MILITARY STANDARD

CARLOADING

STANDARD ARM MISSILE AGM-78
IN CONTAINER CNU-183/E

MIL-STD-1325-160
(NAVY)

19 DECEMBER 1972

CONTAINER DATA

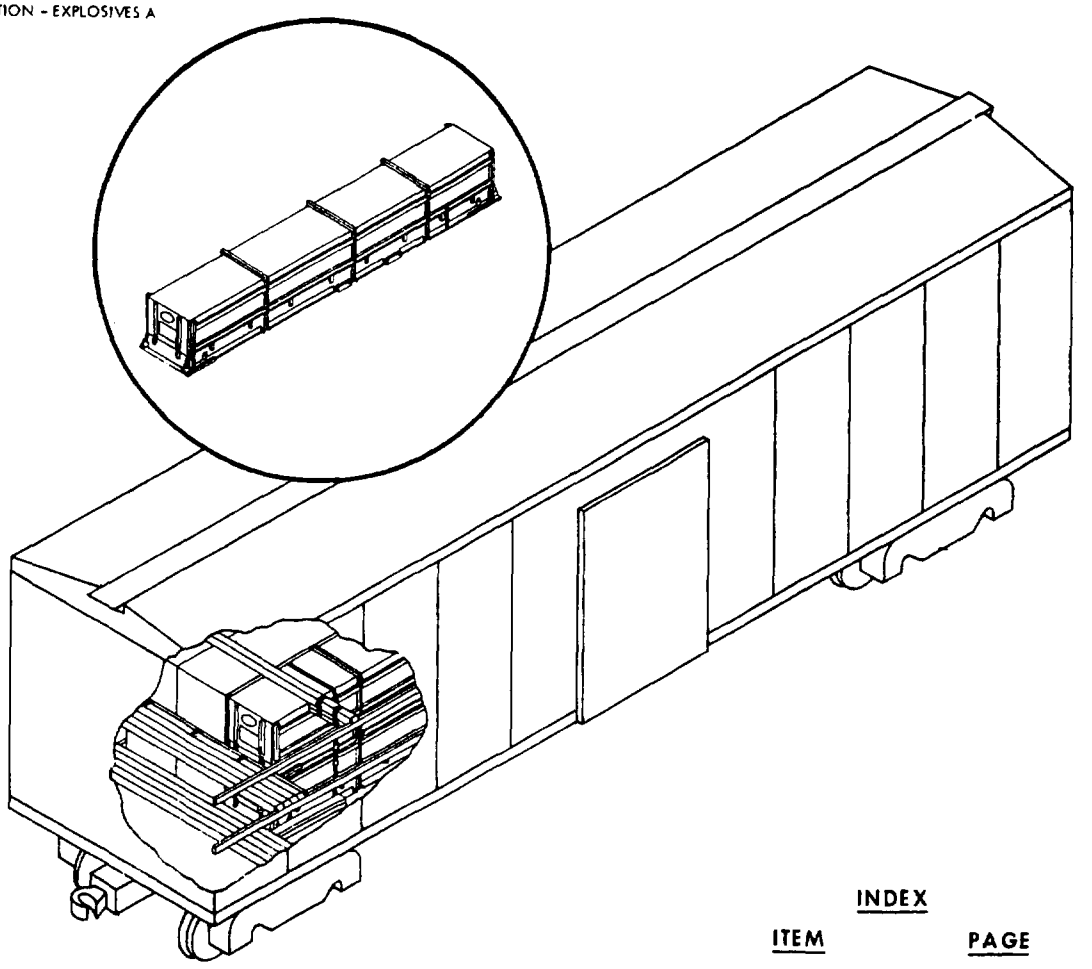
WEIGHT, EMPTY - 663 LBS.

WEIGHT, LOADED - 2033 LBS.

DIMENSIONS - 193 1/2 L x 28 W x 28 7/16 H
(27 7/16 STACKING HEIGHT)

CUBE - 89.2 CU. FT.

DOT HAZARD CLASSIFICATION - EXPLOSIVES A



NOTES:

1. UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES.
2. FOR CROSS REFERENCE TO ASSOCIATED PALLETIZING, TRUCKLOADING AND CONTAINERLOADING MILITARY STANDARDS, REFER TO INDEX TO STANDARDS MIL-HDBK-236 (NAVY)

INDEX

AUTHORIZED AND RELEASED FOR GENERAL USE.

