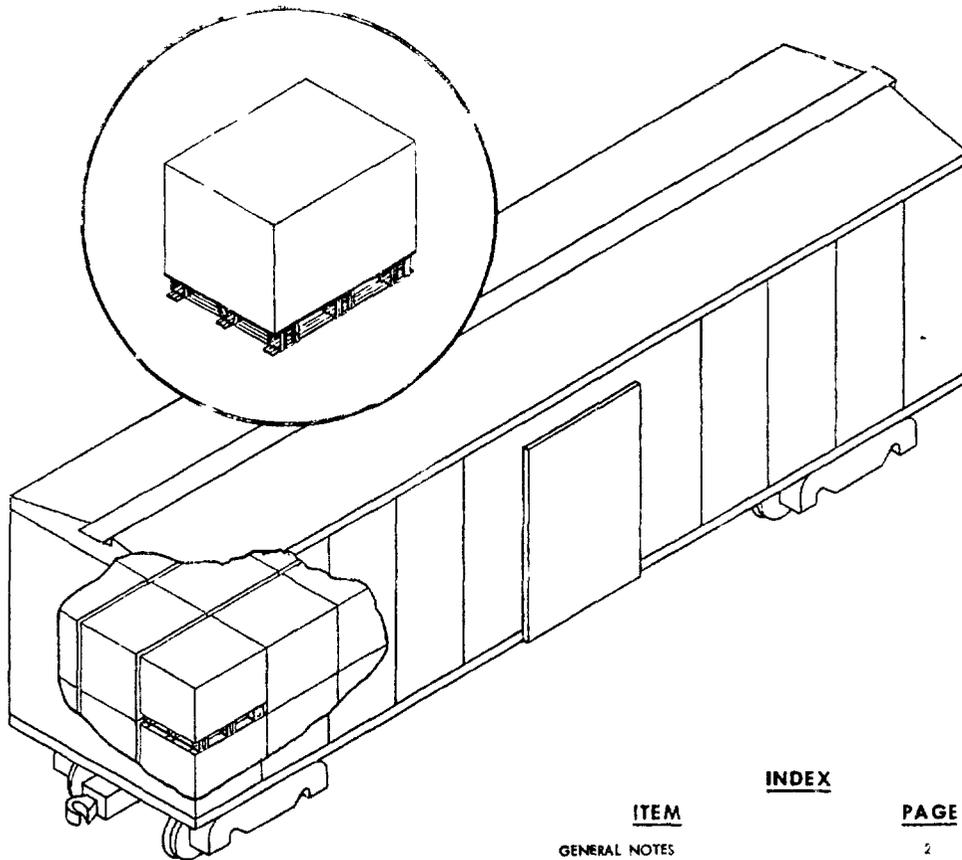


**MILITARY STANDARD**  
**RAILCAR LOADING OF HAZARDOUS MATERIALS**  
**TYPICAL CARLOADING PROCEDURES**  
**FOR PALLETIZED UNIT LOADS**  
**(3 ROWS ACROSS CAR)**

**MIL STD-1325-101**  
**(NAVY)**  
 26 FEBRUARY 1975  
 SUPERSEDING  
 WR-52/101  
 11 JULY 1968



**INDEX**

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**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)

**FSC 814**

**AUTHORIZED AND RELEASED FOR  
 GENERAL USE.**

**APPROVED BY BUREAU OF EXPLOSIVES**

*[Signature]* 2/25/75  
 SIGNATURE TECHNICAL DIRECTION AGENT (10A) DATE  
*[Signature]* 2/25/75  
 SIGNATURE SPECIALIST BY DELEGATION DATE

*[Signature]* 1/29/75  
 SIGNATURE SUPERVISOR, MILITARY & INTEL MODEL SERVICES  
 ORIGINATOR *[Signature]* 2/25/75  
 SIGNATURE

NAVAL WEAPONS HANDLING LABORATORY  
 HAD APLE, NEW YORK

## MIL-STD-1325-101 (NAVY)

## 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 MIL-STD-1325 (NAVY) AND THE APPLICABLE SLASH/DASH NUMBER DOCUMENTS MAY BE ORDERED FROM NAVAL SUPPLY DEPOT, 5801 TABOR AVENUE, PHILADELPHIA, PA 19120, USING DD FORM 1425
- 2 WHEN PLANNING SHIPMENTS ORDER THE MINIMUM NUMBER OF CARS OF THE CAPACITY REQUIRED FOR THE SHIPMENT UTILITY LOADER CARS USED FOR SHIPPING HAZARDOUS MATERIALS SHALL BE SERIES DODX 29000
- 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) COMMERCIAL BOXCARS WITH 40 FT 6 INCHES OR 50 FT 6 INCHES INSIDE LENGTH 110 INCHES INSIDE WIDTH CARLOAD IS TO BE PREPARED IN ACCORDANCE WITH LOADING AND DUNNAGING PROCEDURE FOR THE TYPE AND SIZE OF CAR SELECTED
- 4 IF END WALLS ARE NOT SQUARE THEY MUST BE SQUARED OFF BEFORE STARTING TO LOAD CAR
- 5 THE LOAD CONSISTS OF TYPICAL PALLETIZED UNIT LOADS OF AMMUNITION OR AMMUNITION COMPONENTS IN METAL OR WOOD CONTAINERS THE UNIT LOADS MUST BE OF SUCH A SIZE THAT THREE ROWS MAY BE LOADED IN THE CAR AS MANY LOADS AS POSSIBLE MAY BE LOADED IN THE CAR, PROVIDING LOAD LIMIT OF CAR IS NOT EXCEEDED AND WEIGHT DISTRIBUTION RULES OF THE AAR ARE ADHERED TO
- 6 THE UNIT LOAD MUST HAVE A LENGTH OR WIDTH DIMENSION WHICH WILL ALLOW PLACING THREE LOADS ACROSS THE CAR
- 7 THE UNIT LOADS ARE HANDLED AND LOADED WITH A SUITABLE FORK LIFT TRUCK
- 8 UNLESS OTHERWISE SPECIFIED, NAILING SHALL BE IN ACCORDANCE WITH WR-52
- 9 APPLICABLE MATERIAL SPECIFICATIONS:
  - DUNNAGE LUMBER - FED SPEC MM-L-751
  - NAILS - FED SPEC FF-N-105
  - STRAPPING - FED SPEC QQ-5-781, TYPE I, HEAVY DUTY, CLASS A, DRY (UNLUBRICATED)
  - SEALS - FED SPEC QQ-5-781, STYLE III, HEAVY DUTY
- 10 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)

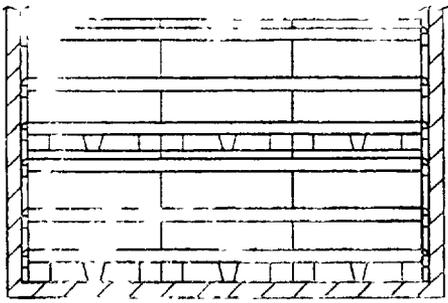
## 50 FT 6 IN. BOXCAR, DODX

LOADING AND DUNNAGING PROCEDURE - A DETAILED DESCRIPTION AND OPERATING INSTRUCTIONS FOR THE UTILITY LOADER ARE CONTAINED IN OP 1750 THE FOLLOWING PROCEDURE IS TO BE USED FOR LOADING, BRACING, AND DUNNAGING A TYPICAL PALLETIZED UNIT LOAD

