37" TO 42"	4	4
OVER 42" TO 48"	4	3
OVER 48" TO 54"	3	3

CHART NO. 177	
NUMBER OF ROWS BETWEEN REAR WALL AND PILLAR	
UNIT LENGTH OR WIDTH	NUMBER OF ROWS
35" TO 37-1/2"	6
OVER 37-1/2" TO 45"	5
OVER 45" TO 54"	4

CHART NO. 178	
ROWS WHICH FALL BEHIND PILLARS	
UNIT DIMENSIONS ACROSS LENGTH OF BUNKER	ROW NUMBERS
35"	7 AND 14
36"	7, 13 AND 14
37"	7 AND 13
38"	6, 7 AND 13
39"	6, 7, 12 AND 13
40" AND 41"	6 AND 12
42" AND 43"	6, 11 AND 12
44"	6 AND 11
45" AND 46"	5, 6 AND 11
47"	5, 6, 10 AND 11
48" THRU 51"	5 AND 10
52"	5, 9 AND 10
53" AND 54"	5 AND 9

CHART NO. 181	
NUMBER OF FULL-HEIGHT STACKS BEHIND BEAM	
UNIT LENGTH OR WIDTH	NUMBER OF STACKS
OVER 35" TO 46-1/2"	3
OVER 46-1/2" TO 54"	2
	1