M.S. Gray NWHL 12/8/72
SIGNATURE TECHNICAL DIRECTION AGENT (TDA) DATE

J.E. Kelly 12/12/72
SIGNATURE (AIR) SYSCOM BY DIRECTION DATE

APPROVED BY BUREAU OF EXPLOSIVES

A.F. Grossmuck
DATE 11/20/72

ORIGINATOR Charles McBride 12/6/72
SIGNATURE

NAVAL WEAPONS HANDLING LABORATORY
N A D EARLE, NEW JERSEY

GENERAL NOTES

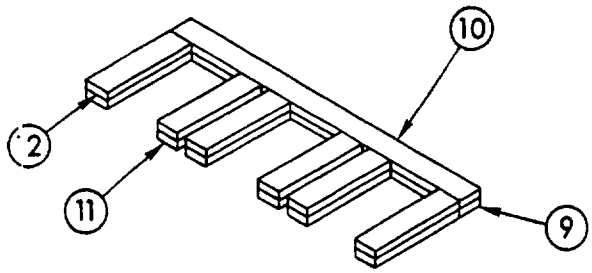
1. FOR GENERAL INFORMATION CONCERNING ORDERING, INSPECTING, AND PREPARING CARS, AND FOR DUNNAGING MATERIALS, DESIGN, AND INSTALLATION OF DUNNAGE SEE THE GENERAL DOCUMENT MIL-STD-1325 (NAVY) "RAILCAR LOADING OF HAZARDOUS MATERIALS."
2. WHEN PLANNING SHIPMENTS ORDER THE MINIMUM NUMBER OF CARS OF THE CAPACITY REQUIRED FOR THE SHIPMENT. UTILITY LOADER CARS SHALL BE SERIES DODX 28000.
3. LOADING PLANS SHOWN ARE FOR DODX UTILITY LOADER CAR WITH 50 FT 6 INCHES INSIDE LENGTH, 107 3/4 INCHES INSIDE WIDTH BETWEEN RAILS (111 INCHES INSIDE WIDTH BETWEEN SIDE WALLS), AND FLATCAR WITH A PLATFORM 45 FT 0 INCHES LONG AND 9 FT 0 INCHES WIDE WITH STAKE POCKETS SPACED 42 INCHES ON CENTERS. FLATCARS WITH STEEL FLOOR ENDS AND/OR EXPOSED STEEL BOLSTERS SHALL NOT BE USED.
4. THE "LOAD LIMIT" OF A CAR MUST NOT BE EXCEEDED NOR SHOULD THE RAILCAR BE LOADED SO THAT MORE THAN ONE-HALF OF THE "LOAD LIMIT" IS CARRIED BY ONE SET OF TRUCKS.
5. THE LOAD CONSISTS OF A STANDARD ARM MISSILE AGM-78 IN CONTAINER CNU-183 E.
6. THE CONTAINERS ARE HANDLED AND LOADED WITH MK 40 MOD 0 HAND LIFT TRUCKS, FORK TRUCK, BOOM TRUCK, HOISTING SLING MK 77 MOD 3 OR MK 109 MOD 0 AND OVERHEAD CRANE.
7. UNLESS OTHERWISE SPECIFIED NAILING SHALL BE IN ACCORDANCE WITH MIL-STD-1325 (NAVY).
8. APPLICABLE MATERIAL SPECIFICATIONS:
   DUNNAGE LUMBER - FED. SPEC MM-L-751
   NAILS - FED. SPEC FF-N-105
   STRAPPING - FED. SPEC QQ-S-781, TYPE I, HEAVY DUTY, CLASS A, DRY (UNLUBRICATED)
   SEALS - FED. SPEC QQ-S-781, STYLE III, HEAVY DUTY
9. AFTER BLOCKING AND BRACING HAS BEEN INSPECTED ATTACH SHIPPING DOCUMENTS INSIDE THE CAR IN AN ACCESSIBLE AREA, CLOSE AND SEAL BOXCAR DOORS, AND ATTACH APPLICABLE PLACARDS TO THE OUTSIDE OF CAR AS PRESCRIBED IN OP 2165 (VOL 1).

50 FT 6 IN. BOXCAR, DODX

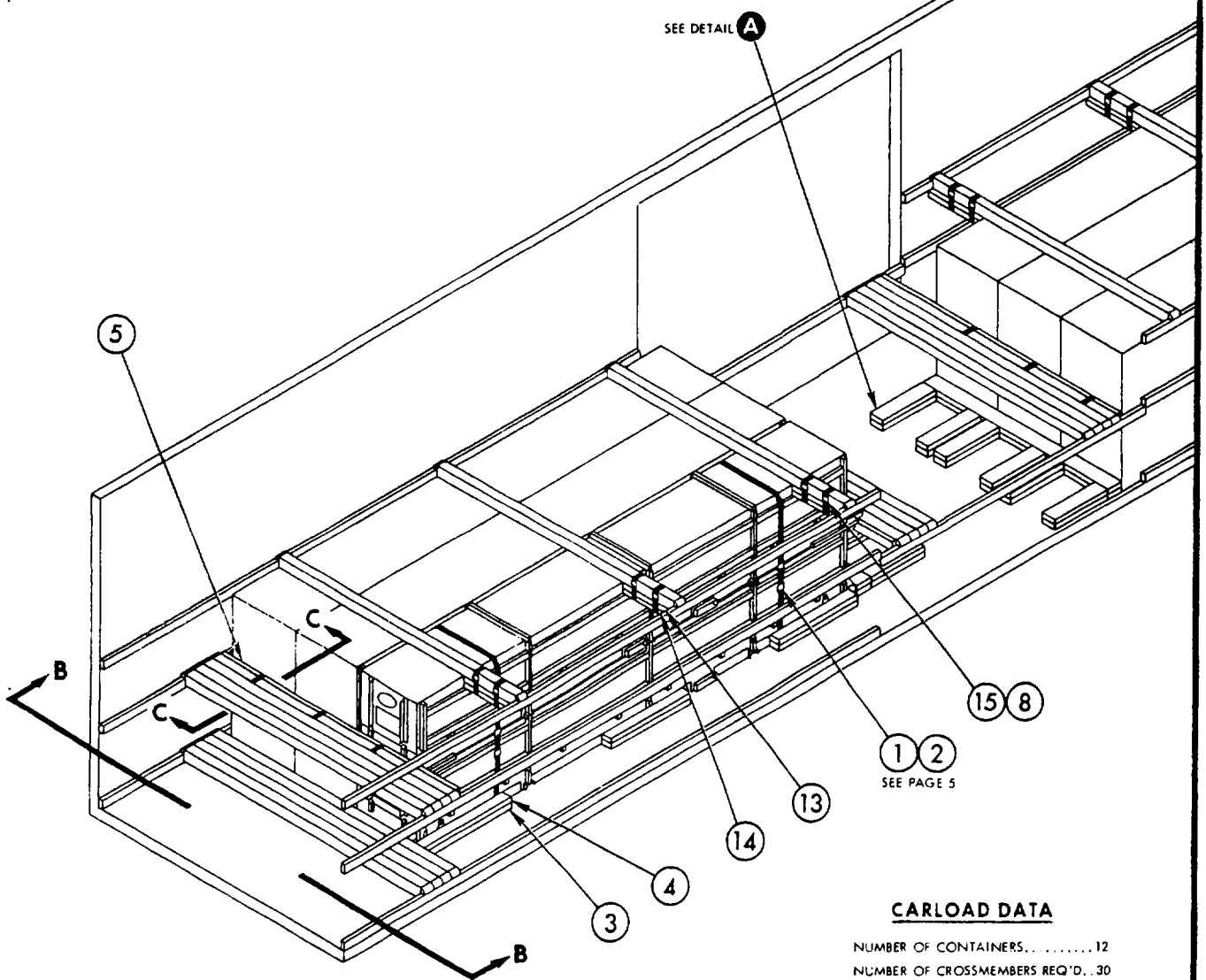
1. THE CARLOAD CONSISTS OF 12 CONTAINERS WHICH MUST BE LOADED AND DUNNAGED IN ACCORDANCE WITH THIS PROCEDURAL DRAWING.
2. A DETAILED DESCRIPTION AND OPERATING INSTRUCTIONS FOR THE UTILITY LOADER ARE CONTAINED IN OP 1750.
3. TO PREVENT UNUSED "DF" EQUIPMENT FROM BECOMING DISLODGED DURING TRANSIT OF DODX CARS SECURE IT AT ANY LOCATION IN THE BOXCAR WHICH WILL NOT INTERFERE WITH UNLOADING.
4. WHEN LESS THAN CARLOAD (LCL) QUANTITIES ARE REQUIRED TO BE SHIPPED IN DODX BOXCARS THE SAME PROCEDURES AND METHODS OF BLOCKING ARE APPLICABLE.