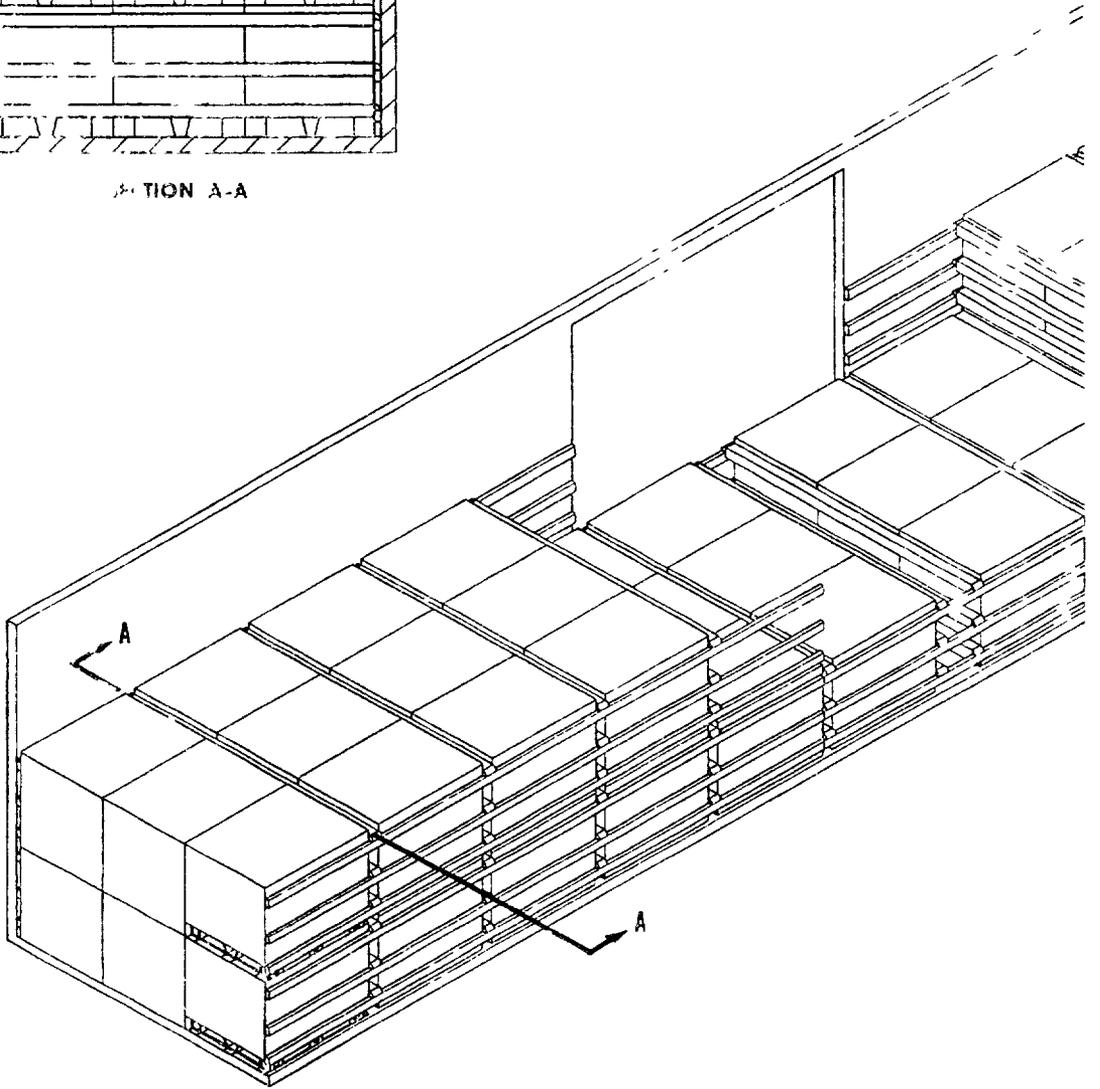
- 1 BASED ON THE WEIGHT AND DIMENSIONS OF THE UNIT LOAD THE DIMENSIONS AND LOAD LIMIT OF THE CAR, AND THE SIXTY CROSS MEMBERS AVAILABLE IN EACH CAR DETERMINE THE NUMBER AND ORIENTATION OF THE PALLETIZED UNIT LOADS THAT MAY BE POSITIONED IN THE CAR
- 2 EACH CROSS MEMBER HAS A CAPACITY RATING OF 3000 LBS BASED ON THIS RATING AND WEIGHT OF THE UNIT LOADS, DETERMINE THE NUMBER OF STACKS IN EACH BAY AND THE NUMBER OF CROSS MEMBERS REQUIRED
- 3 DETERMINE HEIGHTS AT WHICH CROSS MEMBERS SHOULD BE POSITIONED SO THAT THEY WILL BEAR AGAINST THE UNIT LOAD IN AREAS OF GREATEST STRENGTH BASED ON THIS INFORMATION, POSITION DETACHABLE WALL MEMBERS, IN ADDITION TO THE FIXED WALL MEMBERS, AT THE REQUIRED HEIGHTS
- 4 PLACE UNIT LOADS IN THE CAR AS DETERMINED BY STEPS 1 AND 2 ABOVE AND IN A SIMILAR MANNER AS SHOWN IN THE TYPICAL LOAD PLAN ON PAGE 3
- 5 BEFORE LOADING DOORWAY AREA, POSITION DOORWAY MEMBERS AT THE SAME HEIGHTS AS THE WALL MEMBERS IN USE, IN THE DOORWAY FARTHEST FROM THE LOADING PLATFORM (THERE IS A MAXIMUM OF FIVE DOORWAY MEMBERS TO EACH DOORWAY)
- 6 AFTER LOADING DOORWAY AREA POSITION DOORWAY MEMBERS IN DOORWAY NEAREST LOADING PLATFORM AT THE SAME HEIGHTS AS OTHER DOORWAY MEMBERS THEN INSTALL CROSS MEMBERS RETAINING DOORWAY LOADS
- 7 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

WHEN LESS THAN CARLOAD (LCL) QUANTITIES ARE REQUIRED TO BE SHIPPED IN DODX BOXCARS THE SAME PROCEDURES AND METHODS OF BLOCKING ARE APPLICABLE ANY BAYS OR PORTION THEREOF MAY BE USED PROVIDING THE WEIGHT DISTRIBUTION REQUIREMENTS OF THE AAR ARE COMPLIED WITH (SEE MIL-STD-1325 (NAVY)) EACH CROSS MEMBER WILL BE USED IN SUCH A MANNER THAT IT WILL RETAIN NOT MORE THAN 2000 LBS OF THE LADING

COMMERCIAL BOXCARS EQUIPPED WITH MECHANICAL BRACING AND HAVING FIXED WALL MEMBERS MAY BE USED IF THE FIXED WALL MEMBERS AND DOORWAY MEMBERS ARE LOCATED AT HEIGHTS WHICH ALLOW THE REQUIRED NUMBER OF CROSS MEMBERS TO BE POSITIONED SO THAT THEY WILL BEAR AGAINST THE UNIT LOAD IN AREAS OF GREATEST STRENGTH SUFFICIENT CROSS MEMBERS MUST BE AVAILABLE TO MAKE UP AN EFFICIENT CARLOAD IN LOADING COMMERCIAL BOXCARS EQUIPPED WITH MECHANICAL BRACING, EACH CROSS MEMBER WILL BE USED IN SUCH A MANNER THAT IT WILL RETAIN NOT MORE THAN THE SAFE LOAD DESIGNATED FOR THE MEMBER IN THE ABSENCE OF ANY DESIGNATED LOAD CARRYING CAPACITY, THE LOAD PER CROSS MEMBER WILL BE LIMITED TO 3000 LBS



SECTION A-A



MIL-STD-1325-101 (NAVY)

## 40 FT 6 IN. OR 50 FT 6 IN. BOXCAR, COMMERCIAL

LOADING AND DUNNAGING PROCEDURE - THE FOLLOWING PROCEDURE IS TO BE USED FOR LOADING, BRACING, AND DUNNAGING A TYPICAL PALLETIZED UNIT LOAD

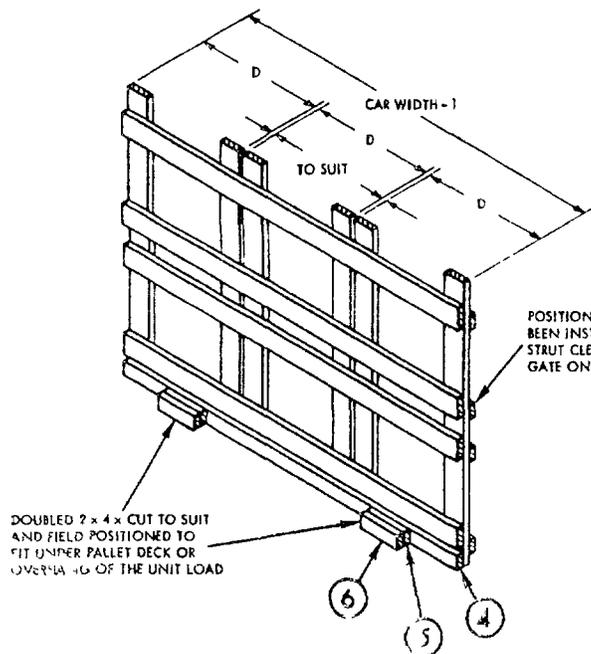
- 1 BASED ON THE WEIGHT AND DIMENSIONS OF THE UNIT LOAD, THE DIMENSIONS AND THE LOAD LIMIT OF THE CAR, DETERMINE THE NUMBER AND ORIENTATION OF THE PALLETIZED UNIT LOADS THAT MAY BE POSITIONED IN THE CAR
- 2 PLACE UNIT LOADS IN THE CAR AS DETERMINED BY STEP 1 ABOVE AND IN A SIMILAR MANNER AS SHOWN IN THE TYPICAL LOAD PLANS PAGES 5 AND 6
- 3 PREASSEMBLE CENTER GATES AS SHOWN IN DETAIL A AND POSITION WITH HORIZONTAL GATE MEMBERS (PIECE 1) AGAINST THE LAST STACK OF UNIT LOADS TO HOLD GATE ASSEMBLY DOWN BE SURE DOUBLED  $2 \times 4$  CUT TO SUIT ( $2 \times 3$  MATERIAL MAY BE USED IF  $2 \times 4$  DOES NOT FIT) FITS UNDER PALLET DECK OR OVERHANG OF THE UNIT LOAD SO AS TO PREVENT THE GATE ASSEMBLY FROM RISING
- 4 POSITION STRUTS (PIECE 7) ON STRUT CLEATS (PIECE 3) AND TOENAIL TO VERTICAL GATE MEMBERS (PIECE 2) NOMINAL  $2 \times 6$  STRUTS DOUBLED AND LAMINATED WITH 10d NAILS MAY BE SUBSTITUTED IN PLACE OF  $4 \times 4$ s DO NOT NAIL GATES OR STRUTS TO CAR FLOOR OR WALLS
- 5 WHEN MORE THAN HALF OF A UNIT LOAD FALLS WITHIN THE DOORWAY AREA INSTALL DOORWAY PROTECTION AS SHOWN IN MIL-STD-1325 (NAVY)