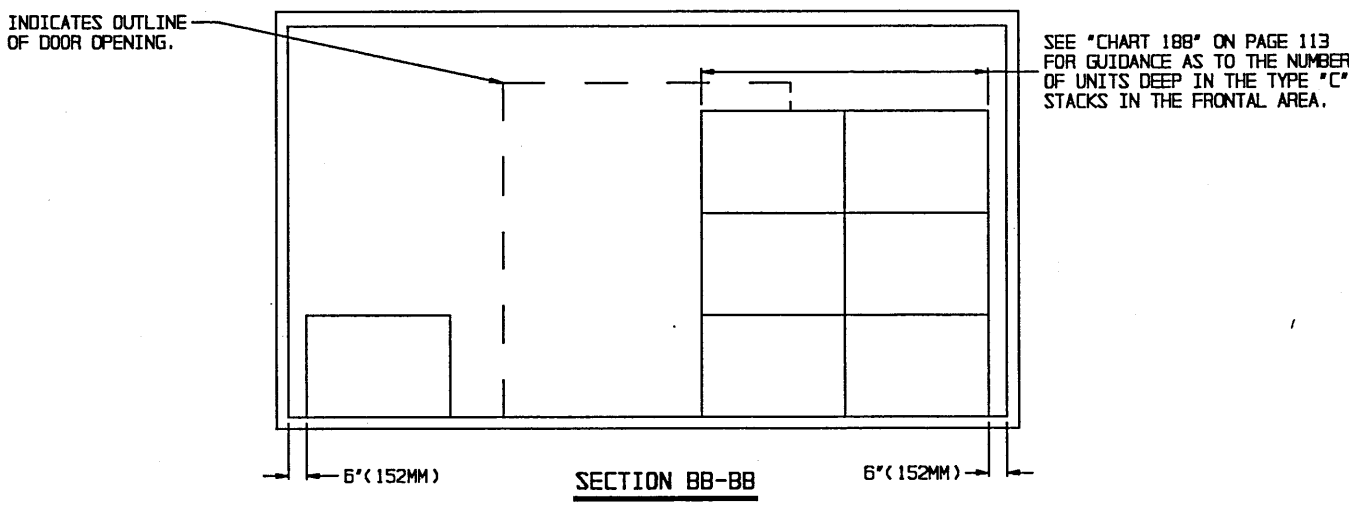
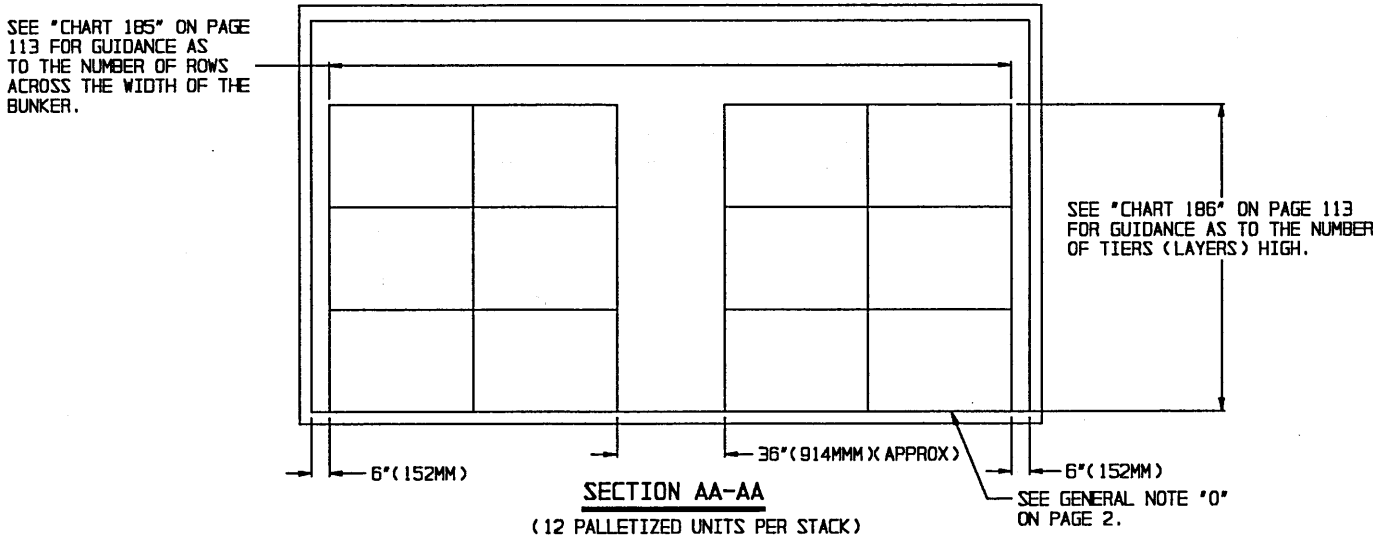
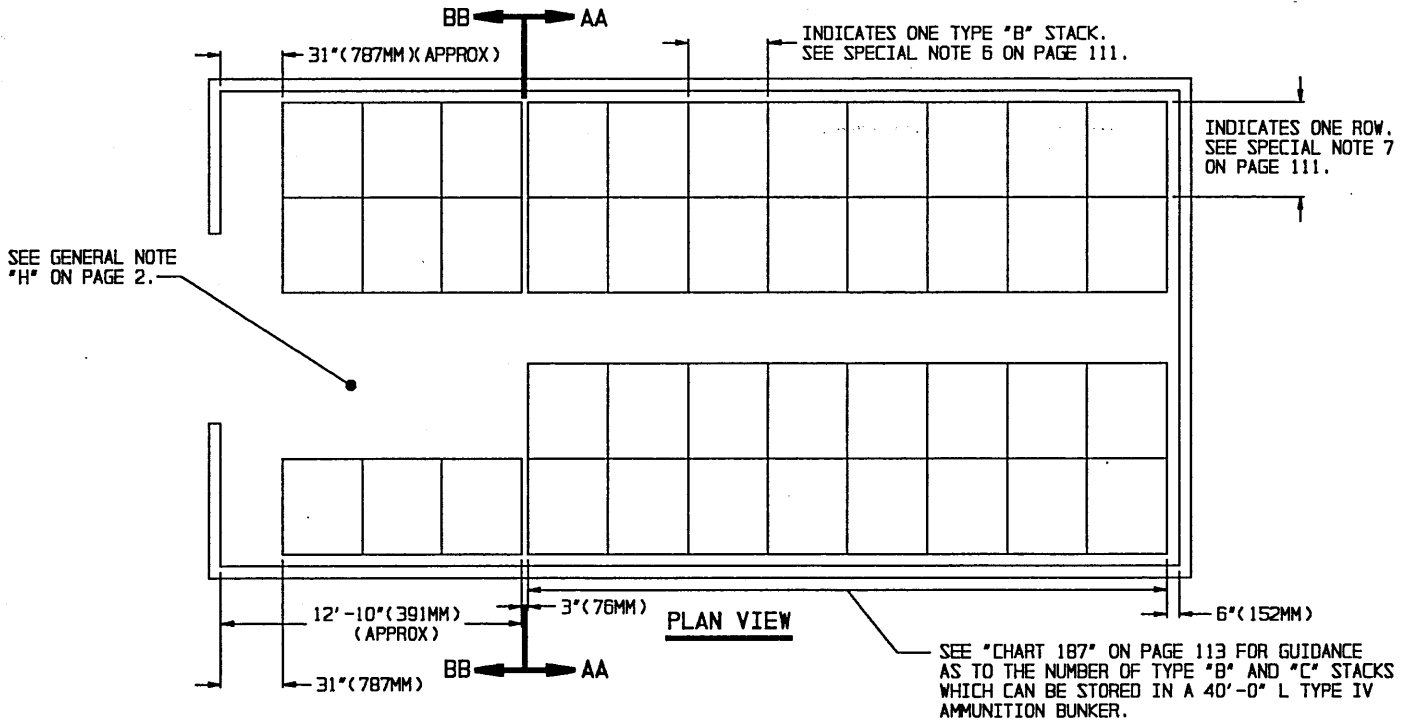
CHART NO. 182	
NUMBER OF ROWS ACROSS THE LENGTH	
UNIT LENGTH OR WIDTH	NUMBER OF ROWS
OVER 35" TO 37"	20
OVER 37" TO 39"	19
OVER 39" TO 41-1/4"	18
OVER 41-1/4" TO 44"	17
OVER 44" TO 46-3/4"	16
OVER 46-3/4" TO 50-1/4"	15
OVER 50-1/4" TO 54"	14
	13

CHART NO. 183		
NUMBER OF ROWS WIDE IN MHE AISLE		
UNIT DIM WIDTHWISE IN BUNKER	NUMBER OF ROWS WIDE	
	UNIT AT SAME POSITION	ALTERNATIVE UNIT POSITION
35" TO 37"	3	2 AT 45-1/2" TO 51-1/2"
OVER 37" TO 39"	3	3 AT 45-1/2" TO 46-1/2"
OVER 39" TO 41"	3	2 AT 48" TO 54"
OVER 41" TO 42"	2	2 AT 48" TO 54"
OVER 42" TO 43"	3	2 AT 48" TO 54"
OVER 43" TO 44"	2	2 AT 48" TO 54"
OVER 44" TO 45"	2	3 AT 35" TO 39"
OVER 45" TO 47"	2	3 AT 35" TO 37-1/2"
OVER 47" TO 48"	2	2 AT 40" TO 44"
OVER 48" TO 54"	2	3 AT 40" TO 44"