PIECE NO.	DESCRIPTION	SIZE	NO. PCS REQD	NAIL TO	NUMBER NAILS	SIZE NAILS
15	STRAP	3/4 x .035 x 26	12	-	-	-
14	SWAY BRACE	2 x 4 x CUT TO FIT	6	13	3	10d
13	SWAY BRACE	2 x 4 x CUT TO FIT	6	SEE 14	-	-
12	BACKUP CLEAT	2 x 6 x 24	12	11	4	30d
11	BACKUP CLEAT	2 x 6 x 24	12	CAR FLOOR	4	16d
10	CROSS BLOCKING	2 x 6 x 84	2	9	2 PER FOOT	30d
9	CROSS BLOCKING	2 x 6 x 84	2	CAR FLOOR	2 PER FOOT	16d
8	SEAL	3/4	18	-	-	-
7	STRAP	3/4 x .035 x 30	6	-	-	-
6	BACKUP STRIP	2 x 4 x 96	2	-	-	-
5	BUFFER STRIP	2 x 6 x 96	2	-	-	-
4	SLEEPER	2 x 4 x 36	6	3	6	30d
3	SLEEPER	2 x 4 x 36	6	CAR FLOOR	6	16d
2	SEAL	1 1/4	24	-	-	-
1	VERTICAL STRAPPING	1 1/4 x .035 x 15 FT	12	-	-	-

LIST OF MATERIALS AND NAILING DATA

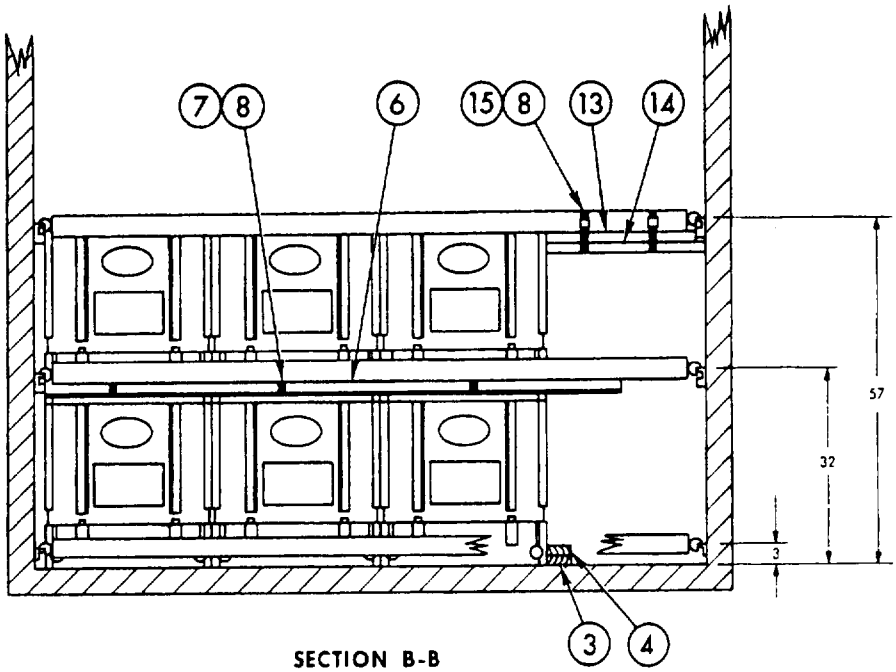


DETAIL A



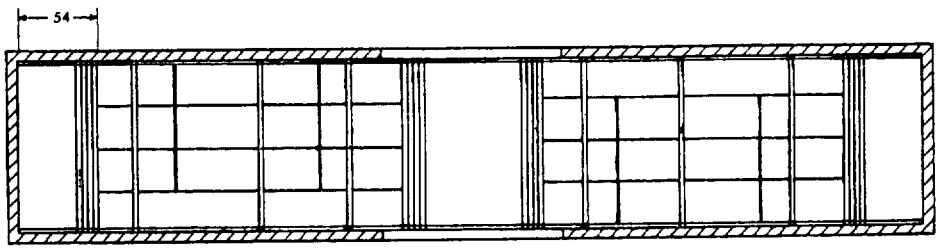
CARLOAD DATA

NUMBER OF CONTAINERS. 12
NUMBER OF CROSSMEMBERS REQ'D. . 30
LOAD WEIGHT. . . . . 24,396 LBS.
DUNNAGE WEIGHT. . . . . 355 LBS.
CARLOAD WEIGHT. . . . . 24,751 LBS.

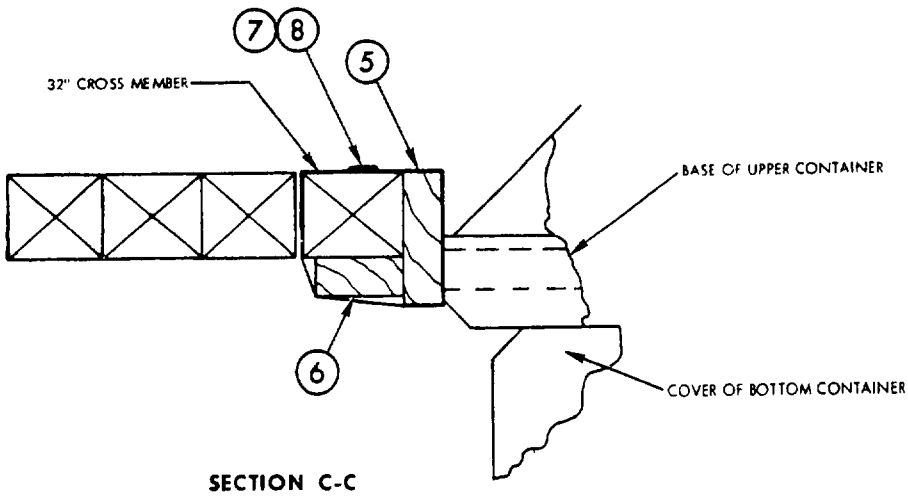


SECTION B-B

SHOWING LOCATIONS OF WALL MEMBERS
USED FOR CROSS MEMBERS
(DOORWAY MEMBERS POSITIONED AT 30" LOCATION ONLY)