WHEN CARLOAD OR LESS THAN CARLOAD (LCL) QUANTITIES ARE SHIPPED IN COMMERCIAL BOXCARS HAVING WOOD SIDEWALLS AND A PARTIAL LAYER RESULTS, THE PARTIAL LAYER OF LADING MAY BE RETAINED BY MEANS OF END BRACING AND/OR PARTIAL LAYER BRACING CONSTRUCTED IN ACCORDANCE WITH DETAILS, PAGES 7 THROUGH 12 IF THE BOXCAR HAS METAL SIDEWALLS OR WOOD SIDEWALLS THE PARTIAL LAYER MAY BE RETAINED IN ACCORDANCE WITH MIL-STD-1325-102 (NAVY) SELECT THE TYPE OF BRACING TO COMPLY WITH THE WEIGHT OF THE UNITS TO BE RETAINED THE CENTER GATE SHOULD BE ADJUSTED AS REQUIRED

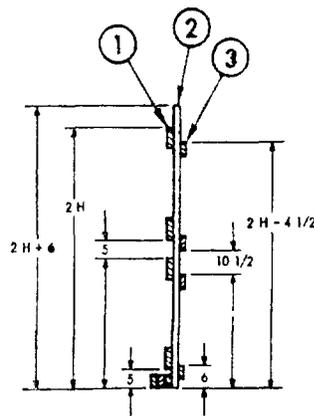
THE LOADS AS SHOWN ARE BASED ON CARS EQUIPPED WITH CONVENTIONAL SLIDING TYPE DOORS WHICH ARE 6 FT WIDE FOR 40 FT 6 BOXCARS AND 10 FT WIDE FOR 50 FT 6 BOXCARS THE DEPICTED PROCEDURES AND METHODS OF BLOCKING ARE ALSO APPLICABLE TO BOXCARS EQUIPPED WITH CONVENTIONAL SLIDING TYPE DOORS OTHER THAN THESE WIDTHS

WHEN BOXCARS GREATER THAN 9 FT 2 IN WIDE ARE USED AND THE ACCUMULATED VOID SPACE Laterally IN THE CAR IS GREATER THAN 5 INCHES, SUFFICIENT DUNNAGE SHALL BE NAILED TO THE SIDE WALLS OF THE CAR OR INSERTED BETWEEN ROWS TO DECREASE THE LATERAL VOID SPACE TO 5 INCHES OR LESS

WHEN PLUG DOOR EQUIPPED BOXCARS ARE TO BE LOADED, THE ADDITIONAL PROCEDURES OUTLINED ON PAGE 13 ARE TO BE FOLLOWED



H - HEIGHT OF UNIT LOAD  
D - DIMENSION OF UNIT LOAD  
CROSSWISE IN THE CAR

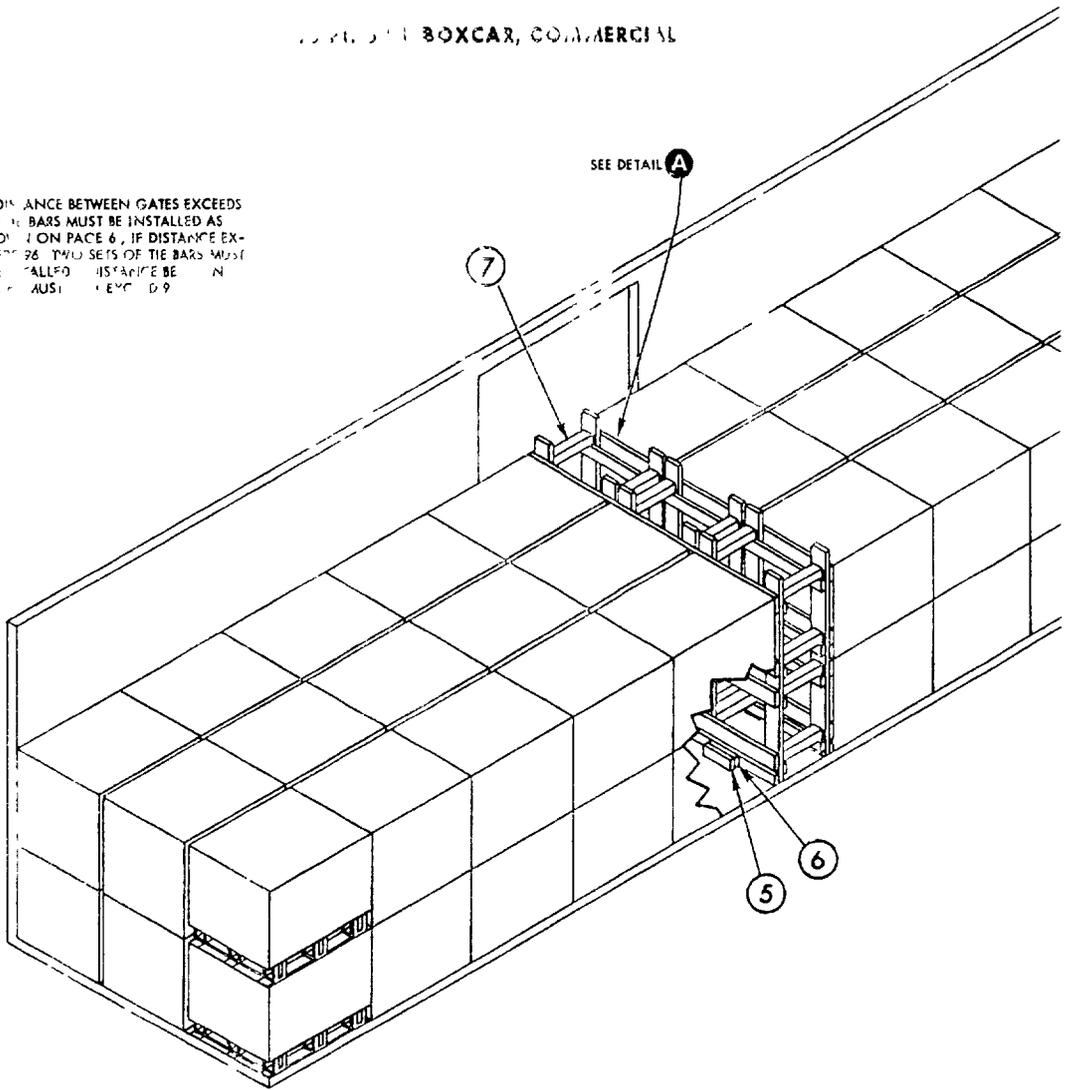


DETAIL A  
CENTER GATE  
2 REQUIRED

TYPE 311 BOXCAR, COMMERCIAL

NOTE

IF DISTANCE BETWEEN GATES EXCEEDS 48" TIE BARS MUST BE INSTALLED AS SHOWN ON PAGE 6. IF DISTANCE EXCEEDS 96" TWO SETS OF TIE BARS MUST BE INSTALLED. DISTANCE BETWEEN TIE BARS MUST BE 12" TO 18".