CHART NO. 184	
NUMBER OF STACKS LONG IN MHE AREA *	
UNIT LENGTH OR WIDTH	NUMBER OF STACKS
35" TO 36-1/2"	16
OVER 36-1/2" TO 39"	15
OVER 39" TO 41-3/4"	14
OVER 41-3/4" TO 44-3/4"	13
OVER 44-3/4" TO 48-1/4"	12
OVER 48-1/4" TO 52-1/4"	11
OVER 52-1/4" TO 54"	10

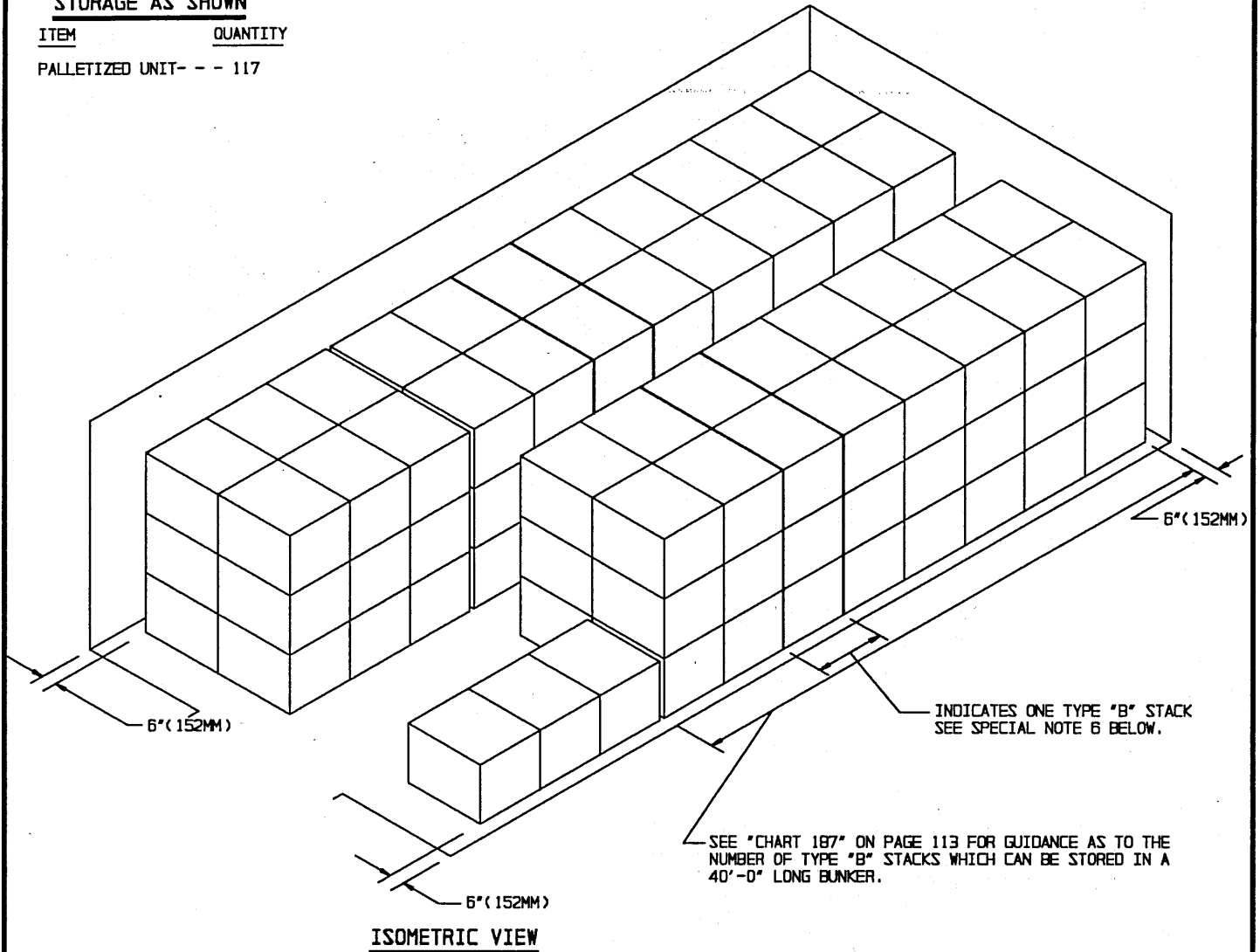
* SEE GENERAL NOTE "H" ON PAGE 2.

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STORAGE AS SHOWN

ITEM	QUANTITY
PALLETIZED UNIT- - -	117



ISOMETRIC VIEW

SPECIAL NOTES:

1. THE TYPICAL PALLETIZED UNIT SHOWN HAS OVERALL DIMENSIONS OF 40" LONG BY 48" WIDE BY 34-1/2" HIGH. THE QUANTITY OF UNITS, THE NUMBER OF STACKS, ROWS AND TIERS (LAYERS) WILL VARY DEPENDENT UPON THE SIZE OF THE UNIT BEING STORED. SEE THE SPECIAL NOTES AND CHARTS ON PAGES 112 AND 113 FOR GUIDANCE. AS MANY UNITS AS POSSIBLE WILL BE STORED WITHIN THE AMMUNITION BUNKER.
2. PALLETIZED UNITS WILL BE STACKED IN VERTICAL ALIGNMENT. STAGGERED STACKING AS SHOWN FOR IGLOO, ARCH TYPE, STRADLEY AND OVAL-ARCH TYPE MAGAZINE STORAGE IS NOT APPLICABLE FOR STORAGE IN AMMUNITION BUNKERS.
3. A 6" (152MM) MINIMUM SPACE WILL BE PROVIDED BETWEEN THE REAR WALL, FRONT WALL, AND/OR SIDEWALLS AND THE PALLETIZED UNITS.
4. 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 STORAGE VIEWS HEREIN UNLESS TWO UPPER PALLET UNITS ARE HANDLED AS ONE LIFT OR THE PACKAGE GUARD IS REMOVED (TINE CARRIAGE WILL IN MOST CASES PROVIDE ADEQUATE PACKAGE GUARD PROTECTION). ONLY A FORKLIFT OF ADEQUATE CAPACITY WILL BE USED WHEN LIFTING TWO PALLET UNITS AS ONE LIFT.
5. PALLET UNITS MAY BE STORED WITH EITHER THE UNIT LENGTH OR THE UNIT WIDTH ACROSS THE WIDTH OF THE BUNKER. ONE POSITIONING MAY PROVIDE DENSER STORAGE THAN THE OTHER, AND THE BEST METHOD SHOULD BE PRIOR DETERMINED BY STUDYING THE CHARTS ON PAGE 113.

(SPECIAL NOTES CONTINUED)

6. THE NUMBER OF TYPE "B" STACKS SPECIFIED BY CHART 187 ON PAGE 113 FOR A 40'-0" LONG BUNKER IS BASED ON HAVING A MATERIAL HANDLING EQUIPMENT AREA (DISTANCE FROM THE FACE OF THE LAST TYPE "B" STACK TO THE FRONT WALL OF THE BUNKER) OF 7'-7" (2311MM) PLUS THE LENGTH OR WIDTH OF THE PALLET UNIT, AS APPLICABLE, OR THE LENGTH OF THE FORKLIFT TRUCK TINES (40" OR 1,016MM), WHICH IS THE GREATEST. ADDITIONAL TYPE "B" STACKS MAY BE STORED IF THE AVAILABLE MATERIALS HANDLING EQUIPMENT PERMITS.
7. IF DESIRED, THE TYPE "C" STACKS IN THE FRONTAL AREA MAY BE OMITTED AND THE 4 ROWS SHOWN (OR 5 ROWS OR 6 ROWS AS SPECIFIED BY CHART 185) FOR THE TYPE "B" STACKS EACH FORMED AS A SEPARATE LOT. A SPACE OF AT LEAST 1" SHOULD BE ALLOWED TO PROVIDE CLEARANCE FOR REMOVAL OF EITHER LOT. IN SOME INSTANCES, LOTS CONSISTING OF NARROW UNITS MUST BE STORED TWO (2) UNITS WIDE TO PROVIDE SUFFICIENT OPERATING WIDTH FOR THE MATERIALS HANDLING EQUIPMENT (MHE). IF THE UNIT DIMENSION WHICH IS POSITIONED ACROSS THE WIDTH OF THE BUNKER IS GREAT ENOUGH TO PROVIDE SUFFICIENT MHE OPERATING WIDTH, 2-WIDE STORING WILL NOT BE NECESSARY. SEE PAGES 114 AND 115 FOR ADDITIONAL MULTIPLE-LOT STORAGE GUIDANCE.
8. IF DESIRED, AND IF NOT IN VIOLATION OF SURVEILLANCE REQUIREMENTS/PROCEDURES, ONE (1) SURVEILLANCE "CONTROL UNIT" SAMPLE MAY BE WITHHELD FROM EACH LOT. IF THE MAGAZINE CONTAINS ONLY ONE (1) LOT IT IS RECOMMENDED THAT THIS "CONTROL UNIT" BE PLACED JUST INSIDE THE DOOR WHERE IT IS EASILY ACCESSIBLE. IF THE MAGAZINE CONTAINS SEVERAL LOTS, THE "CONTROL UNIT" SAMPLES SHOULD BE PLACED ADJACENT TO THE MHE OPERATING AISLE FOR ACCESSIBILITY.

(CONTINUED AT RIGHT)

SPECIAL NOTES:

(SPECIAL NOTES CONTINUED)

1. THE CHARTS ON PAGE 113 ARE PRESENTED AS GUIDANCE IN THE DEVELOPMENT OF A PLAN FOR THE STORAGE OF PALLETIZED UNITS OF AMMUNITION AND COMPONENTS IN 40'-0" LONG BY 20'-0" WIDE TYPE IV AMMUNITION BUNKERS. TO A CERTAIN EXTENT, THE CHARTS MAY ALSO BE USED IN CALCULATING THE QUANTITY OF UNITS WHICH CAN BE STORED. NOTICE: THE CHARTS ARE FOR GUIDANCE PURPOSES ONLY. VARIATIONS IN PALLETIZED UNIT OVERALL SIZES, THE COMPACTNESS OF PLACEMENT WITHIN A BUNKER, AS WELL AS VARIANCE IN THE INSIDE DIMENSIONS OF THE BUNKER CAN CAUSE DISCREPANCIES WITHIN THE CHARTS.
2. THE FOLLOWING STEP-BY-STEP PROCEDURES ARE PRESENTED AS GUIDANCE IN USING THE DEPICTED CHARTS. SEE THE "EXAMPLE" BELOW.

STEP 1

LOCATE IN THE LEFT HAND COLUMN OF CHART 185 ON PAGE 113 THE LENGTH OR WITH DIMENSION RANGE WHICH INCLUDES THE DIMENSION OF THE UNIT TO BE STORED IN THE 20'-0" WIDTH OF THE BUNKER. OPPOSITE THAT LENGTH OR WIDTH FIGURE IS A COLUMN WHICH INDICATES THE NUMBER OF PALLET STACKS OR ROWS ACROSS THE WIDTH OF THE BUNKER.