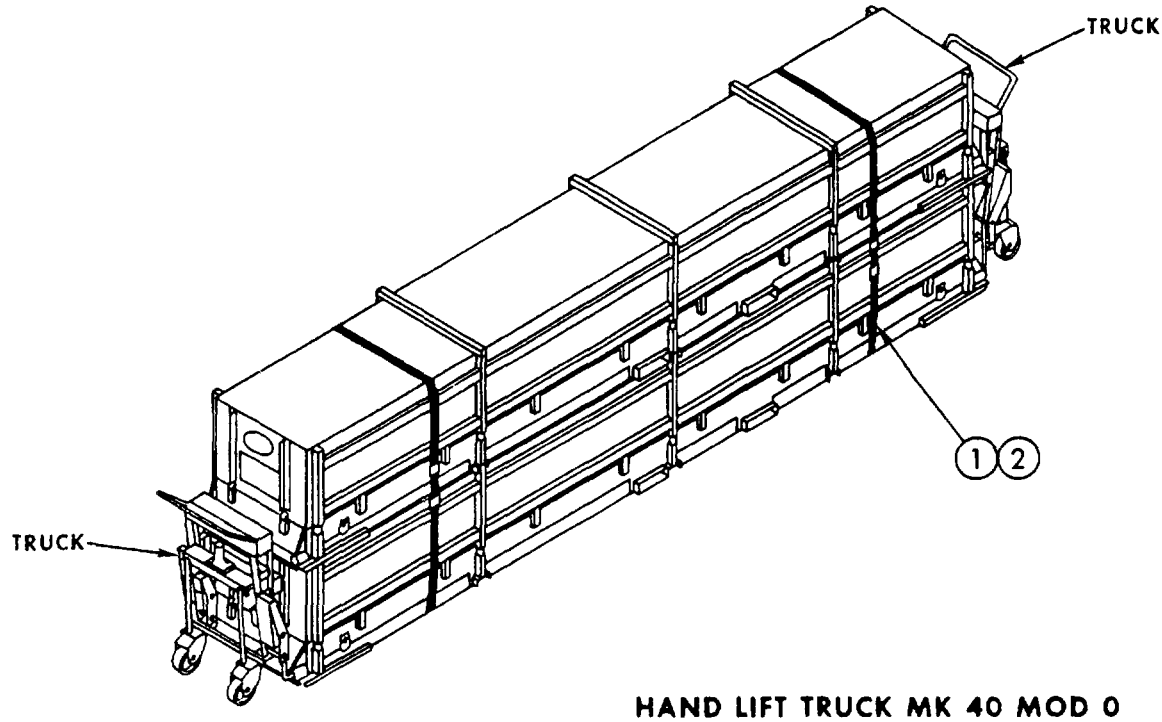


LOADING PLAN



SECTION C-C

UNITIZING AND HANDLING



HAND LIFT TRUCK MK 40 MOD 0

CONTAINER UNITIZING AND BANDING PROCEDURE:

1. PLACE TWO OR MORE PIECES OF LUMBER CROSSWISE ON FLOOR OR GROUND NEXT TO MISSILE CONTAINER.
2. USING FORK LIFT TRUCK STACK TWO CONTAINERS ON THE LUMBER PIECES.
3. BE CERTAIN THAT NESTING FEATURES AND BEARING SURFACES ARE PROPERLY POSITIONED TO PREVENT SHIFTING IN LATERAL AND LONGITUDINAL DIRECTIONS.
4. SECURE BOTTOM CONTAINER TO TOP CONTAINER WITH TWO STRAPS (PIECE 1) POSITIONED AS INDICATED ABOVE.
5. SEAL WITH TWO SEALS (PIECE 2) EACH STRAP AND DOUBLE CRIMP.

CONTAINER HANDLING PROCEDURE:

1. CONTAINERS CNU-183/E FOR STANDARD ARM MISSILE ARE HANDLED AND POSITIONED WITHIN CARS WITH TWO MK 40 MOD 0 HAND LIFT TRUCKS AS SHOWN ABOVE OR A COMBINATION OF HAND LIFT TRUCKS AND FORK LIFT TRUCK OR A COMBINATION OF A HAND LIFT TRUCK AND A BOOM TRUCK.
2. WHEN USING TWO HAND LIFT TRUCKS ATTACH ONE TO EACH END OF CONTAINER BY INSERTING FORKS OF HAND LIFT TRUCK INTO TUBULAR FORK POCKETS OF CONTAINER.
3. BE CERTAIN THAT PROJECTIONS ON TOP OF FORKS ARE BEYOND ENDS OF FORK POCKET TUBES AND THEN OPERATE JACKING DEVICE OF HAND LIFT TRUCK TO RAISE CONTAINER TO TRANSPORTING POSITION.
4. WHEN IN POSITION FOR CARLOADING LOWER CONTAINERS SLOWLY TO FLOOR OF CAR.

WARNING

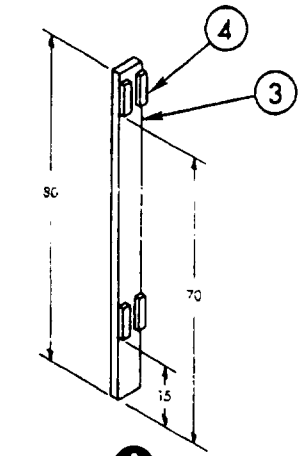
TO AVOID TOPPLING SPECIAL CARE SHOULD BE TAKEN WHEN MOVING STACKS OF CONTAINERS BY HAND TRUCKS, ESPECIALLY WHEN THE SURFACE IN THE DIRECTION OF THE MOVE IS UNEVEN OR NOT LEVEL. THE UNITIZING OF THE CONTAINERS IS ONLY AUTHORIZED AS PART OF THE CARLOADING PROCEDURE. UNITIZING FACILITATES HANDLING IN LOADING AND UNLOADING THE BOXCAR AND MOVEMENT OF UNITIZED CONTAINERS SHOULD BE LIMITED TO THAT NECESSARY TO LOAD OR UNLOAD THE BOXCAR.