H - HEIGHT OF UNIT LOAD

\* DOUBLED 2 x 4 x CUT TO SUIT AND FIELD POSITIONED TO FIT UNDER PALLET DECK OR OVERHANG OF THE UNIT LOAD. 2 x 3 MATERIAL MAY BE USED IF 2 x 4 DOES NOT FIT

\*\* 2 x 6 STRUTS DOUBLED AND LAMINATED WITH 10d NAILS MAY BE SUBSTITUTED IN PLACE OF 4 x 4 s

PIECE NO	DESCRIPTION	SIZE	NO PCS REQD	NAIL TO	NUMBER NAILS	SIZE
7	STRUT	4 x 4 x WEDGE FIT **	24	2	2 PER JOINT	16d
6	HOLDDOWN CLEAT	2 x 4 x CUT TO SUIT *	4	5	4	16d
5	HOLDDOWN CLEAT	2 x 4 x CUT TO SUIT *	4	4	4	10d
4	HOLDDOWN SPACER	2 x 4 x CAR WIDTH	2	2	3 PER JOINT	10d
3	CENTER GATE STRUT CLEAT	2 x 4 x CAR WIDTH - 1	8	2	3 PER JOINT	10d
2	CENTER GATE VERTICAL	2 x 6 x (2H - 6)	12	SEE 1	-	-
1	CENTER GATE HORIZONTAL	2 x 6 x CAR WIDTH - 1	8	2	3 PER JOINT	10d

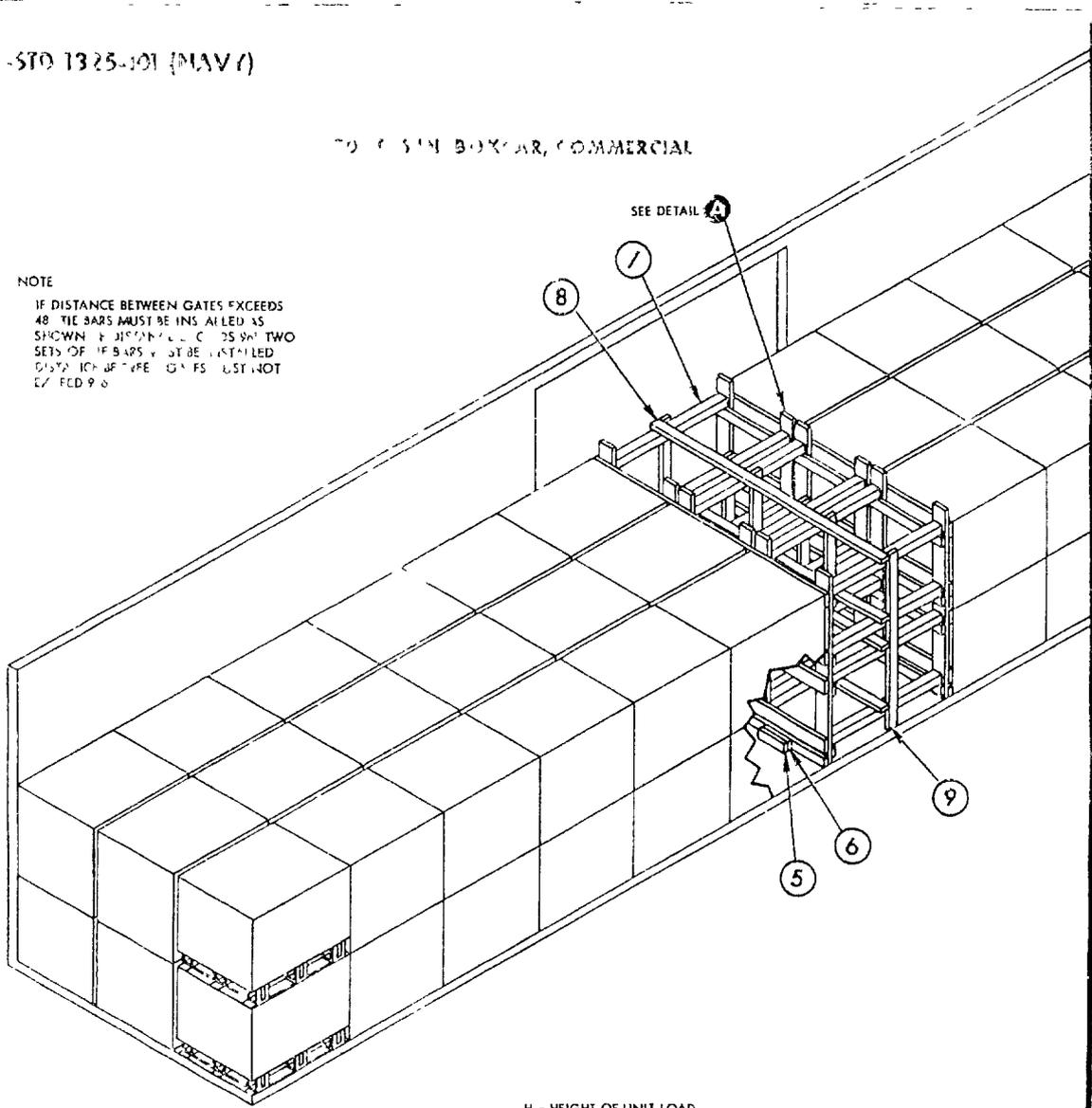
LIST OF MATERIALS AND NAILING DATA

MIL-STD 1325-101 (MAY 7)

TOE SIN BOXCAR, COMMERCIAL

NOTE

IF DISTANCE BETWEEN GATES EXCEEDS 48" TIE BARS MUST BE INSTALLED AS SHOWN IN FIGURE 1. C-25 SHOWN TWO SETS OF TIE BARS MUST BE INSTALLED DISTANCE BETWEEN GATES MUST NOT EXCEED 9'-0"



H - HEIGHT OF UNIT LOAD

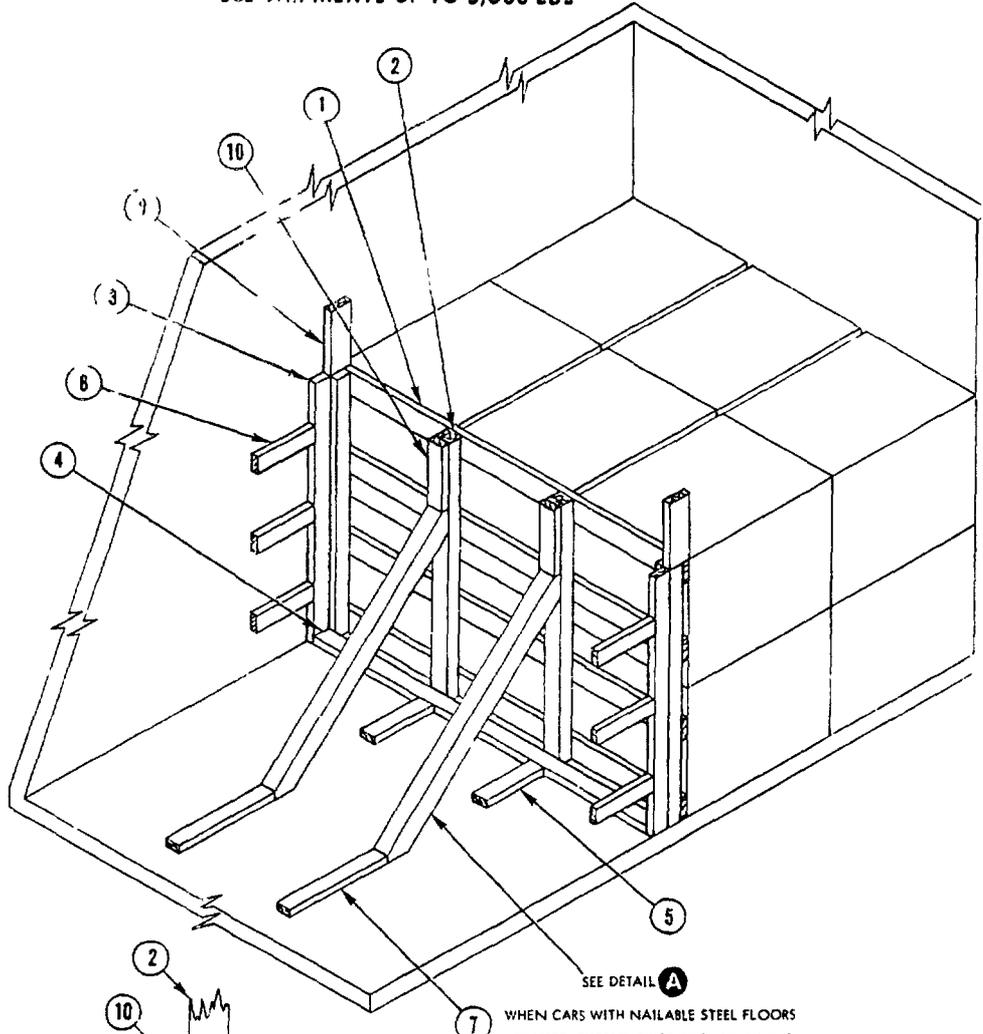
\* DOUBLED 2 x 4 x CUT TO SUIT AND FIELD POSITIONED TO FIT UNDER PALLET DECK OR OVERHANG OF THE UNIT LOAD. 2 x 3 MATERIAL MAY BE USED IF 2 x 4 DOES NOT FIT

