APPROVED BY	APPROVED BY
U.S. COAST GUARD	BUREAU OF EXPLOSIVES
Restorely coe uses	E. P. Ralley
J	BUPERVISOR, MILITARY & INTERMODAL SERVICES
 DATE 5-6-83	DATE 4/11/83

LOADING AND BRACING IN MILVAN CONTAINERS OF 2.75" ROCKETS, ROCKET MOTORS, AND ROCKET WARHEADS

- LOADING AND BRACING SPECIFICATIONS SET FORTH WITHIN THIS DRAWING ARE APPLICABLE TO LOADS THAT ARE TO BE SHIPPED BY TRAILER/CONTAINER-ON-FLAT-CAR (T/COFC) RAIL CARRIER SERVICE. THESE SPECIFICATIONS MAY ALSO BE USED FOR LOADS THAT ARE TO BE MOVED BY MOTOR OR WATER CARRIERS.
- ONLY MILVAN CONTAINERS WHICH HAVE BEEN MODIFIED TO INCLUDE A MECHANICAL LOAD-BRACING SYSTEM THAT SATISFIES THE REQUIREMENTS OF THE BUREAU OF EXPLOSIVES PAMPHLET 6C WILL BE USED FOR THE MOVEMENT OF AMMUNITION BY T/COFC SERVICE. CAUTION: OTHER REQUIREMENTS OF PAMPHLET 6C ALSO APPLY.

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printo	

THIS DRAWING SUPERSEDES INTERIM PROCEDURAL DRAWINGS:

D-AMXAC-4290, dated February 1974 D-AMXAC-4291, dated February 1974 D-AMXAC-4292, dated February 1974 D-AMXAC-4293, dated June 1971

REVIS	IONS	B L.	DAKWE	new	
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		APPROVED B	Y ORDER OF COM	MANCHO GENERAL	U. S. ARBY
			LANNY DEFE	THE AMBRIMITION CE	HTER AND SCHOOL
		U. S.			DRAWING
-1/A			MAY	1983	
		CLASS	DIVISION	DRAWING	FILE
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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 OUTLOADING PROCEDURES SPECIFIED HEREIN ARE APPLICABLE TO SKIDDED BOX UNITS AND PALLETIZED UNITS OF 2,75" ROCKETS, ROCKET MOTORS, AND ROCKET WARHEADS. SUBSEQUENT REFERENCE TO SKIDDED BOX UNIT AND PALLET UNIT MEANS THE UNIT WITH AMMUNITION ITEMS. SEE PAGES 3, 4, AND 5 FOR THE UNIT DETAILS. CAUTION: REGARDLESS OF THE QUANTITY OF UNITS TO BE SHIPPED, THE "MAXIMUM GROSS WEIGHT" OF 44,800 POUNDS MUST NOT BE EXCEEDED.
- C. THE LOADS AS SHOWN ARE BASED ON A 20' LONG BY 8' WIDE BY 8' HIGH MILVAN CONTAINER WITH INSIDE DIMENSIONS OF 19'-4" LONG BY 92" WIDE BY 87" HIGH. THE LOADS ARE DESIGNED FOR TRAILER/CONTAINER-ON-FLAT CAR (T/COFC) SHIPMENT.
- CAR (T/COFC) SHIPMENT.

 D. THE SPECIFIED OUTLOADING PROCEDURES ARE FOR CONTAINERS EQUIPPED WITH SELF-CONTAINED MECHANICAL BRACING DEVICES AS DESCRIBED WITHIN BUREAU OF EXPLOSIVES PAMPHLET 6C, CROSS MEMBER ATTACHMENT FACILITIES WITHIN THESE CONTAINERS MUST PROVIDE FOR THE INSTALLATION OF LOAD BLOCKING CROSS MEMBERS AT THE HEIGHTS SPECIFIED. THE HEIGHT DIMENSIONS SPECIFIED WITHIN THIS DRAWING FOR THE INSTALLATION OF CROSS MEMBERS CONFORM WITH BUREAU OF EXPLOSIVES PAMPHLET 6C, WITH THE EXCEPTION THAT TWO (2) ADDITIONAL BELT RAILS HAVE BEEN SHOWN; ONE AT 72" AND ONE AT 83" HEIGHT FROM THE CONTAINER FLOOR. VOIDS LENGTHWISE WITHIN THE LOAD MUST BE HELD TO A MINIMUM. CROSS MEMBERS MUST BE PLACED AGAINST THE LADING AS TIGHTLY AS THE HOLE SPACING IN THE CROSS MEMBER ATTACHMENT FACILITY PERMITS. EACH CROSS MEMBER WILL BE INSTALLED WITH THE ENDS ATTACHED AS NEARLY AS POSSIBLE IN "MATED" POSITIONS (AT EQUIAL HEIGHTS, AND AT EQUIAL DISTANCES FROM THE END OF THE CONTAINERS). CROSS MEMBERS IN EMPTY CONTAINERS AND THOSE NOT USED IN LOADED CONTAINERS MUST BE FASTENED INTO BELT RAILS FOR SHIPMENT. COMPONENTS ASSIGNED TO EACH CONTAINER MUST REMAIN THEREIN EVEN THOUGH UNUSED DURING SOME SHIPMENT. SEE THE "FILL DETAIL" AND "FILL MATERIAL INSTALLATION" DETAIL ON PAGE 22 FOR THE DUNNAGING METHODS REQUIRED TO ELIMINATE AN EXCESSIVE LENGTHWISE VOID WITHIN A LOAD OR VOID BETWEEN DOUBLED CROSS MEMBERS. THE LOAD BLOCKING COMPONENT DESIGNATED AS "CROSS MEMBER" HERRIN, IS DENTIFIED AS "BEAM ASSEMBLY" WITHIN TM 55-5-8115-200-24, DATED SPIEMBER 1972. THE BEAM ASSEMBLY IS FURTHER IDENTIFIED AS NSN-8115-00-165-6623.
- E. DUNNAGE LUMBER SPECIFIED IS OF A NOMINAL SIZE. FOR EXAMPLE, 1" X 4" MATERIAL IS ACTUALLY 3/4" THICK BY 3-1/2" WIDE AND 2" X 6" MATERIAL IS ACTUALLY 1-1/2" THICK BY 5-1/2" WIDE.
- F. CAUTION: DO NOT NAIL DUNNAGE MATERIAL TO THE CONTAINER WALLS OR FLOOR. ALL NAILING WILL BE WITHIN THE DUNNAGE.
- G. A STAGGERED NAILING PATTERN WILL BE USED WHEREVER POSSIBLE WHEN NAILS ARE DRIVEN INTO JOINTS OF DUNNAGE ASSEMBLIES OR WHEN LAMINATING DUNNAGE. ADDITIONALLY, THE NAILING PATTERN FOR AN UPPER PIECE OF LAMINATED DUNNAGE WILL BE ADJUSTED AS REQUIRED SO THAT A NAIL FOR THAT PIECE WILL NOT BE DRIVEN THROUGH ONTO OR RIGHT BESIDE A NAIL IN A LOWER PIECE.
- H. PORTIONS OF THE CONTAINERS DEPICTED WITHIN THIS DRAWING, SUCH AS ONE OF THE SIDEWALLS, HAVE NOT BEEN SHOWN IN THE LOAD VIEWS FOR CLARITY PURPOSES.
- J. WHEN INSTALLING SPACER ASSEMBLIES IN THE LOADS, THE ASSEMBLIES MUST BE WIRE TIED IN PLACE. THE TIE WIRE WILL FORM A COMPLETE LOOP AROUND THE STRUT OF THE SPACER ASSEMBLY AND THE ADJACENT CROSS MEMBER. BRING THE ENDS OF THE WIRE TOGETHER AND TWIST TAUT. ALSO, THE TIE WIRE MUST BE SECURED TO THE SPACER ASSEMBLY WITH A PARTIALLY DRIVEN 10H NAIL BENT OVER THE WIRE, OR WITH A STRAP STAPLE. THE NAIL MAY BE DRIVEN INTO THE SIDE OR TOP OF A SPACER ASSEMBLY STRUT.