45 FT 0 IN. FLATCAR, COMMERCIAL

1. THE CARLOAD CONSISTS OF 18 CONTAINERS WHICH MUST BE LOADED AND DUNNAGED IN ACCORDANCE WITH THIS PROCEDURAL DRAWING.
2. WHEN LESS THAN CARLOAD (LCL) QUANTITIES ARE REQUIRED TO BE SHIPPED ON COMMERCIAL FLATCARS, THE PROCEDURE OUTLINED ON PAGE 10 SHALL BE FOLLOWED. THE WEIGHT DISTRIBUTION REQUIREMENTS OF THE AAR MUST BE COMPLIED WITH (SEE MIL-STD-1325 (NAVY).
3. CONTAINERS SHALL BE STACKED THREE HIGH AND STRAPPED TOGETHER AS DESCRIBED ON PAGE 9.
4. AS ROWS ARE PLACED AGAINST EACH OTHER; PLACE TWO ANTI-CHAFING FRAMES, DETAIL A, BETWEEN CONTAINERS. ANTI-CHAFING FRAMES ARE POSITIONED VERTICALLY WITH THEIR CLEATS STRADDLING THE VERTICAL REINFORCING RIBS WHICH ARE ABOUT 44 INCHES IN FROM THE ENDS OF THE CONTAINERS.
5. STRAP THE TOP LAYER OF EACH STACK OF CONTAINERS TOGETHER WITH TWO BANDS OF STEEL STRAPPING (PIECE 13), POSITIONED AS SHOWN, AND SECURE WITH TWO DOUBLE CRIMPED SEALS (PIECE 2) PER BAND.
6. STRAP THE LOAD TO THE CAR WITH FOUR BANDS OF STEEL STRAPPING OVER EACH GROUP OF NINE CONTAINERS, POSITIONED AS SHOWN. TENSION AND SECURE TIE-DOWN STRAPPING TO THE CAR AS FOLLOWS: CUT STRAPPING (PIECE 14) IN TWO SECTIONS TO ALLOW TENSIONING IN A DESIRABLE AREA. THREAD ONE END OF ONE SECTION OF STRAP THROUGH STAKE POCKET ON ONE SIDE OF CAR, SEAL STAKE POCKET PAD (PIECE 16) IN PLACE, SEE DETAIL B, PAGE 8. SECURE THIS END WITH TWO DOUBLE CRIMPED SEALS (PIECE 15) AND BRING STRAP OVER THE LOAD. SECURE OTHER SECTION OF STRAP TO STAKE POCKET ON OPPOSITE SIDE IN A SIMILAR MANNER, THEN TENSION AND SEAL THE ENDS OF THE TWO SECTIONS TOGETHER WITH TWO DOUBLE CRIMPED SEALS (PIECE 15).
7. AS AN ALTERNATE, TWO COMMERCIAL STAKE POCKET PROTECTORS MAY BE USED UNDER EACH STAKE POCKET IN PLACE OF STAKE POCKET PAD (PIECE 16), SEE DETAIL B.

PIECE NO.	DESCRIPTION	SIZE	NO. PCS REQD	NAIL TO	NUMBER NAILS	SIZE
16	STAKE POCKET PAD	2 x .050 x 24	16	-	-	-
15	SEAL	2 INCH	64	-	-	-
14	TIE-DOWN STRAPPING	2 x .050 x 32 FT	8	-	-	-
13	CROSS STRAPPING	1 1/4 x .035 x 21 FT	4	-	-	-
12	END BLOCKING	2 x 6 x 30	12	11	5	60d
11	END BLOCKING	2 x 6 x 30	12	CAR FLOOR	5	30d
10	INTERMEDIATE BLOCKING	2 x 6 x 24	6	9	5	60d
9	INTERMEDIATE BLOCKING	2 x 6 x 24	6	CAR FLOOR	5	30d
8	SIDE BLOCKING	2 x 6 x 36	8	7	6	30d
7	SIDE BLOCKING	2 x 6 x 36	8	CAR FLOOR	6	30d
6	CROSS MEMBER	2 x 6 x 96	4	5	1 EVERY 8 INCHES	60d
5	CROSS MEMBER	2 x 6 x 96	4	CAR FLOOR	1 EVERY 8 INCHES	30d
4	CLEAT	1 x 2 x 8	32	3	2	8d
3	ANTI-CHAFING MEMBER	2 x 6 x 80	8	SEE 4	-	-
2	SEAL	1 1/4	56	-	-	-
1	VERTICAL STRAPPING	1 1/4 x .035 x 17 FT	24	-	-	-