\*\* 2 x 6 STRUTS DOUBLED AND LAMINATED WITH 10d NAILS MAY BE SUBSTITUTED IN PLACE OF 4 x 4 s

9	VERTICAL TIE BAR	2 x 4 x CUT TO SUIT	6	7	3 PER JOINT	10d
8	HORIZONTAL TIE BAR	2 x 4 x CUT TO SUIT	4	7	3 PER JOINT	10d
7	STRUT	4 x 4 x WEDGE FIT **	24	2	2 PER JOINT	16d
6	HOLDDOWN CLEAT	2 x 4 x CUT TO SUIT *	4	5	4	16d
5	HOLDDOWN CLEAT	2 x 4 x CUT TO SUIT *	4	4	4	10d
4	HOLDDOWN SPACER	2 x 4 x CAR WIDTH - 1	2	2	3 PER JOINT	10d
3	CENTER GATE STRUT CLEAT	2 x 4 x CAR WIDTH - 1	8	2	3 PER JOINT	10d
2	CENTER GATE VERTICAL	2 x 6 x (2H + 6)	12	SEE 1	-	-
1	CENTER GATE HORIZONTAL	2 x 6 x CAR WIDTH - 1	8	2	3 PER JOINT	10d
PIECE NO	DESCRIPTION	SIZE	NO PCS REQD	NAIL TO	NUMBER	SIZE NAILS

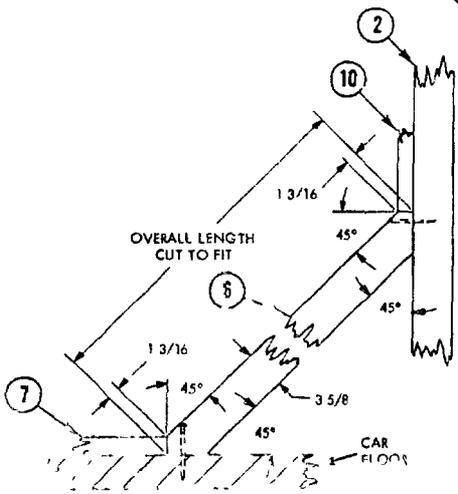
LIST OF MATERIALS AND NAILING DATA

END BRACE  
LCL SHIPMENTS UP TO 5,000 LBS



SEE DETAIL A

WHEN CARS WITH NAILABLE STEEL FLOORS ARE USED EXTEND PIECE 7 TO INSURE THE REQUIRED NUMBER OF STAGGERED NAILS



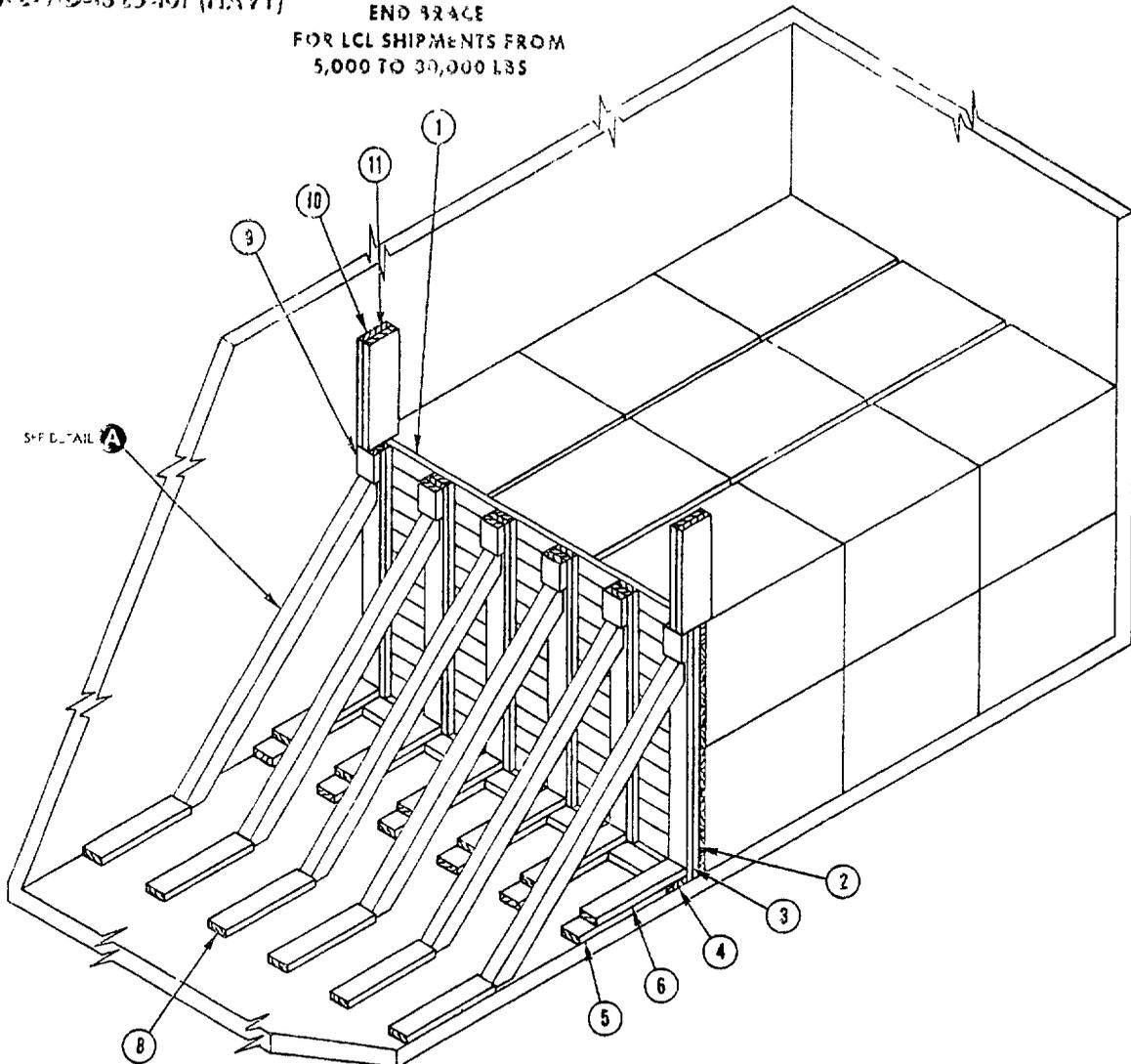
DETAIL A  
POSITIONING OF  
DIAGONAL BRACE

PIECE NO	DESCRIPTION	SIZE	NO PCS REQ'D	NAIL TO	NUMBER NAILS	SIZE
10	UPPER CLEAT	2 X 4 X CUT TO FIT	2	2	4	10d
9	HOLD DOWN CLEAT	2 X 6 X 18	2	CAR WALL	6	10d
8	SIDE WALL BACK-UP CLEAT	2 X 4 X 18	6	CAR WALL	4	10d
7	FLOOR CLEAT	2 X 4 X 30 MIN	2	CAR FLOOR	5	20d
6	DIAGONAL BRACE	4 X 4 X CUT TO FIT	2	2 CAR FLOOR	2/END	20d
5	FLOOR BRACE CLEAT	2 X 4 X 18	2	CAR FLOOR	4	20d
4	LATERAL FLOOR BRACE	2 X 4 X CAR WIDTH - 3 1/4	1	CAR FLOOR	2/FT	20d
3	VERTICAL BACK-UP	2 X 4 X LOAD HEIGHT	2	CAR WALL	2/FT	10d
2	END BRACE VERTICAL	4 X 4 X LOAD HEIGHT	4	SEE 1	-	-
1	END BRACE HORIZONTAL	2 X 6 X CAR WIDTH	4 MIN	2	3/JOINT	10d