STEP 2

LOCATE IN THE LEFT HAND COLUMN OF CHART 186 THE HEIGHT RANGE WHICH INCLUDES THE HEIGHT OF THE UNIT TO BE STORED. OPPOSITE THAT HEIGHT FIGURE IS INDICATED THE NUMBER OF TIERS (LAYERS) WHICH CAN BE STORED.

STEP 3

LOCATE IN THE LEFT HAND COLUMN OF CHART 187 THE LENGTH OR WIDTH DIMENSION NEAREST THE DIMENSION OF THE UNIT WHICH IS POSITIONED LENGTHWISE IN THE BUNKER. OPPOSITE THAT LENGTH OR WIDTH FIGURE IS SPECIFIED THE APPROXIMATE NUMBER OF TYPE "B" STACKS (STACKS ACROSS THE BUNKER, USUALLY WITH AN AISLE BUT NOT NECESSARILY) AND THE NUMBER OF TYPE "C" STACKS (PARTIAL STACKS AT THE FRONT OF THE BUNKER) THAT CAN BE POSITIONED IN A 40'-0" LONG BUNKER. SEE SPECIAL NOTE 6 ON PAGE 111 FOR THE CRITERIA USED IN DETERMINING THE NUMBER OF TYPE "B" STACKS SPECIFIED WITHIN THE CHART.

STEP 4

LOCATE IN THE LEFT HAND COLUMN OF CHART 188 THE LENGTH OR WIDTH DIMENSION RANGE WHICH INCLUDES THE DIMENSION OF THE UNIT TO BE STORED IN THE 20'-0" WIDTH OF THE BUNKER. OPPOSITE THAT LENGTH OR WIDTH FIGURE ARE TWO COLUMNS. THE FIRST COLUMN INDICATES THE NUMBER OF STACKS DEEP WHICH CAN BE POSITIONED ON THE ONE SIDE OF THE DOOR OPENING WITH A FORKLIFT TRUCK, TO A HEIGHT AS SPECIFIED BY CHART 186. THE SECOND COLUMN INDICATES THE NUMBER OF ONE-HIGH STACKS WHICH CAN BE POSITIONED ON THE OPPOSITE SIDE BY A PALLET JACK AFTER COMPLETING ALL THE TIERS ON THE FIRST SIDE.

EXAMPLE

THE PALLETIZED UNIT SHOWN IN THE VIEWS ON PAGES 110 AND 111 WILL BE USED FOR EXAMPLE. THE UNIT IS 40" LONG BY 48" WIDE BY 34-1/2" HIGH. A STORAGE PATTERN CAN BE DETERMINED BY FOLLOWING THE DOTTED-LINE EXAMPLE WITHIN CHARTS 185 THROUGH 188 ON PAGE 113 IN CONJUNCTION WITH USING THE STEP-BY-STEP PROCEDURES ABOVE.

TO FIND THE NUMBER OF ROWS OR PALLET STACKS IN THE 20'-0" WIDTH OF THE BUNKER, LOOK IN THE LEFT HAND COLUMN OF CHART 185 ON PAGE 113 UNDER THE UNIT LENGTH OR WIDTH. THE 48" IS WITHIN THE OVER 44-1/2" TO 54" RANGE. FOLLOWING THE ARROWS ALONG THE DOTTED LINE TO THE RIGHT, INDICATES THAT 4 STACKS OR ROWS CAN BE STORED ACROSS THE BUNKER.

TO FIND THE NUMBER OF TIERS (LAYERS) WHICH CAN BE STORED, LOCATE THE UNIT HEIGHT OF 34-1/2" WITHIN THE OVER 32-1/2" TO 43" RANGE IN THE LEFT HAND COLUMN OF CHART 186. FOLLOWING THE ARROW ALONG THE DOTTED LINE TO THE RIGHT INDICATES THAT 3 TIERS (LAYERS) CAN BE STORED IN THE BUNKER.

(CONTINUED AT RIGHT)

TO FIND THE NUMBER OF TYPE "B" AND TYPE "C" STACKS WHICH CAN BE STORED IN A BUNKER, LOOK AT CHART 187. SINCE WE ARE POSITIONING THE 48" UNIT WIDTH ACROSS THE WIDTH OF THE BUNKER, WE NOW LOOK FOR THE UNIT LENGTH OF 40" IN THE LEFT HAND COLUMN. FOLLOWING THE ARROWS TO THE RIGHT INDICATES THAT 8 TYPE "B" STACKS CAN BE STORED IN A 40'-0" LONG BUNKER, WITH A SPACE OF APPROXIMATELY 12'-10" REMAINING FOR AN MHE AREA. AFTER ALLOWING A 3" SPACE AT THE FRONT OF THE TYPE "B" STACKS, WE FIND BY FOLLOWING THE ARROW TO THE RIGHT THAT 3 TYPE "C" STACKS (POSITIONED THE SAME AS IN THE BALANCE OF THE BUNKER) CAN BE STORED, WITH APPROXIMATELY 31" OF SPACE AT THE FRONT WALL.