LIST OF MATERIALS AND NAILING DATA

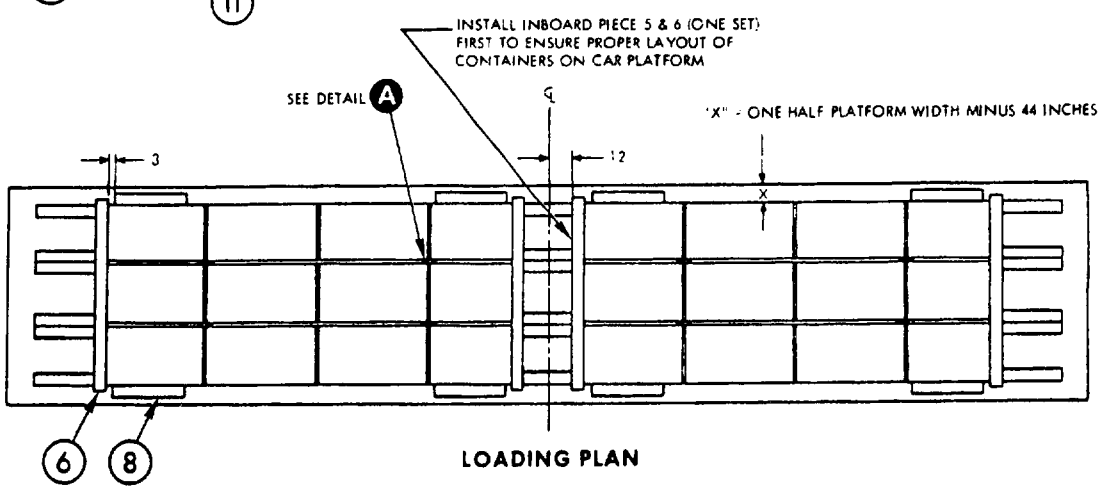


DETAIL A

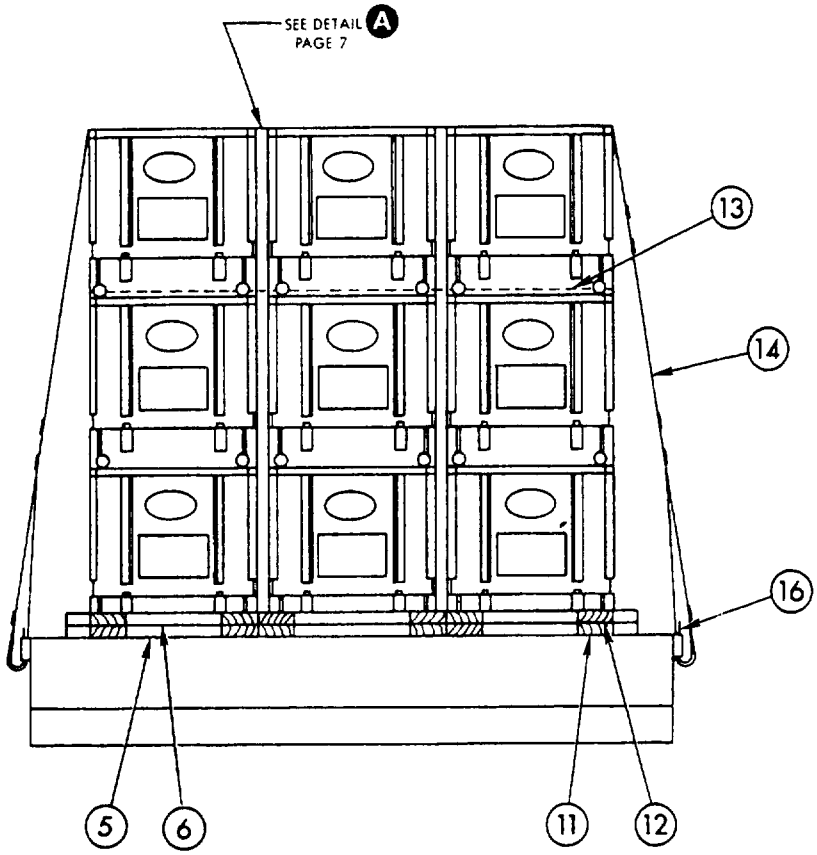
ANTI-CHAFING FRAME

CARLOAD DATA

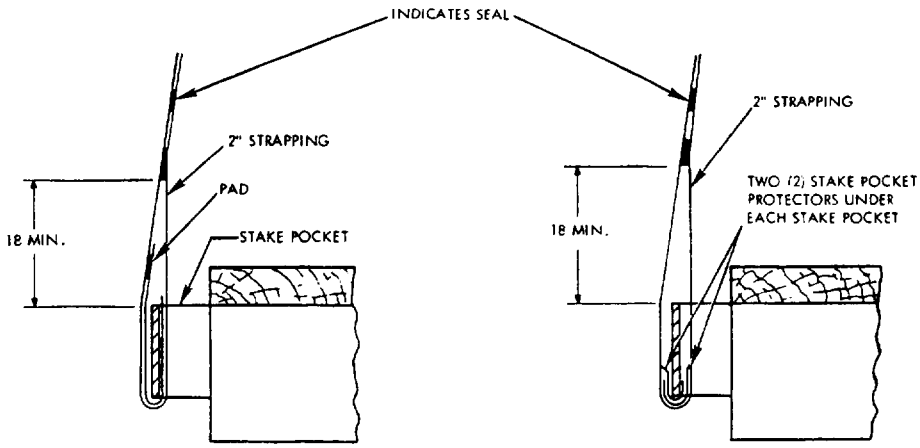
NUMBER OF CONTAINERS.....18
LOAD WEIGHT.....36,594 LBS.
DUNNAGE WEIGHT.....625 LBS.
CARLOAD WEIGHT.....37,219 LBS.



LOADING PLAN



END VIEW

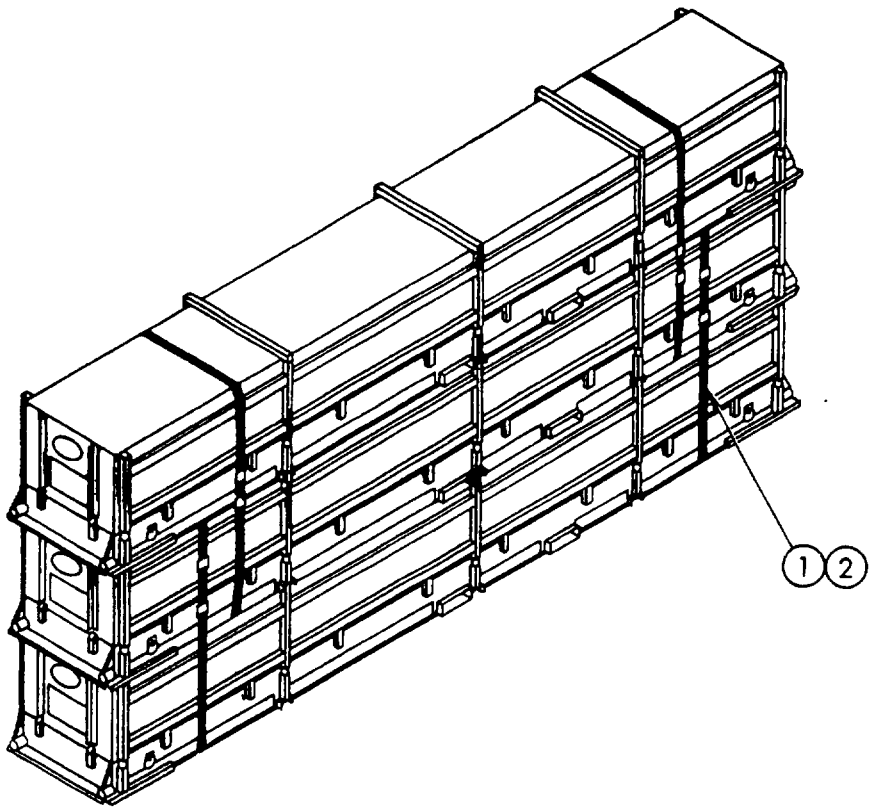


METHOD OF INSTALLING 2" STRAPPING AND PAD AT STAKE POCKET

METHOD OF INSTALLING 2" STRAPPING AND STAKE POCKET PROTECTORS (ALT PAD)