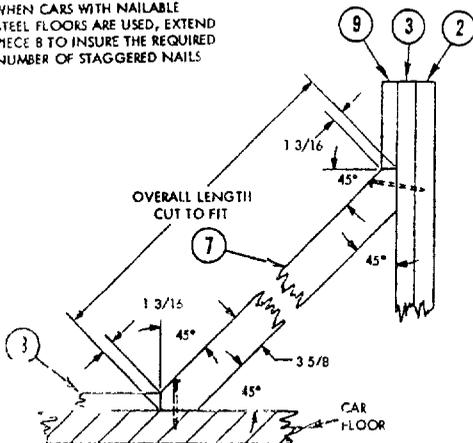
LIST OF MATERIALS AND NAILING DATA

ML-50-1325-101 (NAVY)

END BRACE  
FOR LCL SHIPMENTS FROM  
5,000 TO 30,000 LBS



WHEN CARS WITH NAILABLE  
STEEL FLOORS ARE USED, EXTEND  
PIECE B TO INSURE THE REQUIRED  
NUMBER OF STAGGERED NAILS

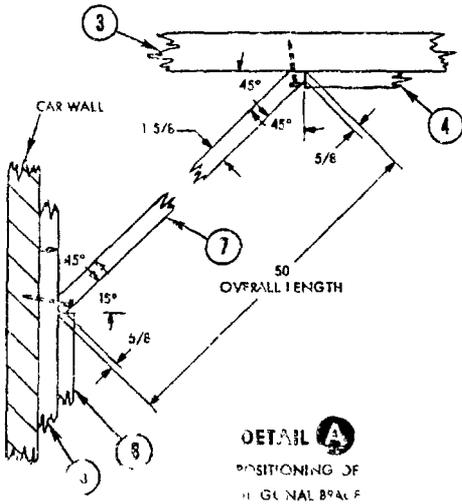
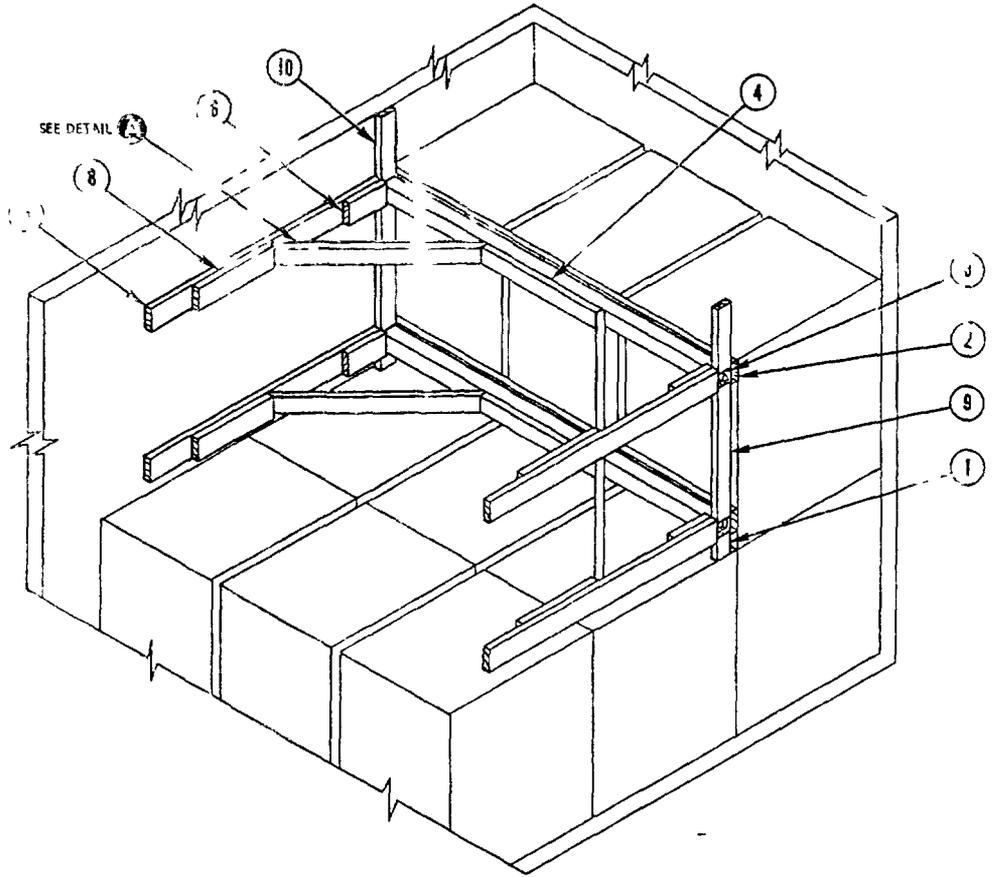


**DETAIL A**  
POSITIONING OF  
DIAGONAL BRACE

11	HOLD DOWN CLEAT	2 X 10 X 30	2	10	15	10d
10	HOLD DOWN CLEAT	2 X 10 X 30	2	CAR WALL	15	10d
9	UPPER CLEAT	2 X 6 X 8	6	3	5	10d
8	FLOOR CLEAT	2 X 6 X 30	6	CAR FLOOR	8	20d
7	DIAGONAL BRACE	4 X 4 X CUT TO FIT	6	3, CAR FLOOR	2/END	20d
6	TOP CLEAT	2 X 6 X 30	6	4 5	8	20d
5	FLOOR BRACE CLEAT	2 X 6 X 30	6	CAR FLOOR	8	20d
4	LATERAL FLOOR BRACE	2 X 6 X CAR WIDTH	1	CAR FLOOR	2/FT	20d
3	END BRACE VERTICAL	2 X 6 X LOAD HEIGHT	6	2	2/FT	10d
2	END BRACE VERTICAL	2 X 6 X LOAD HEIGHT	6	SEE 1	-	-
1	END BRACE HORIZONTAL	2 X 6 X CAR WIDTH	TO LOAD HEIGHT	2	2/JOINT	10d
PIECE NO	DESCRIPTION	SIZE	NO PCS REQ'D	NAIL TO	NUMBER	SIZE
					NAILS	

LIST OF MATERIALS AND NAILING DATA

**PARTIAL LAYER BRACING  
UP TO 8,000 LBS**



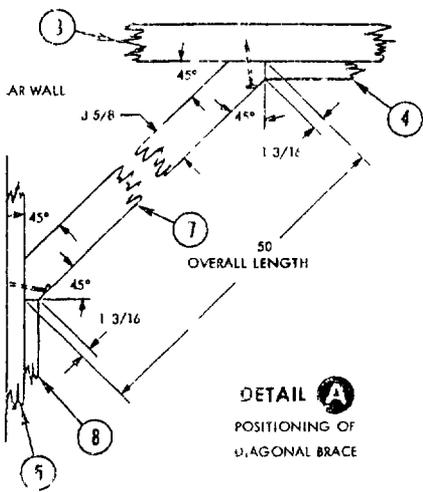
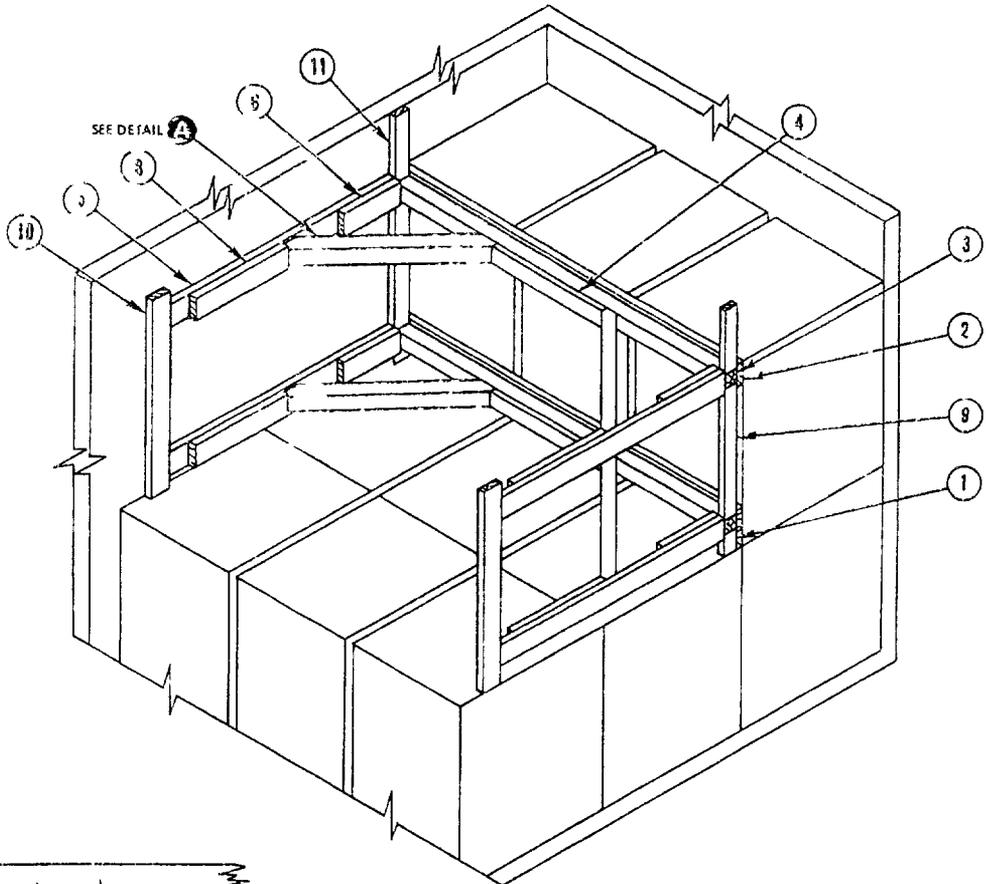
**DETAIL A**  
POSITIONING OF  
DIAGONAL BRACE