(CONTINUED AT RIGHT)

MATERIAL SPECIFICATIONS

MALLEN	INE STECTITONITORS	
<u>LUMBER</u> :	TM 743-200-1 (DUNNAGE LUMBER) AI FED SPEC MM-L-751.	
<u>NAILS</u> :	FED SPEC FF-N-105; COMMO	Ν,
WIRE	FED SPEC QQ-W-461.	
STAPLE, STRAP::	COMMERCIAL GRADE.	- 1.
	egipting and the second	

(GENERAL NOTES CONTINUED)

K. TO MAKE LOADING EASIER, TO HELP ACHIEVE A TIGHT LOAD ACROSS A CONTAINER, AND TO PREVENT UNACCEPTABLE DAMAGE TO LADING UNITS WHEN LOADING A MILVAN, A SLIP-SHEET CAN BE USED EFFECTIVELY AS A "SHOEHORN" TYPE DEVICE. THE SLIP-SHEET WILL PROVIDE A SMOOTH SURFACE THAT WILL PREVENT UNIT STRAPS AND/OR BOX CLEATS FROM INTERLOCKING OR CATCHING ON OTHER PROJECTIONS WHEN LATERALLY ADJACENT LADING UNITS ARE BEING LOADED. A SLIP-SHEET WILL BE USED AFTER ONE-HALF OF A STACK IS LOADED WITH ONE OF ITS SIDES IN TIGHT CONTACT AT ONE SIDE OF THE MILVAN. THE SLIP-SHEET IS TO BE PLACED AGAINST THE OTHER SIDE OF THE HALF-STACK BEFORE THE LAST HALF OF THE STACK IS LOADED. AFTER A STACK IS COMPLETED, THE SLIP-SHEET IS TO BE REMOVED FOR SUBSEQUENT USE WITH THE NEXT STACK. A SLIP-SHEET OF SUITABLE SIZE CAN BE MADE FROM A SHEET OF 1/8" TEMPERED HARDBOARD (MASONITE) OR FROM A SHEET OF ANY OTHER MATERIAL THAT WILL SATISFY THE REQUIREMENTS.

L. MAXIMUM LOAD WEIGHT CRITERIA:

THE ITEMIZED LOAD WEIGHTS ARE CONTROLLED BY EQUIPMENT CAPABILITY FACTORS. ALSO, THESE LISTED LOAD WEIGHTS IDENTIFY THE MAXIMUM COMBINED WEIGHT OF AMMUNITION LADING UNITS AND DUNNAGE THAT CAN BE PLACED INTO ONE (1) MILYAN CONTAINER WITHOUT VIOLATING ONE OR MORE OF THE "CAPABILITY FACTORS". SEE NOTES 1 AND 2.

39, 100 LBS IN 20-FT CONTAINER (W/O CHASSIS) ABOARD CONTAINERSHIP.
39, 100 LBS IN CONTAINER ON 20-FT CHASSIS WITH DOUBLE BOGIE. SEE NOTE 3.
25,300 LBS IN EACH CONTAINER ON 40-FT CHASSIS (COUPLED WITH DOUBLE BOGIE). SEE NOTE 3.

NOTE 1: DUNNAGE INCLUDES MATERIALS, OTHER THAN COMPONENTS OF THE MECHANICAL LOAD-BRACING SYSTEM, USED TO BLOCK AND BRACE A LOAD.

NOTE 2: ALTHOUGH THE HEAVIEST MAXIMUM LOADS ARE DELINEATED IN THE LOAD VIEWS, PROVISIONS ARE INCLUDED WITHIN THIS DRAWING SO THAT THE BASIC LOAD CAN BE ADJUSTED TO SATISFY A LESSER QUANTITY OF LADING UNITS. ADDITIONAL INSTRUCTIONS ARE UNDER THE "REDUCED-LOAD PROVISIONS" SECTIONS ON PAGES 7, 9, 11, 13, 15, 17, 19 AND 21.

NOTE 3: DEPENDING ON TRANSPORTATION ROUTING, IT MAY BE NECESSARY TO REDUCE THE LOAD WEIGHT TO SATISFY "WEIGHT LAWS" OF CERTAIN STATES," ALSO IT MAY BE NECESSARY TO REDUCE THE LOAD WEIGHT TO SATISFY OTHER WEIGHT RESTRICTIONS IMPOSED ON THE MILVAN SYSTEM.

NOTE 4: BY SPECIAL AUTHORITY, IT MAY BE POSSIBLE TO MOVE HEAVIER LOADS ON SINGLE BOGIE CHASSIS WITHIN AN INSTALLATION.

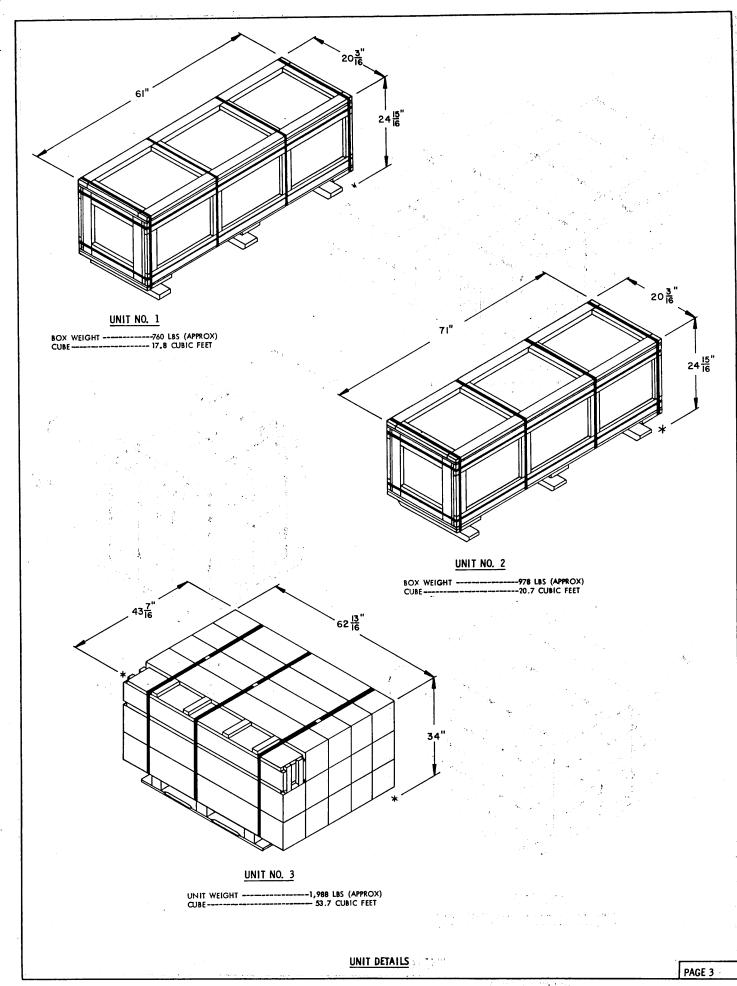
M. SPECIAL T/COFC NOTES:

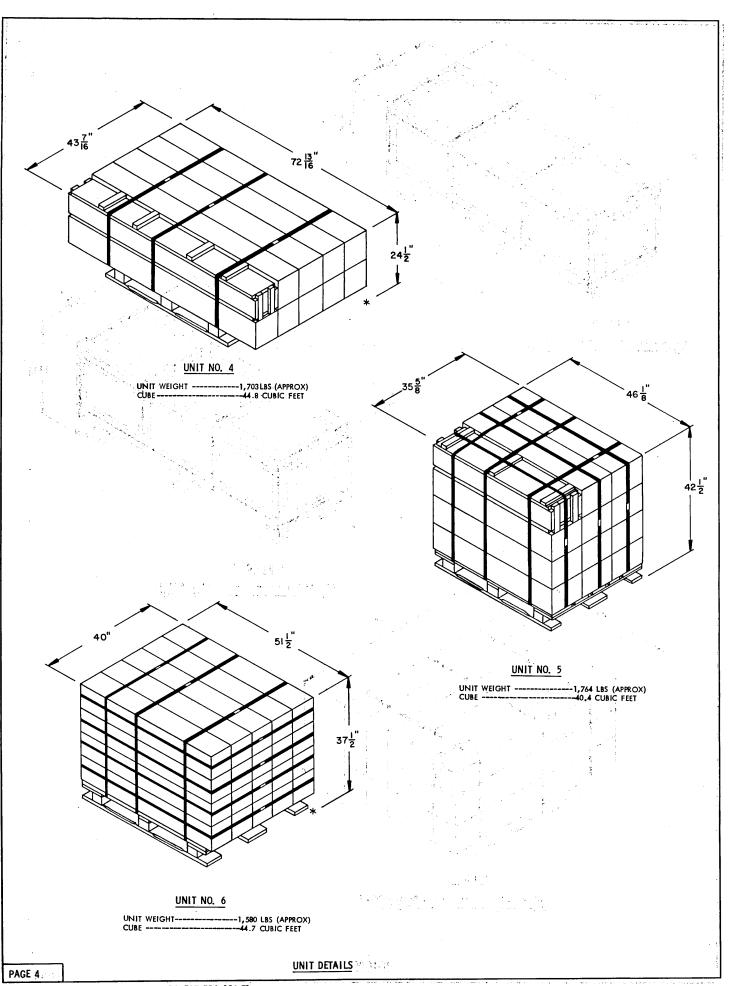
- 1. CAUTION: LOADED CONTAINERS MUST BE ON CHASSIS EQUIPPED WITH TWO BOGIE ASSEMBLIES WHEN BEING MOVED IN TOFC SERVICE, REGARDLESS OF LOAD WEIGHT WITHIN THE CONTAINERS.
- 2. LOAD LIMITS OF T/COFC RAIL CARS MUST NOT BE EXCEEDED, NOR WILL A CAR BE LOADED SO THAT THE TRUCK UNDER ONE END OF THE CAR CARRIES MORE THAN ONE-HALF OF THE LOAD LIMIT FOR THAT CAR.
- 3. CHASSIS/CONTAINERS COUPLED INTO A 40-FOOT TRAILER CONFIGURATION MUST BE PLACED AT THE B-END OF A TOFC RAIL CAR. THE REAR END OF THE 40-FOOT UNIT WILL OVER-HANG THE END OF THE CAR IF IT IS PLACED AT THE A-END. TWENTY-FOOT AND 40-FOOT UNITS CAN BE LOADED ON THE SAME CAR.
- N. CONVERSION TO METRIC EQUIVALENTS: DIMENSIONS WITHIN THIS DOCUMENT ARE EXPRESSED IN INCHES, AND WEIGHTS ARE EXPRESSED IN POUNDS. WHEN NECESSARY, THE METRIC EQUIVALENTS MAY BE COMPUTED ON THE BASIS OF ONE INCH EQUALS 25,4MM, AND ONE POUND EQUALS 0.454KG.