DETAIL B

UNITIZING AND HANDLING



CONTAINER UNITIZING AND BANDING PROCEDURE:

1. PLACE TWO OR MORE PIECES OF LUMBER CROSSWISE ON FLOOR OR GROUND NEXT TO MISSILE CONTAINER.
2. USING FORK LIFT TRUCK OR AN APPROPRIATE HOISTING DEVICE EQUIPPED WITH MK 77 MOD 3 OR MK 109 MOD 0 HOISTING SLING, STACK THREE CONTAINERS ON THE LUMBER PIECES.
3. BE CERTAIN THAT NESTING FEATURES AND BEARING SURFACES ARE PROPERLY POSITIONED TO PREVENT SHIFTING IN LATERAL AND LONGITUDINAL DIRECTIONS.
4. SECURE BOTTOM CONTAINER TO CENTER CONTAINER WITH TWO STRAPS (PIECE 1) POSITIONED AS INDICATED ABOVE.
5. SEAL WITH TWO SEALS (PIECE 2) EACH STRAP AND DOUBLE CRIMP.
6. REPEAT THIS OPERATION TO SECURE CENTER CONTAINER TO TOP CONTAINER.

CONTAINER HANDLING PROCEDURE:

1. UNITIZED CONTAINERS CNU-183/E FOR STANDARD ARM MISSILE ARE HANDLED AND POSITIONED ON FLAT CARS WITH A SUITABLE FORK LIFT TRUCK. IF NECESSARY CONTAINERS MAY BE LOADED ON FLAT CAR ONE AT A TIME USING AN APPROPRIATE HOISTING DEVICE EQUIPPED WITH MK 77 MOD 3 OR MK 109 MOD 0 HOISTING SLING, AND UNITIZED IN POSITION.

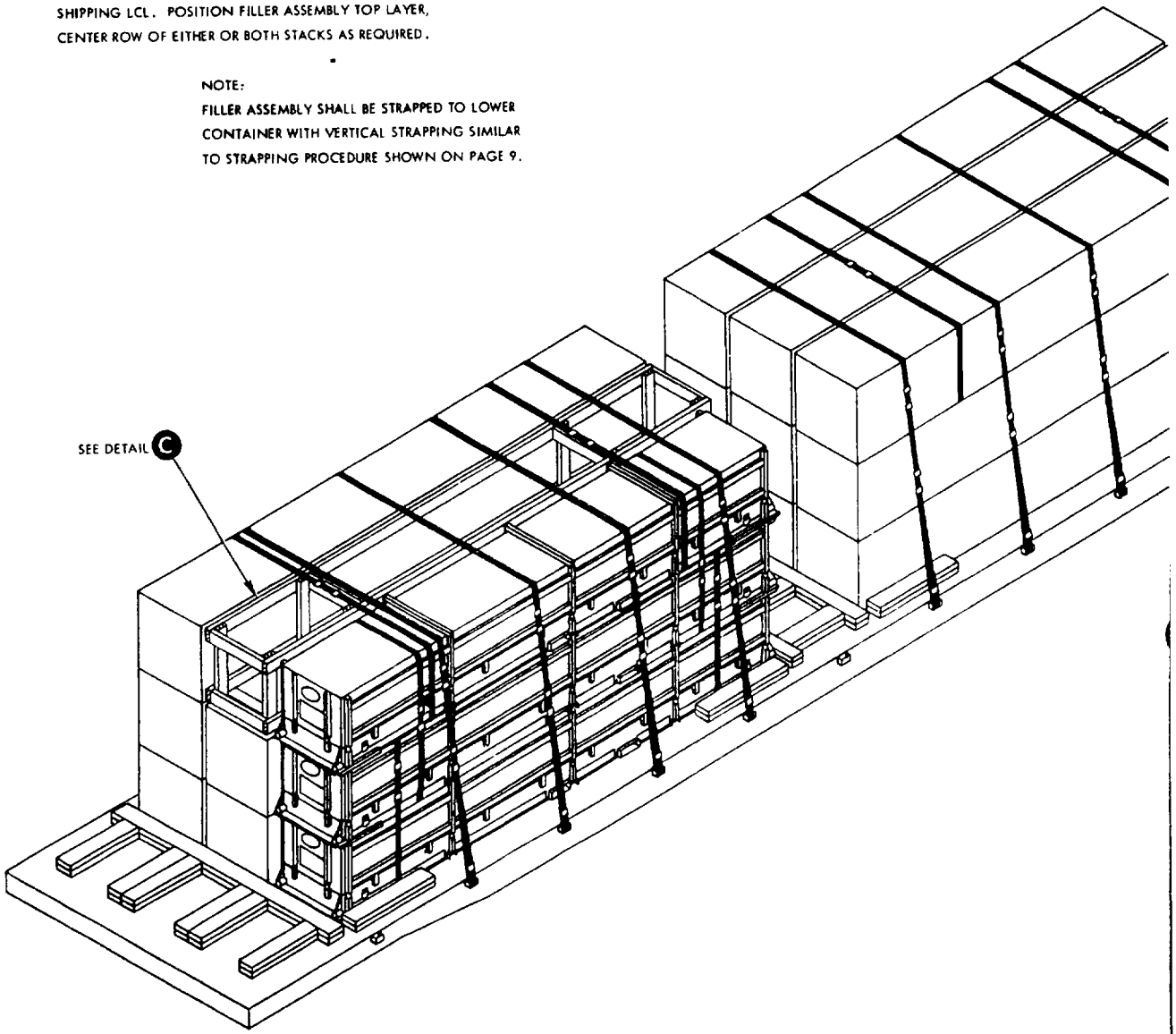
WARNING

TO AVOID TOPPLING SPECIAL CARE SHOULD BE TAKEN WHEN MOVING STACKS OF CONTAINERS. THE UNITIZING OF THE CONTAINERS IS ONLY AUTHORIZED AS PART OF THE CARLOADING PROCEDURE. UNITIZING IS TO ENSURE CONTINUOUS ENGAGEMENT OF THE STACKING FEATURES AND MOVEMENT OF UNITIZED CONTAINERS SHOULD BE LIMITED TO THAT NECESSARY TO LOAD OR UNLOAD THE FLAT CAR.