10	UPPER WALL CLEAT	2 X 4 X 16	2	CAR WALL	4
9	INTERMEDIATE WALL CLEAT	2 X 4 X CUT TO FIT	2	CAR WALL	4
8	HORIZONTAL BACK-UP CLEAT	2 X 6 X 24	4	5	6
7	DIAGONAL BRACE	2 X 4 X 50	4	3, 5	1/FND
6	HORIZONTAL POCKET CLEAT	2 X 6 X 12	4	5	4
5	HORIZONTAL WALL CLEAT	2 X 6 X 72	4	CAR WALL	16
4	CENTER CLEAT	2 X 4 X 36	2	3	7
3	CROSS BRACE	4 X 4 X CAR WIDTH	2	SEE 2	-
2	CROSS BRACE STIFFENER	2 X 6 X CAR WIDTH	2	3	1
1	LOWER WALL CLEAT	2 X 4 X 6	2	CAR WALL	3
PIECE NO	DESCRIPTION	SIZE	NO PCS REQ'D	NAIL TO	NUMBER NAIL

LIST OF MATERIALS AND NAILING DATA

ALL STD-1375-101 (NAVY)

PARTIAL LAYER BRACING  
8,000 LBS TO 14,000 LBS

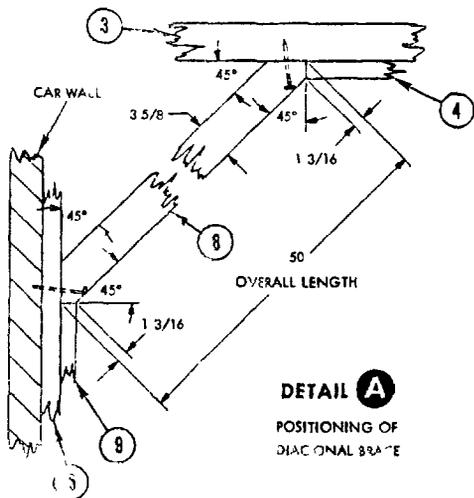
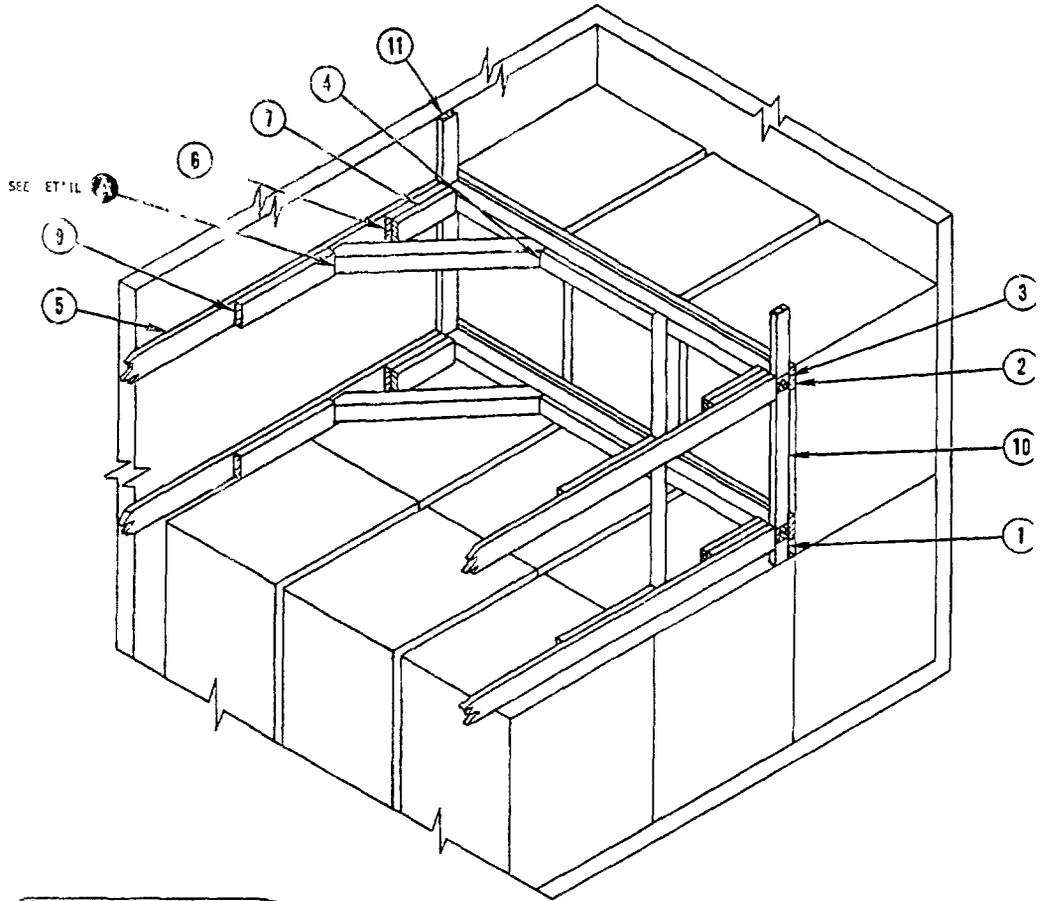


DETAIL A  
POSITIONING OF  
DIAGONAL BRACE

11	UPPER WALL CLEAT	2 X 4 X 18	2	CAR WALL	4	10d
10	VERTICAL BACK-UP CLEAT	2 X 6 SLIGHTLY ABOVE LOAD	2	CAR WALL	8	10d
9	INTERMEDIATE WALL CLEAT	2 X 4 X CUT TO FIT	2	CAR WALL	4	10d
8	HORIZONTAL BACK-UP CLEAT	2 X 6 X 30	4	5	14	16d
7	DIAGONAL BRACE	4 X 4 X 50	4	3 5	1/END	60d
6	HORIZONTAL POCKET CLEAT	2 X 6 X 18	4	5	7	16d
5	HORIZONTAL WALL CLEAT	2 X 6 X 72	4	CAR WALL	16	10d
4	CENTER CLEAT	2 X 4 X 36	2	3	7	16d
3	CROSS BRACE	4 X 4 X CAR WIDTH	2	SEE 2	-	
2	CROSS BRACE STIFFENER	2 X 6 X CAR WIDTH	2	3	2/FT	12d
1	LOWER WALL CLEAT	2 X 4 X 6	2	CAR WALL	3	10d
PIECE NO	DESCRIPTION	SIZE	NO PCS REQ'D	NAIL TO	NUMBER	SIZE
LIST OF MATERIALS AND NAILING DATA						

MIL-STD-1325-101 (NAV)