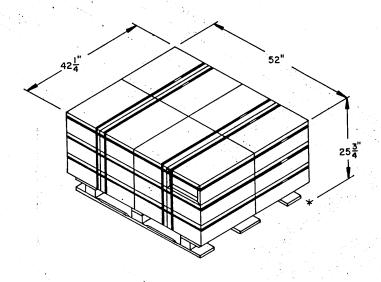
REDUCED-LOAD PROVISIONS

WHEN A CONTAINER IS TO BE LOADED WITH A REDUCED QUANTITY OF LADING UNITS, THE LENGTH-WISE CENTER OF GRAVITY OF A LOAD MUST BE WITHIN 12", IN EITHER DIRECTION, OF THE MID-POINT IN A MILVAN, AND THE FOLLOWING CRITERIA WILL APPLY

- A. IF A LOAD IS REDUCED BY ONLY A SMALL AMOUNT, LADING UNITS NORMALLY MAY BE ELIMINATED FROM THE REAR OF THE LOAD. SEE THE "ALTERNATIVE LOAD-ING PATTERN" PROCEDURES FOR EACH SPECIFIC LOAD SHOWN FOR ADDITIONAL GUIDANCE.
- B. IF A LOAD IS REDUCED BY A LARGE AMOUNT, LADING UNITS SHOULD BE ELIMINATED FROM LOCATIONS WITHIN THE LOAD OR LADING UNITS SHOULD BE ELIMINATED AS REQUIRED AND THE TOTAL LOAD SHIFTED AS NECESSARY FORE OR AFT, TO ACHIEVE A SYMMETRICAL WEIGHT DISTRIBUTION. THE DEPICTED PROCEDURES WILL BE FOLLOWED AS CLOSELY AS POSSIBLE, MAKING ONLY THOSE ADJUSTMENTS TO THE DUNNAGE WHICH ARE REQUIRED TO ACCOMODATE THE NUMBER OF UNITS TO BE SHIPPED.
- C. COMBINATIONS OF THE VARIOUS DEPICTED LOADING PATTERNS MAY BE USED TO SATISFY THE NUMBER OF UNITS TO BE SHIPPED. HOWEVER, EACH LOAD BAY WILL BE INDEPENDENTLY BLOCKED AS A SEPARATE LOAD BAY IN ACCORDANCE WITH THE DEPICTED PROCEDURES FOR THAT SPECIFIC LOADING PATTERN.

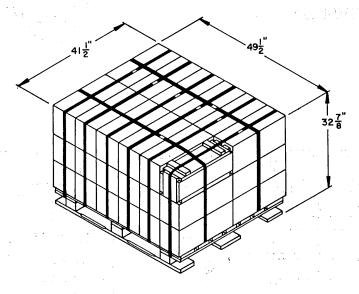






UNIT NO. 7

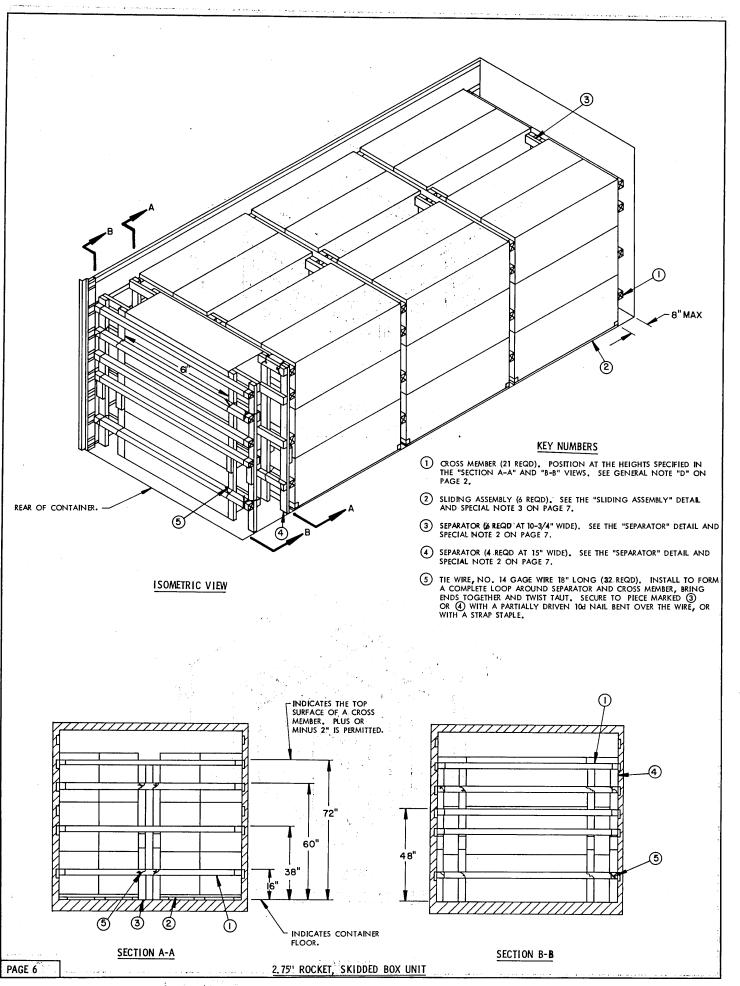
UNIT WEIGHT -----2, 127 LBS (APPROX)
CUBE -----32,7 CUBIC FEET

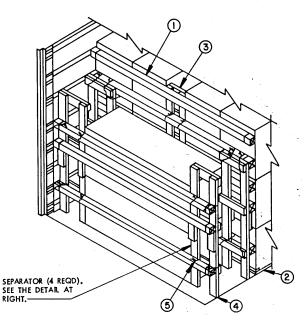


UNIT NO. 8

UNIT WEIGHT -----2, 194 LBS (APPROX)
CUBE -----39,1 CUBIC FEET

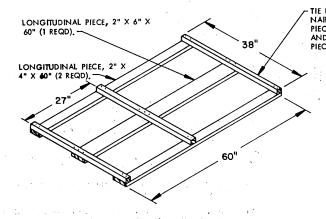
INIT DETAILS





ALTERNATIVE LOADING PATTERN

THE DETAIL ABOVE SPECIFIES A BLOCKING METHOD TO BE USED IN A "REDUCED-LOAD" CONTAINER LOAD. FOR ADDITIONAL GUIDANCE, SEE THE "REDUCED-LOAD PROVISIONS" ON PAGE 2.



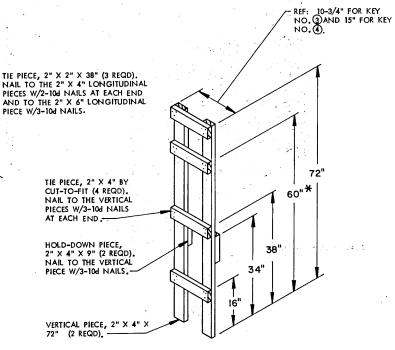
SLIDING ASSEMBLY

SEE SPECIAL NOTE 3 ABOVE.