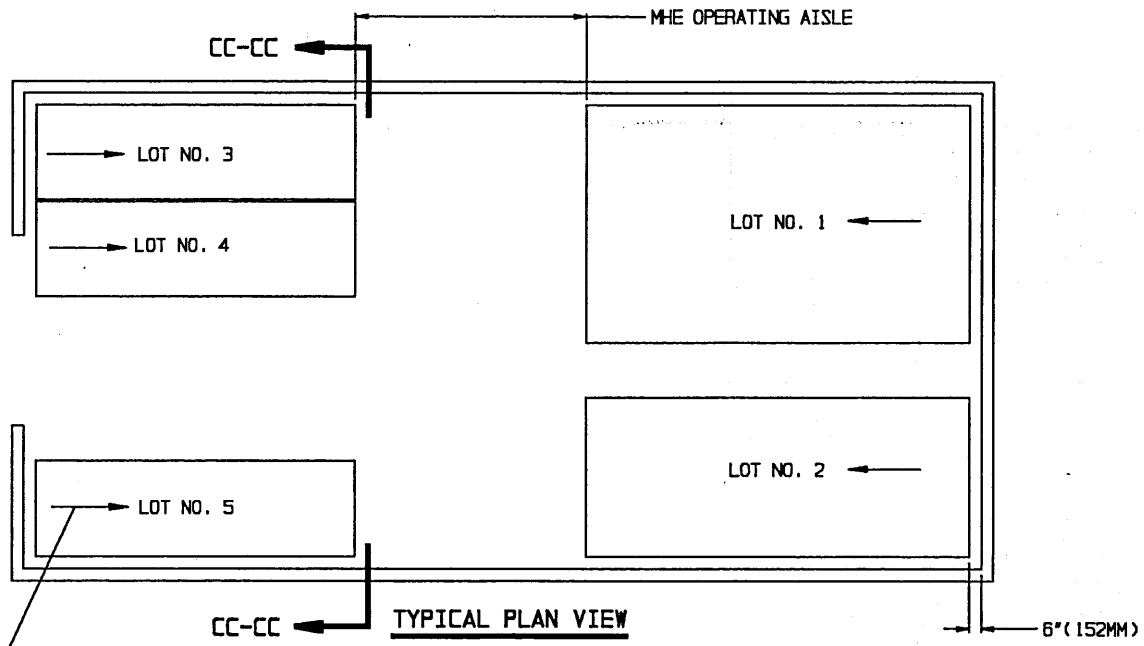
TO FIND THE NUMBER OF PALLET STACKS IN EACH TYPE "C" STACK, LOCATE THE UNIT LENGTH OR WIDTH IN THE LEFT HAND COLUMN OF CHART 188. FOLLOWING THE ARROWS ALONG THE DOTTED LINE TO THE RIGHT, THE FIGURE IN THE FIRST COLUMN INDICATES THAT 2 PALLET STACKS CAN BE PLACED AT THE LEFT SIDE OF THE DOOR OPENING, WITH A FORKLIFT TRUCK, TO THE NUMBER OF TIERS AS SPECIFIED BY CHART 186. THE SECOND COLUMN INDICATES THAT 1 PALLET UNIT CAN BE PLACED ON THE OPPOSITE SIDE WITH A PALLET JACK AFTER COMPLETING ALL THE TIERS ON THE LEFT SIDE.

CHART NO. 185	
NUMBER OF ROWS ACROSS THE WIDTH	
UNIT LENGTH OR WIDTH	NUMBER OF ROWS
35' TO 37'	6
OVER 37' TO 44-1/2'	5
OVER 44-1/2' TO 54'	4

CHART NO. 186	
NUMBER OF TIERS (LAYERS) HIGH	
UNIT HEIGHT	NUMBER OF TIERS
15' TO 16"	8
OVER 16" TO 18-1/2"	7
OVER 18-1/2" TO 21-1/2"	6
OVER 21-1/2" TO 26"	5
OVER 26" TO 32-1/2"	4
OVER 32-1/2" TO 43"	3
OVER 43" TO 54"	2

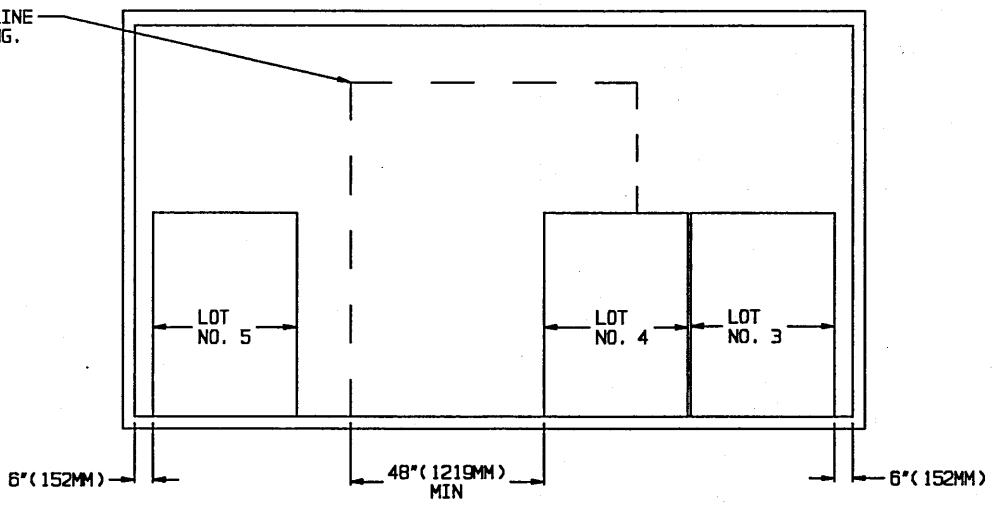
CHART NO. 187				
NUMBER OF STACKS IN BUNKER				
UNIT DIMENSION LENGTHWISE IN BUNKER	"B" STACKS		"C" STACKS	
	NO.	MHE AISLE	NO.	SPACE REMAIN
54"	6	12'-6"	2	39'
53"	6	13'-0"	2	47'
52"	6	13'-6"	2	55'
51"	6	14'-0"	3	12'
50"	6	14'-6"	3	21'
49"	6	15'-0"	3	30'
48"	7	11'-6"	2	39'
47"	7	12'-1"	2	48'
46"	7	12'-8"	3	11'
45"	7	13'-3"	3	21'
44"	7	13'-10"	3	31'
43"	8	10'-10"	2	41'
42"	8	11'-6"	3	9'
41"	8	12'-2"	3	20'
40"	8	12'-10"	3	31'
39"	8	13'-6"	3	42'
38"	9	11'-0"	3	15'
37"	9	11'-9"	3	27'
36"	9	12'-6"	3	39'
35"	9	13'-3"	4	16'