LESS THAN CARLOAD

USE FILLER ASSEMBLY (DETAIL C) AS SHOWN WHEN SHIPPING LCL. POSITION FILLER ASSEMBLY TOP LAYER, CENTER ROW OF EITHER OR BOTH STACKS AS REQUIRED.

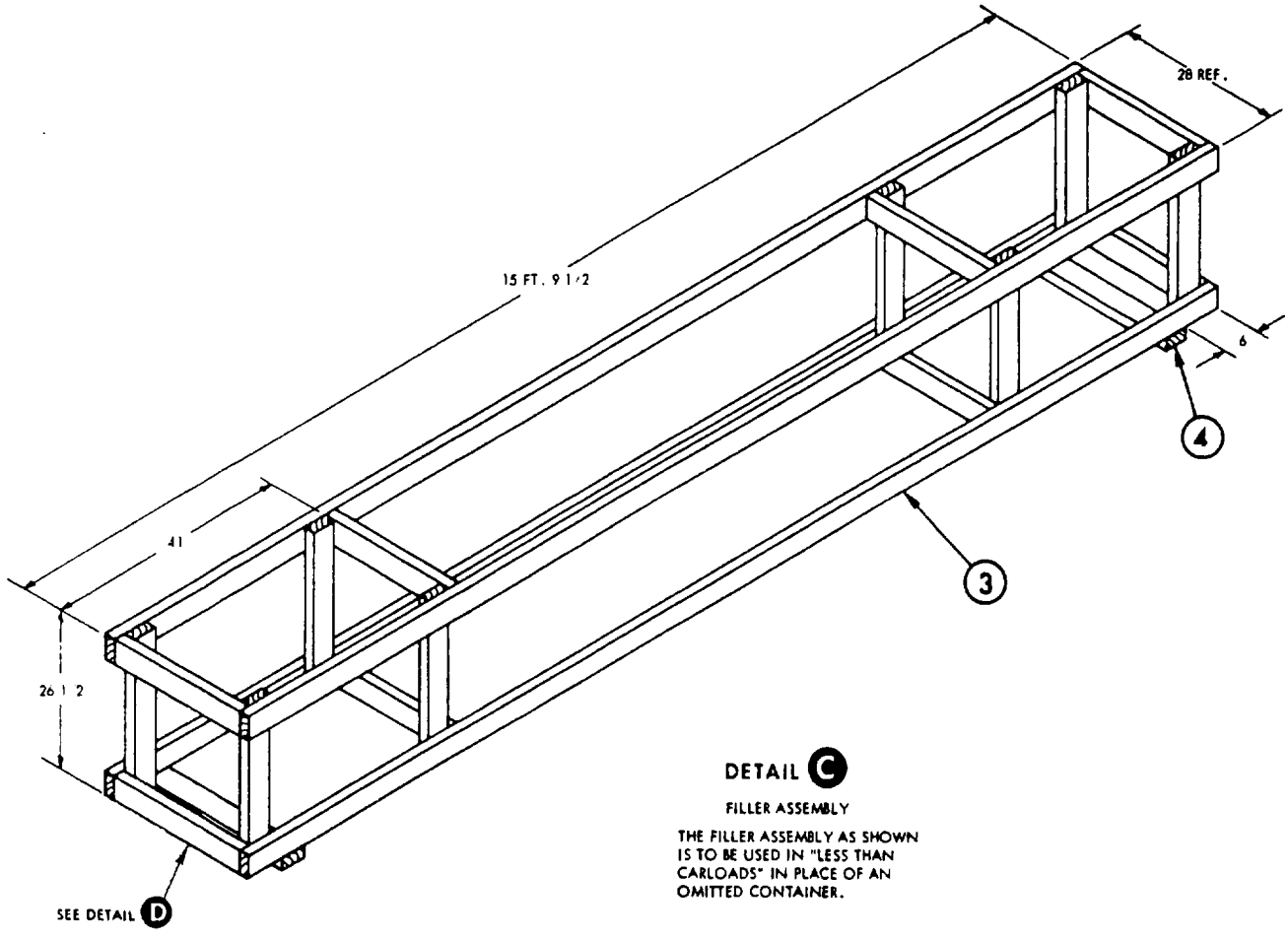
NOTE:
FILLER ASSEMBLY SHALL BE STRAPPED TO LOWER CONTAINER WITH VERTICAL STRAPPING SIMILAR TO STRAPPING PROCEDURE SHOWN ON PAGE 9.



*QUANTITIES SHOWN ARE FOR ONE FILLER ASSEMBLY.

LIST OF MATERIALS AND NAILING DATA

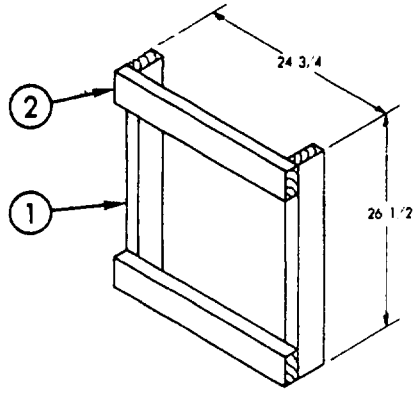
PIECE NO.	DESCRIPTION	SIZE	NO. PCS REQD *	NAIL TO	NAILS	
					NUMBER	SIZE
4	SUPPORT	2 x 4 x 28	2	3	2 PER JOINT	16d
3	LONGITUDINAL	2 x 4 x 15 FT 9 1/2	4	2	1 PER JOINT	16d
2	HORIZONTAL	2 x 4 x 24 3/4	8	1	2 PER JOINT	16d
1	VERTICAL	2 x 4 x 26 1/2	8	3	2 PER JOINT	16d



DETAIL C

FILLER ASSEMBLY

THE FILLER ASSEMBLY AS SHOWN IS TO BE USED IN "LESS THAN CARLOADS" IN PLACE OF AN OMITTED CONTAINER.



DETAIL D

FILLER FRAME

4 REQUIRED PER ASSEMBLY