BILL OF MATERIAL BOARD FEET LINEAR FEET LUMBER 19 2" X 2" 57 2" X 4" 237 158 2" X 6" 30 30 NAILS NO. REQD POUNDS 104 (3") 458 7-1/4

SPECIAL NOTES:

- THE LOAD VIEWS AND THE LOAD AS SHOWN ON PAGES 6 AND 7 ARE BASED ON THE 2.75 INCH ROCKETS, PACKED TWENTY-FIVE PER SKIDDED BOX WITH A UNIT WEIGHT OF 760 POUNDS. SEE UNIT NO. 1 ON PAGE 3.
- 2. THE SEPARATOR AS DETAILED BELOW NEED NOT BE FABRICATED FOR A DRIVE FIT. THE SEPARATOR SHOULD BE FABRICATED SO THAT IT MAY BE EASILY INSTALLED. HOWEVER, IT MUST FIT TIGHT ENOUGH SO AS TO NOT ALLOW MORE THAN ONE-HALF INCH (1/2") VOID ACROSS THE WIDTH OF A BRACED LOAD.
- 3. THE SLIDING ASSEMBLY, PIECE MARKED ② , HAS BEEN DEPICTED UNDER EACH OF THE TWO-WIDE THREE-HIGH BOX STACKS TO FACILITATE REMOVAL OF THE BOXES FROM THE CONTAINER.
- 4. CAUTION: EXERCISE CARE WHEN POSITIONING THE SKIDDED BOX UNITS IN THE CONTAINER TO INSURE THAT THE UNITS ARE PLACED AS CLOSE AS POSSIBLE AGAINST THE SIDEWALLS OF THE CONTAINER.



SEPARATOR

SEE SPECIAL NOTE 2 ABOVE.

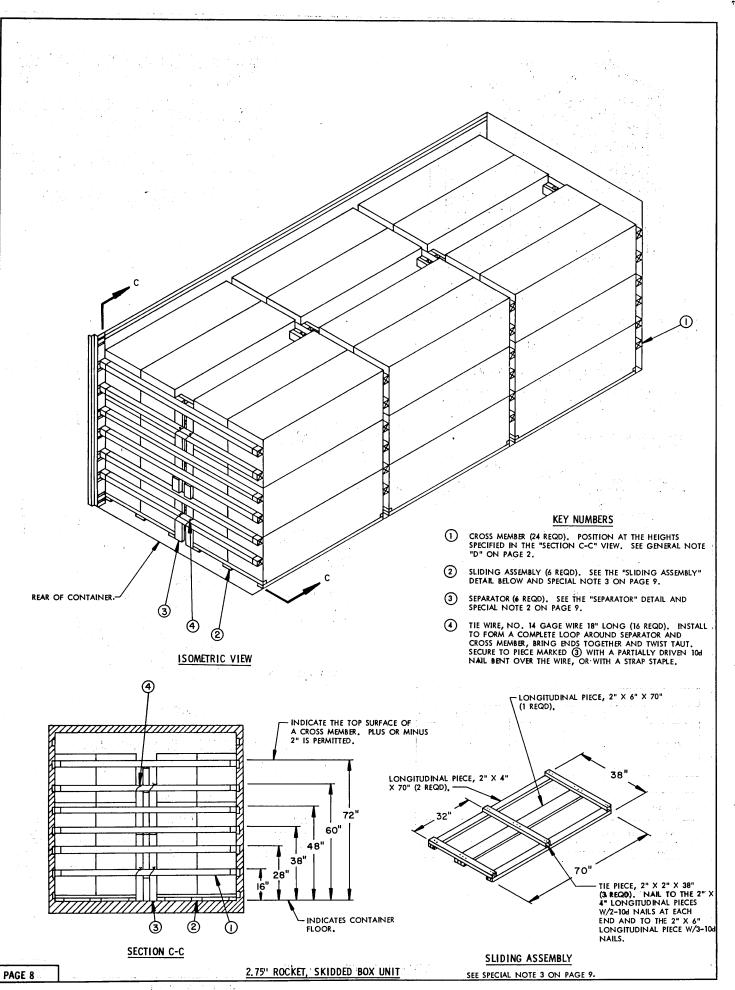
* WHEN THE "SEPARATOR" IS USED IN A LOAD CONFIGURATION AS SHOWN BY THE "ALTERNATIVE LOADING PATTERN"
ABOVE, THE OVERALL HEIGHT OF THE "SEPARATOR" WILL BE
60". THE OTHER DIMENSIONS WILL REMAIN THE SAME.

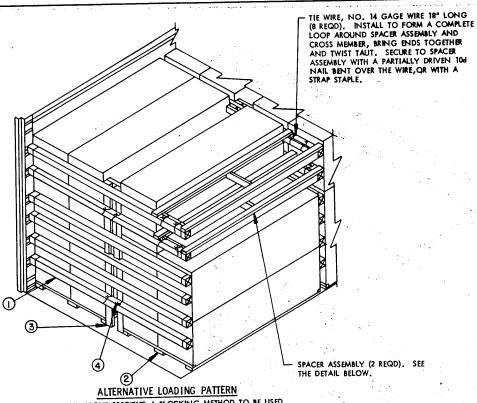
LOAD AS SHOWN

ITEM	QUANTITY	WEIGHT (APPROX)
CONTAINER		5,700 LBS
		

TOTAL GROSS WEIGHT ----- 35,762 LBS

2.75" ROCKET, SKIDDED BOX UNIT



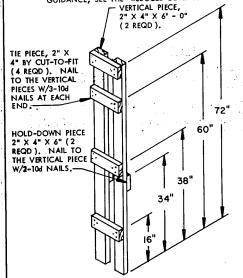


SPECIAL NOTES:

- THE LOAD VIEWS AND THE LOAD AS SHOWN ON PAGES 8 AND 9 ARE BASED ON THE 2.75 INCH ROCKETS PACKED TWENTY-FIVE PER SKIDDED BOX WITH A UNIT WEIGHT OF 978 POUNDS. SEE UNIT NO. 2 ON PAGE 3.
- 2. THE SEPARATOR AND SPACER ASSEMBLY AS THE SEPARATOR AND SPACER ASSEMBLY AS DETAILED BELOW AND AT THE LEFT NEED NOT BE FABRICATED FOR A DRIVE FIT. THE ASSEMBLIES SHOULD BE FABRICATED SO THAT THEY CAN BE EASILY INSTALLED. HOWEVER, THEY MUST FIT TIGHT ENOUGH SO AS TO NOT ALLOW MORE THAN ONE-HALF INCH (1/2") VOID ACROSS THE WIDTH OF A BRACED LOAD.
- THE SLIDING ASSEMBLY, PIECE MARKED (2), HAS BEEN DEPICTED UNDER THE TWO-WIDE CONTAINER STACKS TO FACILITATE REMOVAL OF THE BOXES FROM THE CONTAINER CONTAINER.
- CAUTION: EXERCISE CARE WHEN POSITION-CONTAINER TO INSURE THAT THE UNITS
 ARE PLACED AS CLOSE AS POSSIBLE
 AGAINST THE SIDEWALLS OF THE CONTAINER.



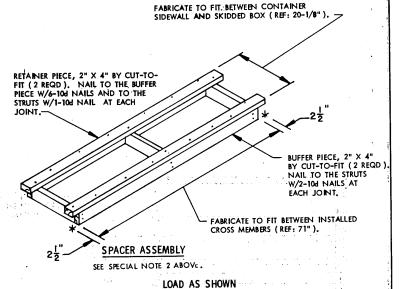
THE DETAIL ABOVE SPECIFIES A BLOCKING METHOD TO BE USED IN A "REDUCED-LOAD" CONTAINER LOAD. FOR ADDITIONAL GUIDANCE, SEE THE "REDUCED-LOAD PROVISIONS" ON PAGE 2.



SEPARATOR

SEE SPECIAL NOTE 2 ABOVE.