CHART NO. 188		
NUMBER OF UNITS DEEP IN TYPE "C" STACKS		
UNIT DIMENSION CROSSWISE	ONE SIDE	OPPOSITE SIDE
35" TO 38"	3	1
OVER 38" TO 54"	2	1



ARROWS INDICATE DIRECTION OF STORAGE FROM FRONT AND/OR REAR TOWARD CENTER OF THE LENGTH OF THE BUNKER.

INDICATES OUTLINE OF DOOR OPENING.



SECTION CC-CC

SPECIAL NOTES:

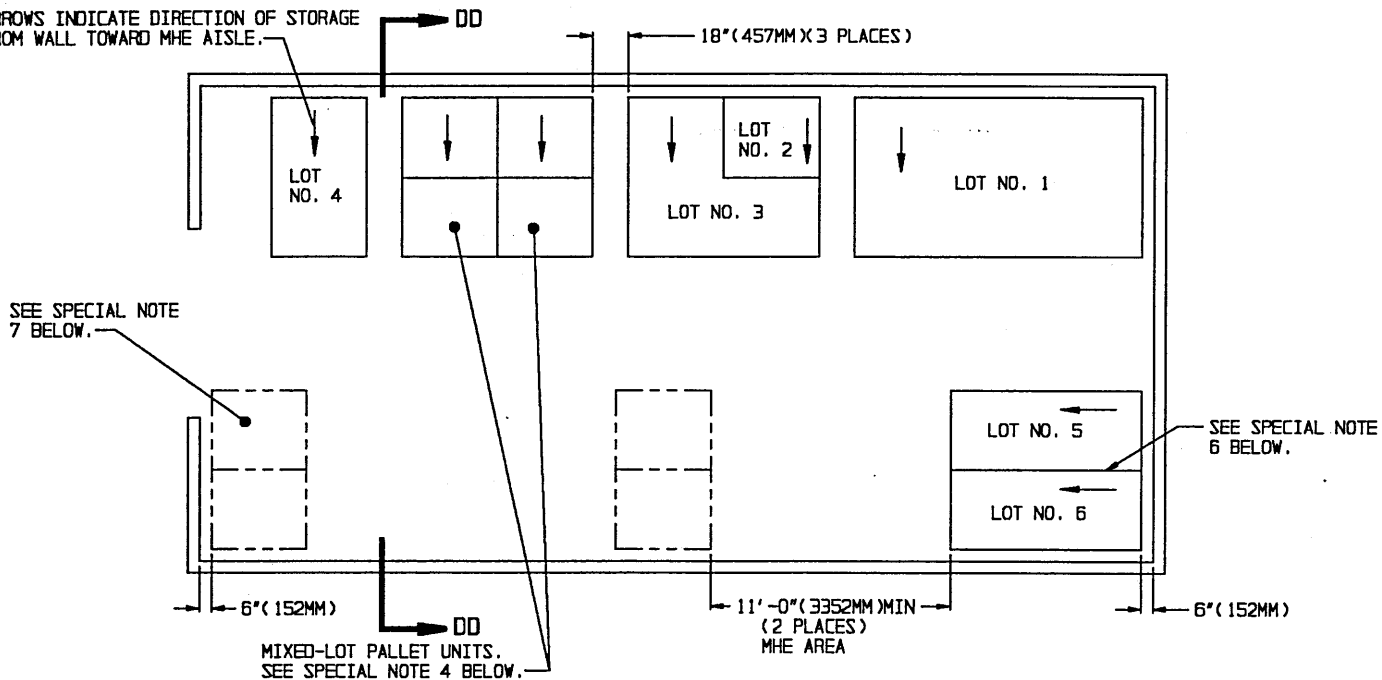
(SPECIAL NOTES CONTINUED)