LUMBER	LINEAR FEET	BOARD FEET
2" X 2"	57	19
2" X 4"	189	126
2" X 6"	35	35
NAILS	NO. REQD	POUNDS
10d (3")	326	5-1/4



QUANTITY

TOTAL GROSS WEIGHT ----- 41,274 LBS

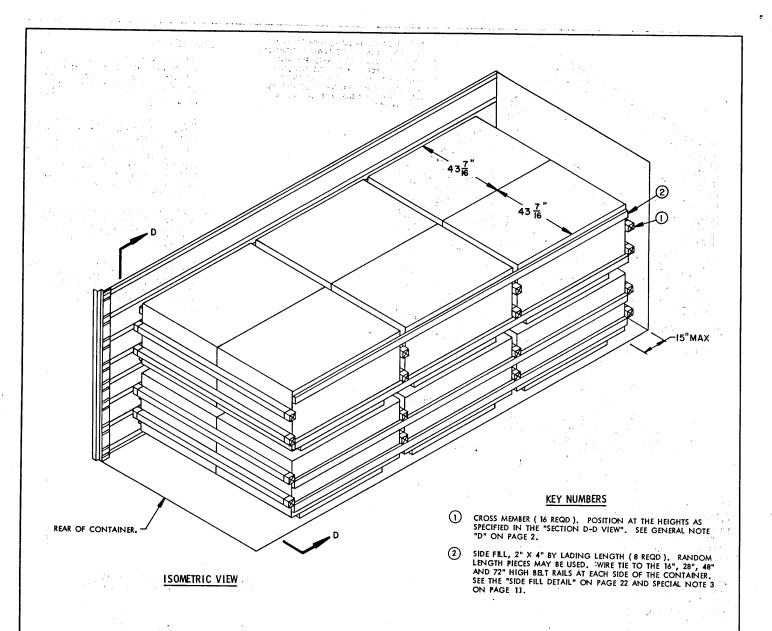
2.75' ROCKET, SKIDDED BOX UNIT

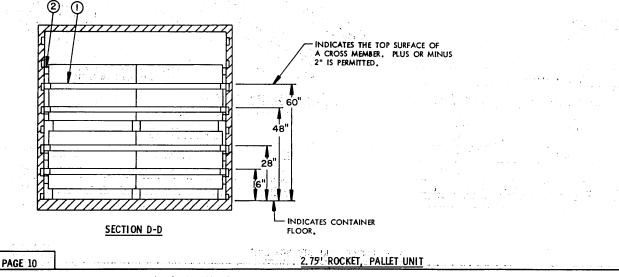
ITEM + DUNNAGE

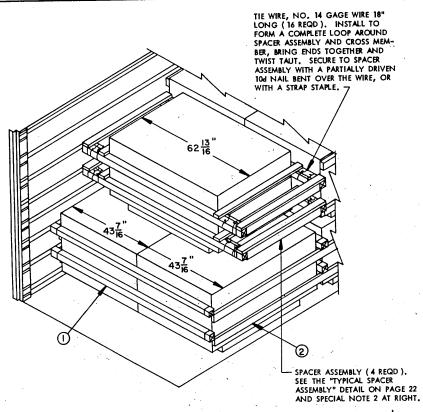
PAGE 9

WEIGHT (APPROX)

5,700 LBS







SPECIAL NOTES:

- THE LOAD VIEWS AND THE LOAD AS SHOWN ON PAGES 10 AND 11 ARE BASED ON A 15-BOX PALLET UNIT OF 2.75" ROCKETS WITH A UNIT WEIGHT OF 1,988 POUNDS. SEE UNIT NO. 3 DETAIL ON PAGE 3.
- 2. THE TYPICAL SPACER ASSEMBLY AS DETAILED ON PAGE 22 NEED NOT BE FARRICATED FOR A DRIVE FIT. THE ASSEMBLY SHOULD BE FARRICATED SO THAT IT CAN BE EASILY INSTALLED. HOWEVER, IT MUST FIT TIGHT ENOUGH SO AS TO NOT ALLOW MORE THAN ONE-HALF INCH (1/2") VOID ACROSS THE WIDTH OF A BRACED LOAD.
- 3. THE THICKNESS OF SIDE FILL PIECES AS DEPICTED ON EACH SIDE OF THE LOAD MUST BE ADJUSTED, AS REQUIRED, TO COMPLY WITH THE DIMENSIONAL VARIANCE OF THE PALLET UNIT,, SO AS TO NOT ALLOW MORE THAN ONE AND ONE-HALF INCH (1-1/2*) YOND ACROSS THE WIDTH OF A BRACED LOAD. ADJUSTMENTS CAN BE MADE BY USING A DIFFERENT THICKNESS FILL PIECE OR BY LAMINATING ADDITIONAL PIECES TO THE SPECIFIED FILL PIECES ON ONE OR BOTH SIDES OF THE LOAD.

ALTERNATIVE LOADING PATTERN

THE DETAIL ABOVE SPECIFIES A BLOCKING METHOD TO BE USED IN A "REDUCED-LOAD" CONTAINER LOAD, FOR ADDITIONAL GUIDANCE, SEE THE "REDUCED-LOAD PROVISIONS" ON PAGE 2.

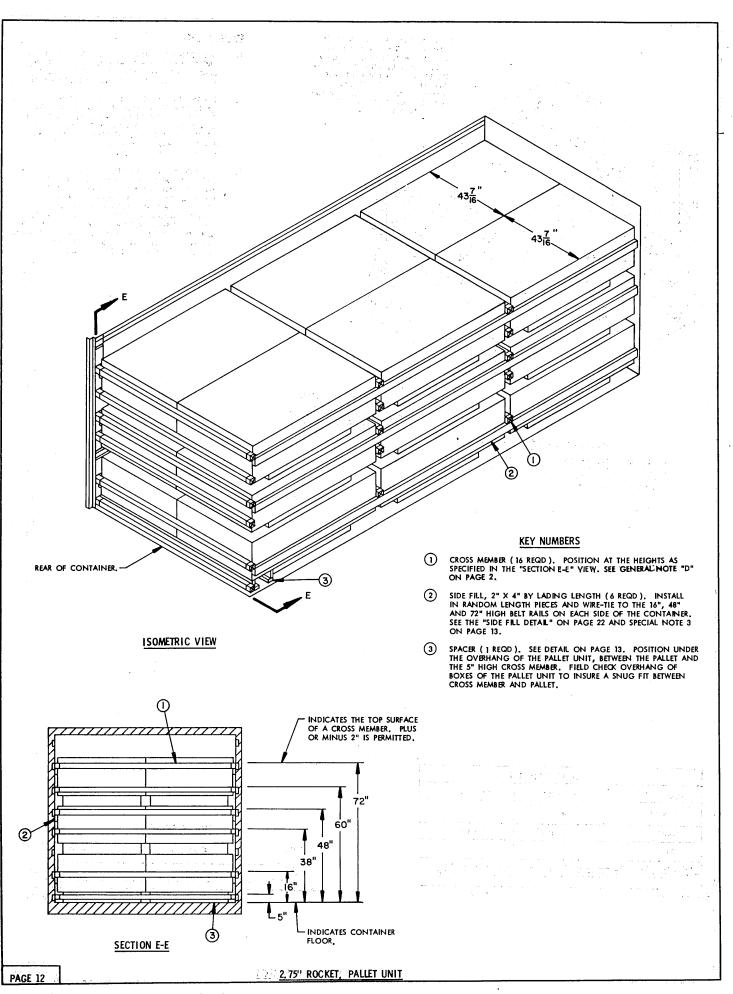
.UMBER	LINEAR FEET	BOARD FEET
2" X 4"	130	87
NAILS	NO. REQD	POUNDS
10d (3")	40	3/4

LOAD AS SHOWN

PALLET	
DOMINOUS	BS
CONTAINER 5,700 L	BS

TOTAL GROSS WEIGHT -----

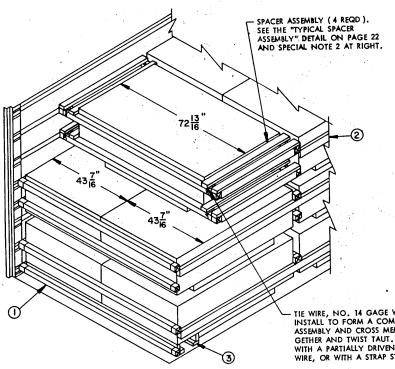
---- 29,732 LBS



SPECIAL NOTES:

- 1. THE LOAD VIEWS AND THE LOAD AS SHOWN ON PAGES
 12 AND 13 ARE BASED ON A 10-BOX PALLET UNIT OF
 2.75" ROCKETS WITH A UNIT WEIGHT OF 1,703 POUNDS.
 SEE UNIT NO. 4 DETAIL ON PAGE 4.
- 2. THE TYPICAL SPACER ASSEMBLY AS DETAILED ON PAGE 22 NEED NOT BE FABRICATED FOR A DRIVE FIT. THE ASSEMBLY SHOULD BE FABRICATED SO THAT IT CAN BE EASILY INSTALLED. HOWEVER, IT MUST FIT TIGHT ENOUGH SO AS TO NOT ALLOW MORE THAN ONE-HALF INCH (1/2") VOID ACROSS THE WIDTH OF A BRACED LOAD.
- 3. THE THICKNESS OF SIDE FILL PIECES AS DEPICTED ON EACH SIDE OF THE LOAD MUST BE ADJUSTED, AS REQUIRED, TO COMPLY WITH THE DIMENSIONAL VARIANCE OF THE PALLET UNIT, SO AS TO NOT ALLOW MORE THAN ONE AND ONE-HALF INCH (1-1/2") VOID ACROSS THE WIDTH OF A BRACED LOAD. ADJUSTMENTS CAN BE MADE BY USING A DIFFERENT THICKNESS FILL PIECE OR BY LAMINATING ADDITIONAL PIECES TO THE SPECIFIED FILL PIECES ON ONE OR BOTH SIDES OF THE LOAD.

STRUT, 2" X 4" BY CUT-TO-FIT (4 REQD).



TIE WIRE, NO. 14 GAGE WIRE 18" LONG (8 REQD).
INSTALL TO FORM A COMPLETE LOOP AROUND SPACER
ASSEMBLY AND CROSS MEMBER, BRING ENDS TOGETHER AND TWIST TAUT. SECURE TO SPACER ASSEMBLY
WITH A PARTIALLY DRIVEN 104 NAIL BENT OVER THE
WIRE, OR WITH A STRAP STAPLE.

ALTERNATIVE LOADING PATTERN

THE DETAIL ABOVE SPECIFIES A BLOCKING METHOD TO BE USED IN A "REDUCED-LOAD" CONTAINER LOAD. FOR ADDITIONAL GUIDANCE, SEE THE "REDUCED-LOAD PROVISIONS" ON PAGE 2.

RISER PIECE, 2" X 4" BY
CONTAINER WIDTH MINUS 1"
(2 REQD). NAIL TO THE BUFFER
PIECE W/1-10d NAIL EVERY 12" AND T
EACH STRUT W/1-10d NAIL.

" Uffer 12" and to				
12" AND 10	/			
				\gg
		`		
BUFFER PIECI	E, 2" X 4" 1	Y CONTAINE		
		OD \ NIAH T	0	- X/ '
WIDTH MINU	JS 1" (2 RE	US AT FACH	IOINT	⋰
THE STRUTS	W/2-10d NA	ILS AT EACH .	IOINT.	
THE STRUTS	W/2-10d NA	ILS AT EACH	IOINT.	
WIDTH MINU THE STRUTS	W/2-10d NA	NILS AT EACH .	IOINT.—	s na
WIDTH MINU THE STRUTS	W/2-10d NA	ILS AT EACH .	IOINT.—	<u>SP/</u>
WIDTH MINU THE STRUTS	W/2-10d NA	NILS AT EACH .	IOINT.—	
WIDTH MINL THE STRUTS	W/2-10d NA	NILS AT EACH .	OINT.	

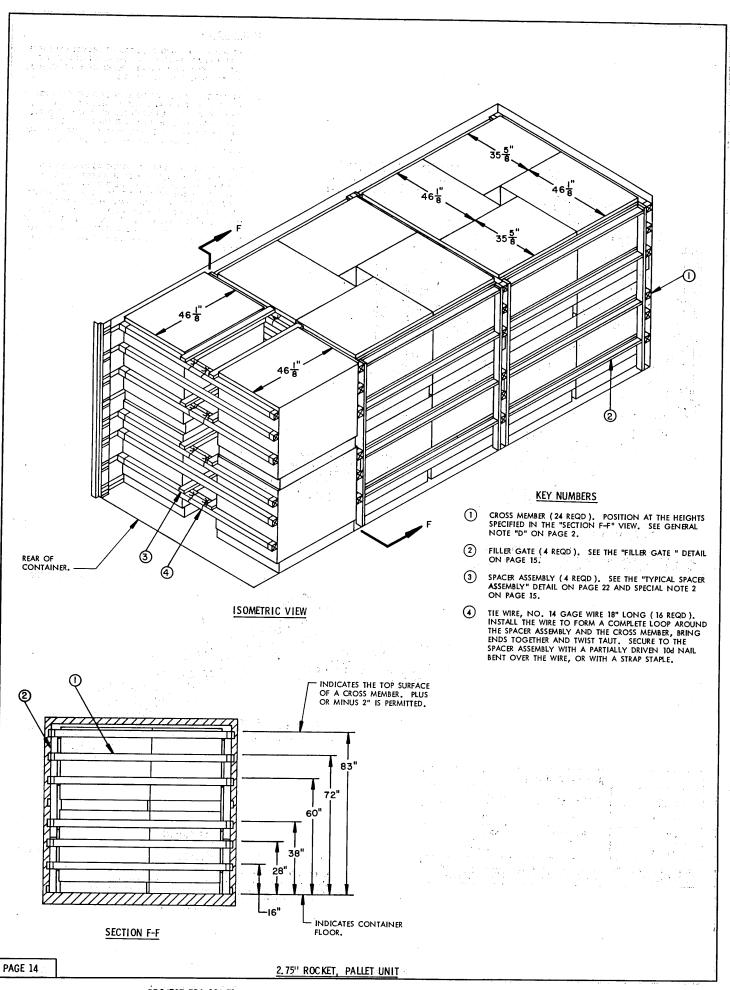
12 2 (REF)

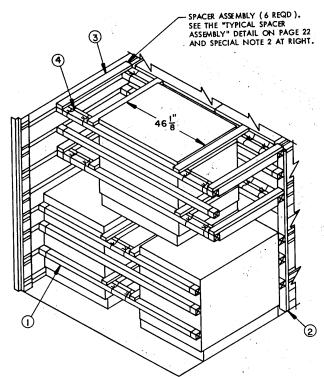
	BILL OF MATERIA	L
LUMBER	LINEAR FEET	BOARD FEET
2" × 4"	146	98
NAILS	NO. REQD	POUNDS
10d (3")	76	1-1/4
	541 05	OD 1 IR

LOAD AS SHOWN

ITEM	QUANTITY	WEIGHT (APPROX)
PALLET UNIT	18	30,654 LBS 199 LBS 5,700 LBS
CONTAINER		
	TOTAL GROSS WEIGHT	36,553 LBS

2,75" ROCKET, PALLET UNIT





ALTERNATIVE LOADING PATTERN

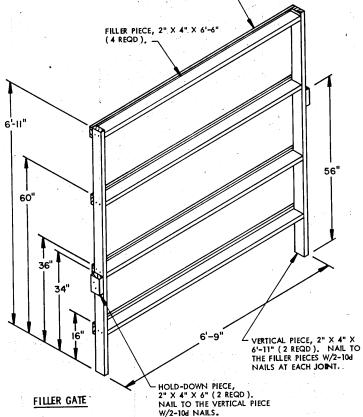
THE DETAIL ABOVE SPECIFIES A BLOCKING METHOD TO BE USED IN A "REDUCED-LOAD" CONTAINER LOAD. FOR ADDITIONAL GUIDANCE, SEE THE "REDUCED-LOAD PROVISIONS" ON PAGE 2.

	ILL OF MATERIAL		
LUMBER	LINEAR FEET	BOARD FEET	
1" X 4" 2" X 4"	108 240	36 160	
NAILS	NO. REQD	POUNDS	
6d (2".) 10d (3")	144 176	1 2-3/4	
WIRE, NO. 14 GAGE			

SPECIAL NOTES:

- THE LOAD VIEWS AND THE LOAD AS SHOWN ON PAGES 14 AND 15 ARE BASED ON A 12-BOX PALLET UNIT OF 2.75" ROCKETS WITH A UNIT WEIGHT OF 1,764 POUNDS. SEE UNIT NO. 5 ON PAGE 4.
- 2. THE TYPICAL SPACER ASSEMBLY AS DETAILED ON PAGE 22 NEED NOT BE FABRICATED FOR A DRIVE FIT. THE ASSEMBLY SHOULD BE FABRICATED SO THAT IT CAN BE EASILY INSTALLED. HOWEVER, IT MUST FIT TIGHT ENOUGH SO AS TO NOT ALLOW MORE THAN ONE-HALF INCH (1/2") VOID ACROSS THE WIDTH OF A BRACED LOAD.
- 3. ALTHOUGH A TOTAL OF ONE AND ONE-HALF INCHES (1-1/2") OF UNBLOCKED SPACE ACROSS THE WIDTH OF A LOAD BAY IS PERMITTED, LATERAL VOIDS WITHIN THE LOAD ARE TO BE HELD TO A MINIMUM. EXCESSIVE SLACK CAN BE ELIMINATED FROM A LOAD BAY BY LAMINATING ADDITIONAL PIECES OF APPROPRIATE THICKNESS TO THE BEARING PIECES ON ONE OR MORE FILLER GATES USED BETWEEN THE SIDE OF THE CONTAINER AND THE PALLET UNITS. NAIL EACH ADDITIONAL PIECE TO THE BEARING PIECE W/1 APPROPRIATELY SIZED NAIL EVERY 12". ADDITIONALLY, THE WIDTH OF THE FILLER AND VERTICAL PIECES MAY BE ADJUSTED AS REQUIRED TO FACILITATE VARIANCE IN PALLET UNIT SIZE.