1. THE MULTIPLE LOT STORAGE PLAN SHOWN IS TYPICAL ONLY. ADAPTATIONS MAY BE MADE TO THE STORAGE PLAN AS THE NUMBER AND SIZES OF LOTS TO BE STORED IN THE BUNKER REQUIRE.
2. THE LARGEST LOT WILL BE STORED IN TYPE "B" STACKS ACROSS THE REAR OF THE BUNKER. SEE "CHART 185" ON PAGE 113 FOR GUIDANCE AS TO THE NUMBER OF ROWS IN THESE STACKS. IF THE LOT OCCUPIES LESS THAN 1/4 OF THE MAGAZINE, STORAGE IN REAR OF BUNKER OF MORE THAN ONE (1) LOT MAY BE ERRECTED IN ROWS SIMILIAR TO THAT SHOWN IN THE FRONTAL AREA. THE SMALLER LOTS WILL BE STORED IN ROWS RUNNING THE LENGTH OF THE BUNKER. LOTS WILL NOT BE MIXED WITHIN STORAGE STACKS, BUT ONLY TO THE EXTENT THAT ITEMS OF ONE LOT WILL NOT BE STACKED ON TOP OF ITEMS OF ANOTHER LOT.
3. EXCEPT FOR EACH ROW ADJACENT TO THE EXCESS SPACE, AT THE REAR, OR ON EITHER SIDE OF THE DOOR OPENING, LOTS CONSISTING OF NARROW UNITS MUST BE STORED TWO (2) UNITS WIDE TO PROVIDE SUFFICIENT OPERATING WIDTH FOR THE MATERIALS HANDLING EQUIPMENT (MHE). IF THE UNIT DIMENSION WHICH IS POSITIONED ACROSS THE BUNKER, LENGTH OR WIDTH, AS APPLICABLE, IS GREAT ENOUGH TO PROVIDE SUFFICIENT MHE OPERATING WIDTH, LOTS NEED NOT BE STORED IN DOUBLE ROWS.

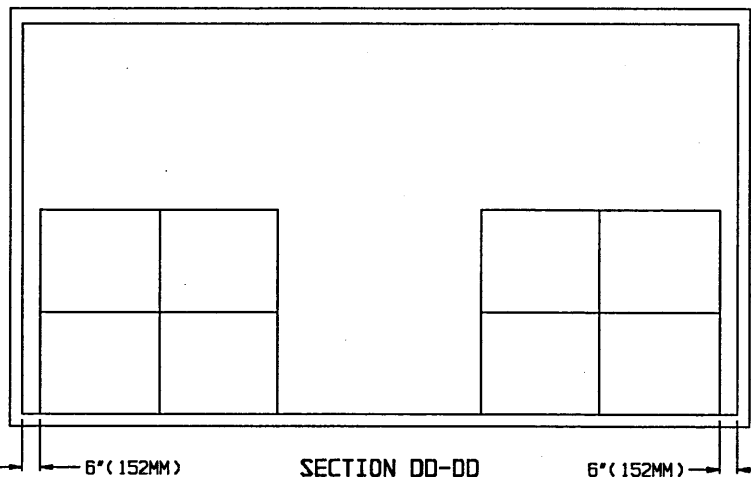
4. FOR ADDITIONAL GUIDANCE IN THE STORAGE OF MULTIPLE LOTS, SEE THE TYPICAL PLAN VIEW AND THE SPECIAL NOTES ON PAGE 115.

(CONTINUED AT RIGHT)

ARROWS INDICATE DIRECTION OF STORAGE FROM WALL TOWARD MHE AISLE.



TYPICAL PLAN VIEW



SECTION DD-DD

SPECIAL NOTES:

1. THE STORAGE PLANS AND CONFIGURATIONS SHOWN ON THIS PAGE ARE TYPICAL ONLY AND APPLY TO STORAGE OF NUMEROUS SMALL LOTS. ADAPTATIONS MAY BE MADE TO SUIT DIMENSIONS OF THE PALLET TO BE STORED AND AS NUMBER AND SIZES OF LOTS IN BUNKER REQUIRE. THE TYPICAL PALLETIZED UNIT SHOWN IS 40" LONG BY 48" WIDE BY 40" HIGH.
2. AN INSPECTION/INVENTORY 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 BUNKER. 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 BUNKER, 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.
3. A MIXED-LOT PALLET UNIT MAY HAVE FROM TWO LOTS PER PALLET UNIT UPWARDS TO AS MANY DIFFERENT LOTS AS BOXES WITHIN THAT UNIT. HOWEVER, ALL ITEMS AND LOTS WITHIN THE PALLET UNIT MUST HAVE THE SAME NATIONAL STOCK NUMBER AND CONDITION CODE.
5. EACH LOT WITHIN THE BUNKER 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

(CONTINUED AT RIGHT)

(SPECIAL NOTES CONTINUED)

- GAIN ACCESS TO THE SINGLE-LOT OR MIXED-LOT UNITS. A "LIFT" MAY CONSIST OF ONE (1) OR MORE PALLET UNITS, PROVIDING THE CAPACITY OF MHE PERMITS, AND SAFE HANDLING IS NOT JEOPARDIZED.
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. 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-FOOT MHE OPERATING AREA HAS BEEN SPECIFIED FOR ACCESS TO EACH "ADDITIONAL LOCATION" BY FORKLIFT TRUCK. THIS OPERATING AREA IS BASED ON REQUIREMENTS OF FORKLIFT TRUCKS COMMONLY USED IN STORAGE MAGAZINES. THE MHE OPERATING AREA CAN BE ENLARGED AS REQUIRED TO SUIT AVAILABLE FORKLIFT TRUCKS, AND SHOULD BE MADE SMALLER IF AVAILABLE MHE PERMITS. A "CENTER AISLE" (SPACE BETWEEN STORAGE ON ONE SIDE OF A MAGAZINE AND AN "ADDITIONAL STORAGE LOCATION") IS TO BE AT LEAST 48" INCHES WIDE. AN AISLE SLIGHTLY WIDER THAN 48" INCHES WILL ENHANCE FORKLIFT TRUCK MOVEMENT WITHIN A BUNKER; HOWEVER, THIS AISLE SHOULD NOT BE MADE WIDER IF A LOSS IN STORAGE RESULTS.