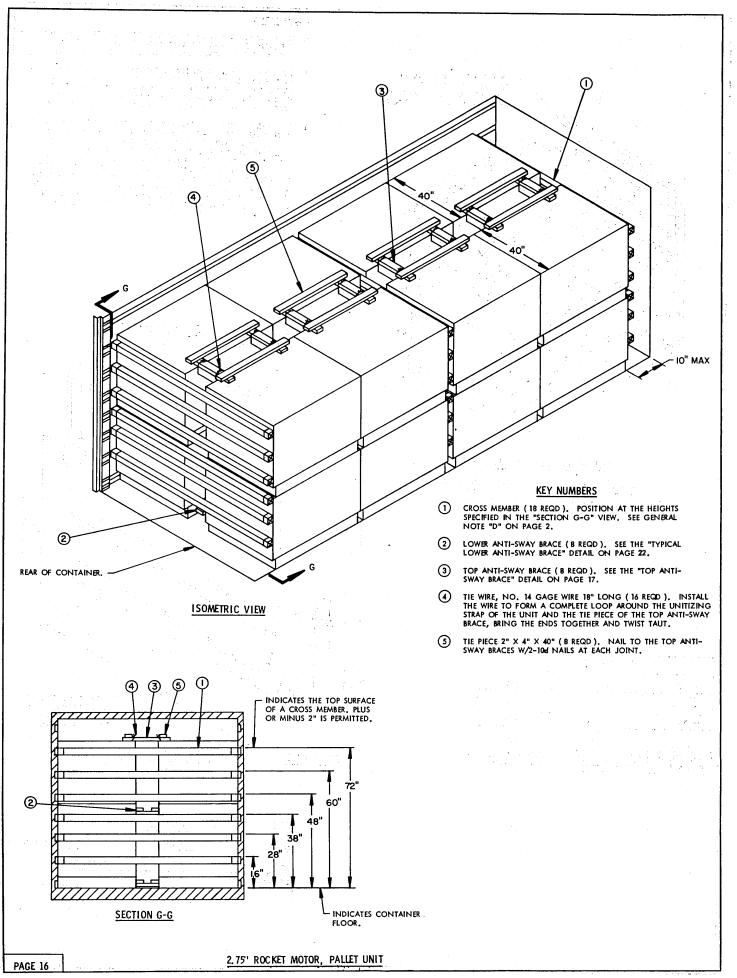
BEARING PIECE, 1" X 4" X 6'-9" (4 REQD). NAIL TO THE FILLER PIECE W/5-6d NAILS AND TO THE VERTICAL PIECE W/2-6d NAILS AT EACH JOINT.



LOAD AS SHOWN

ITEM	QUANTITY	WEIGHT (APPROX)
PALLET UNIT	20	39A LBS
CONTAINER		5,700 LBS
. 5.	TOTAL GROSS WEIG	HT 41,376 LBS

2. 75" ROCKET, PALLET UNIT



TIE WIRE, NO. 14 GAGE WIRE 18" LONG (16 REQD).
INSTALL TO FORM A COMPLETE LOOP AROUND THE
SPACER ASSEMBLY AND THE CROSS MEMBER, BRING
THE BNDS TOGETHER AND TWIST TAUT. SECURE TO
THE SPACER ASSEMBLY WITH A PARTIALLY DRIVEN
10d NAIL BENT OVER THE WIRE, OR WITH A
STRAP STAPLE.

SPACER ASSEMBLY (4 REOD).

SEE THE "TYPICAL SPACER
ASSEMBLY" DETAIL ON PAGE 22

ALTERNATIVE LOADING PATTERN

THE DETAIL ABOVE SPECIFIES A BLOCKING METHOD TO BE USED IN A "REDUCED-LOAD" CONTAINER LOAD. FOR ADDITIONAL GUIDANCE, SEE THE "REDUCED-LOAD PROVISIONS" ON PAGE 2.

BILL OF MATERIAL BOARD FEET LINEAR FEET LUMBER 75 112 2" X 4" 11 4" X 4" POUNDS NO. REQD NAILS 2 120 104 (3") WIRE NO. 14 GAGE ----- 24'REQD --

SPECIAL NOTES:

- THE LOAD VIEWS AND THE LOAD AS SHOWN ON PAGES 16 AND 17 ARE BASED ON A 20-BOX PALLET UNIT OF 2.75" ROCKET MOTORS WITH A UNIT WEIGHT OF 1,580 POUNDS. SEE UNIT NO. 6 ON PAGE 4.
- 2. THE TYPICAL SPACER ASSEMBLY AS DETAILED ON PAGE 22 NEED NOT BE FABRICATED FOR A DRIVE FIT. THE ASSEMBLY SHOULD BE FABRICATED SO THAT IT CAN BE EASILY INSTALLED. HOWEVER, IT MUST FIT TIGHT ENOUGH SO AS TO NOT ALLOW MORE THAN ONE-HALF INCH (1/2") VOID ACROSS THE WIDTH OF A BRACED LOAD.
- 3. IF THE SPECIFIED 4" X 4" MATERIAL IS NOT AVAILABLE,
 SUITABLE BLOCKING DUNNAGE CAN BE MADE BY LAMINATING
 TWO PIECES OF 2" X 4" MATERIAL TOGETHER WITH A 10d
- 4. CAUTION: EXERCISE CARE WHEN POSITIONING THE PALLET UNITS IN THE CONTAINER TO INSURE THAT THE UNITS ARE PLACED AS CLOSE AS POSSIBLE AGAINST THE SIDEWALLS OF THE CONTAINER.

- RETAINER PIECE, 2" X 4" X 24" (1 REQD). NAIL TO THE SPACER PIECE W/3-10d NAILS.

SPACER PIECE, 4" X
4" BY CUT-TO-FIT
(REF: 12") (1 REQD).

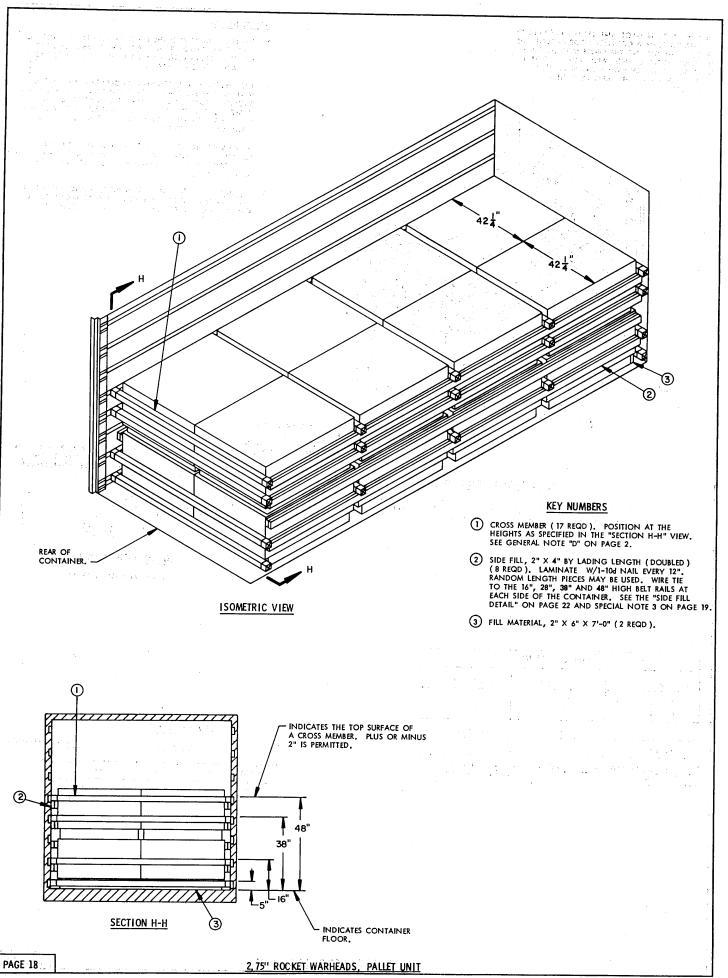
AND SPECIAL NOTE 2 AT RIGHT.

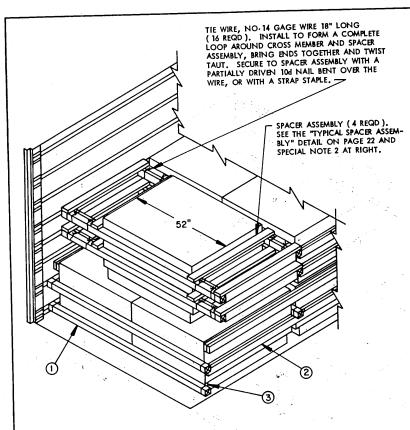
TOP ANTI-SWAY BRACE

SEE SPECIAL NOTE 3 ABOVE.

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海绵 法公共 美国安全人





ALTERNATIVE LOADING PATTERN

THE DETAIL ABOVE SPECIFIES A BLOCKING METHOD TO BE USED IN A "REDUCED-LOAD" CONTAINER LOAD. FOR ADDITIONAL GUIDANCE, SEE THE "REDUCED-LOAD PROVISIONS" ON PAGE 2.

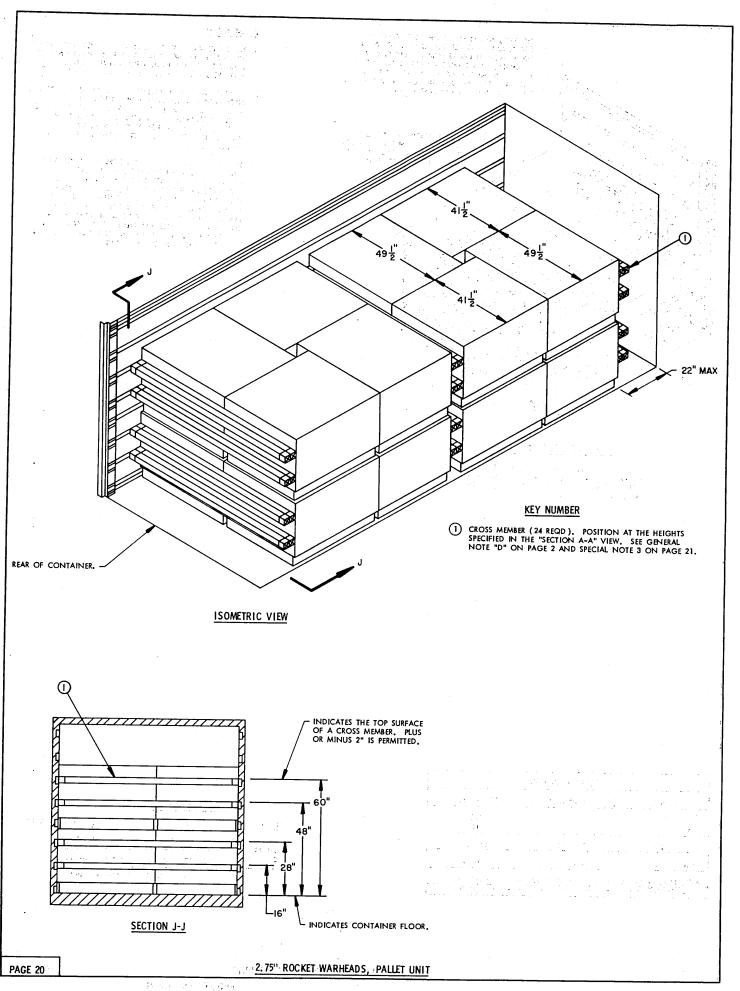
LUMBER	LINEAR FEET	BOARD FEET
" × 4" " × 6"	288 14	192 14
NAILS	NO. REQD	POUNDS
10d (3")	144	2-1/4

SPECIAL NOTES:

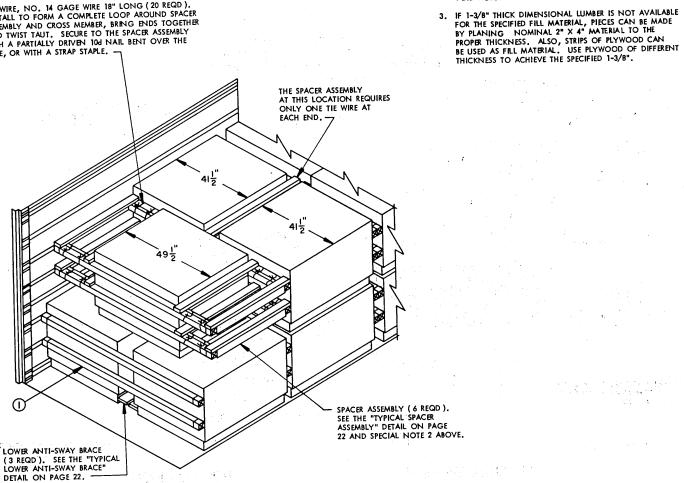
- THE LOAD VIEWS AND THE LOAD AS SHOWN ON PAGES 18 AND 19 ARE BASED ON A 24-BOX PALLET UNIT OF 2.75" ROCKET WARHEADS WITH A UNIT WEIGHT OF 2,127 POUNDS. SEE UNIT NO. 7 ON PAGE 5.
- 2. THE TYPICAL SPACER ASSEMBLY AS DETAILED ON PAGE 22 NEED NOT BE FABRICATED FOR A DRIVE FIT. THE ASSEMBLY SHOULD BE FABRICATED SO THAT IT CAN BE EASILY INSTALLED. HOWEVER, IT MUST FIT TIGHT ENOUGH SO AS TO NOT ALLOW MOORE THAN ONE-HALF BNCH (1/2") VOID ACROSS THE WIDTH OF A BRACED LOAD.
- 3. THE THICKNESS OF SIDE FILL PIECES AS DEPICTED ON EACH SIDE OF THE LOAD MUST BE ADJUSTED, AS REQUIRED, TO COMPLY WITH THE DIMENSIONAL VARIANCE OF THE PALLET UNIT, SO AS TO NOT ALLOW MORE THAN ONE AND ONE-HALF INCHES (1-1/2") VOID ACROSS THE WIDTH OF A BRACED LOAD. ADJUSTMENTS CAN BE MADE BY USING A DIFFERENT THICKNESS FILL PIECE OR BY LAMINATING ADDITIONAL PIECES TO THE SPECIFIED FILL PIECES ON ONE OR BOTH SIDES OF THE LOAD.

LOAD AS SHOWN

2000 1000 2000 2000



TIE WIRE, NO. 14 GAGE WIRE 18" LONG (20 REQD).
INSTALL TO FORM A COMPLETE LOOP AROUND SPACER
ASSEMBLY AND CROSS MEMBER, BRING ENDS TOGETHER
AND TWIST TAUL. SECURE TO THE SPACER ASSEMBLY
WITH A PARTIALLY DRIVEN 10d NAIL BENT OVER THE
WIRE OR WITH A STRAP STAPLE. WIRE, OR WITH A STRAP STAPLE. -



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ALTERNATIVE LOADING PATTERN

THE DETAIL ABOVE SPECIFIES A BLOCKING METHOD TO
BE USED IN A "REDUCED-LOAD" CONTAINER LOAD.
FOR ADDITIONAL GUIDANCE, SEE THE "REDUCED-LOAD PROVISIONS" ON PAGE 2.

LUMBER	LINEAR FEET	BOARD FEET
2" X 4"	91	61
NAILS	NO. RE QD	POUND S
10d (3")	36	3/4

LOAD AS SHOWN

SPECIAL NOTES:

THE LOAD VIEWS AND THE LOAD AS SHOWN ON PAGES 20 AND 21 ARE BASED ON A 36-BOX PALLET UNIT OF 2.75" ROCKET WARHEADS WITH A UNIT WEIGHT OF 2,194 POUNDS. SEE UNIT NO. 8 ON PAGE 5.

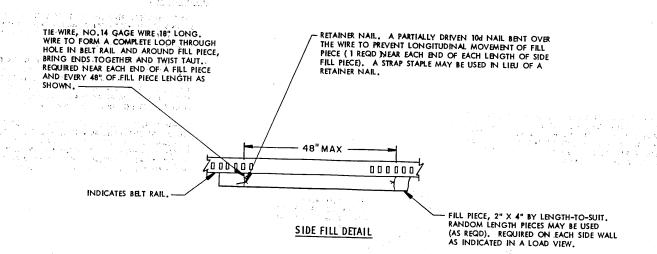
2. THE TYPICAL SPACER ASSEMBLY AS DETAILED ON PAGE 22
NEED NOT BE FABRICATED FOR A DRIVE FIT. THE ASSEMBLY SHOULD BE FABRICATED SO THAT IT CAN BE EASILY INSTALLED. HOWEVER, IT MUST FIT TIGHT ENOUGH SO AS TO NOT ALLOW MORE THAN ONE-HALF INCH (1/2")

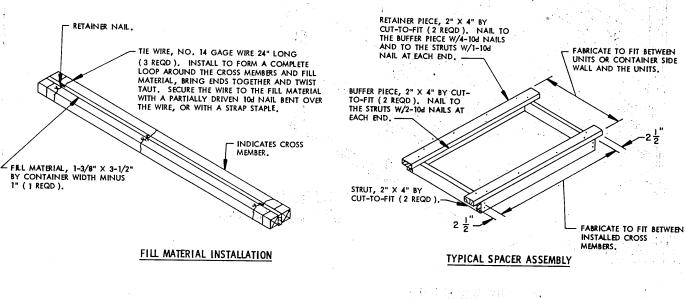
VOID ACROSS THE WIDTH OF A BRACED LOAD.

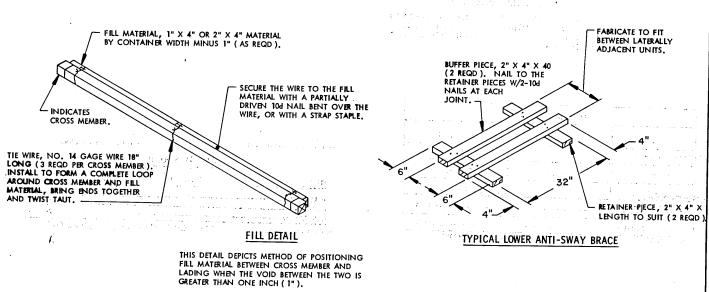
ITEM		WEIGHT (APPRO)		
CONTAINER	TOTAL GROSS WEIGHT	40,928		

2.75" ROCKET WARHEADS, PALLET UNIT

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