**PARTIAL LAYER BRACING**  
14,000 LBS TO 20,000 LBS



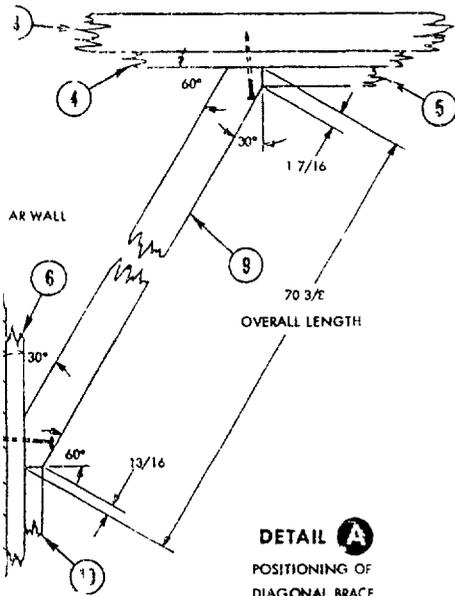
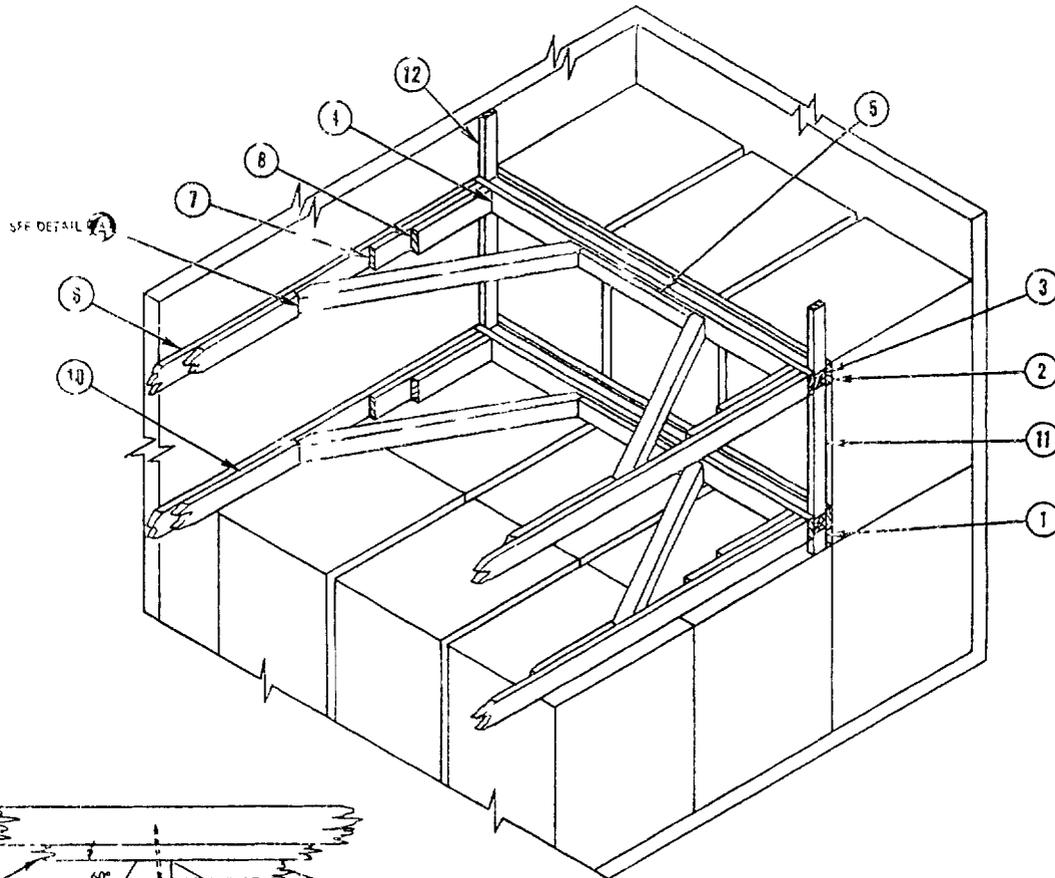
**DETAIL A**  
POSITIONING OF  
DIAGONAL BRACE

11	UPPER WALL CLEAT	2 X 4 X 18	2	CAR WALL	4	1
10	INTERMEDIATE WALL CLEAT	2 X 4 X CUT TO FIT	2	CAR WALL	4	1
9	HORIZONTAL BACK-UP CLEAT	2 X 6 X 30	4	5	14	1
8	DIAGONAL BRACE	4 X 4 X 50	4	3, 5	1/END	6
7	HORIZONTAL POCKET CLEAT	2 X 6 X 18	4	6	7	1
6	HORIZONTAL POCKET CLEAT	2 X 6 X 18	4	5	7	1
5	HORIZONTAL WALL CLEAT	2 X 6 X EXTEND ACROSS DOOR	4	CAR WALL	40	1
4	CENTER CLEAT	2 X 4 X 36	2	3	7	1
3	CROSS BRACE	4 X 4 X CAR WIDTH	2	SEE 2	-	-
2	CROSS BRACE STIFFENER	2 X 6 X CAR WIDTH	2	3	2/FT	1
1	LOWER WALL CLEAT	2 X 4 X 6	2	CAP WALL	3	1
PIECE / 10	DESCRIPTION	SIZE	NO PCS REQ'D	NAIL TO	NUMBER	SI
					NAILS	

LIST OF MATERIALS AND NAILING DATA

U 510-1370 101 (NAVY)

**PARTIAL LAYER BRACING**  
70,000 LBS TO 25,000 LBS



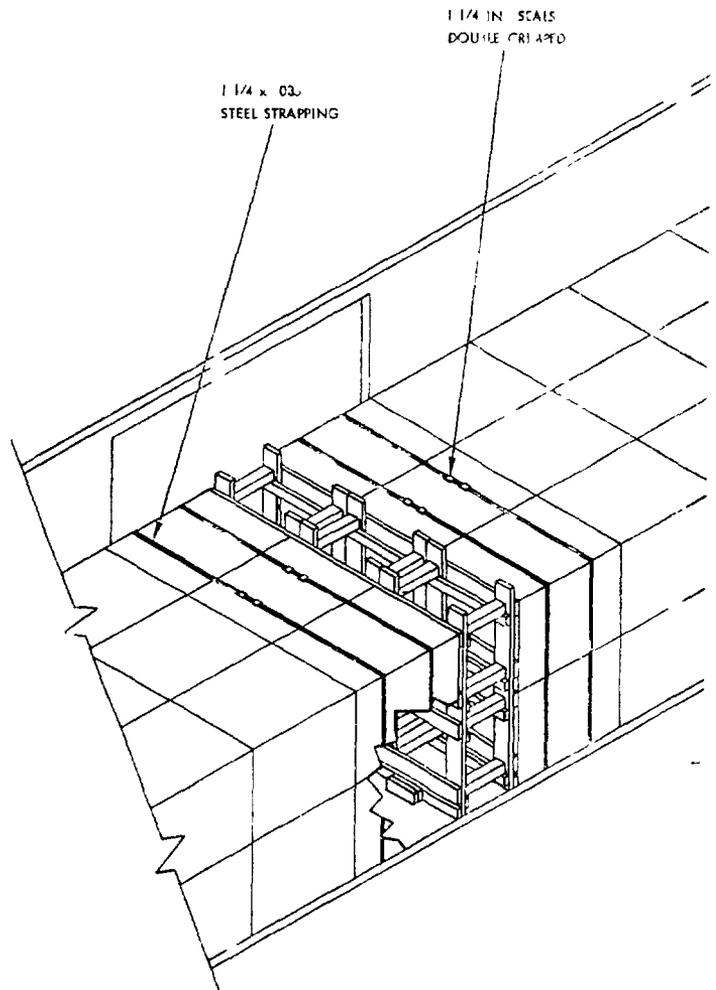
12	UPPER WALL CLEAT	2 X 4 X 18	2	CAR WALL	4	10d
11	INTERMEDIATE WALL CLEAT	2 X 4 X CUT TO FIT	2	CAR WALL	4	10d
10	HORIZONTAL BACK-UP CLEAT	2 X 6 X EXTEND ACROSS DOOR	4	6	18	16d
9	DIAGONAL BRACE	4 X 4 X 70 3/8	4	4, 6	1/END	60d
8	HORIZONTAL POCKET CLEAT	2 X 6 X 24	4	6	7	16d
7	HORIZONTAL POCKET CLEAT	2 X 6 X 36	4	5	10	16d
6	HORIZONTAL WALL CLEAT	2 X 6 X EXTEND ACROSS DOOR	4	CAR WALL	40	10d
5	CENTER CLEAT	2 X 4 X 36	2	3	7	16d
4	CROSS BRACE STIFFENER	2 X 6 X CAR WIDTH	2	3	2/FT	12d
3	CROSS BRACE	4 X 4 X CAR WIDTH	2	SEE 2	-	-
2	CROSS BRACE STIFFENER	2 X 6 X CAR WIDTH	2	3	2/FT	12d
1	LOWER WALL CLEAT	2 X 4 X 6	2	CAR WALL	3	10d
PIECE NO	DESCRIPTION	SIZE	NO PCS REQ'D	NAIL TO	NUMBER NAILS	SIZE

LIST OF MATERIALS AND NAILING DATA

MIL-STD-132-103-1 V

## PLUG DOOR EQUIPPED BOXCARS

THE DEPICTED PROCEDURES AND METHODS OF BLOCKING ARE ALSO APPLICABLE TO BOXCARS EQUIPPED WITH PLUG DOORS. DUNNAGE MATERIAL MUST NOT BE NAILED TO ANY PLUG DOOR, WHETHER MAIN OR AUXILIARY. THE STACKS THAT ARE IN THE DOORWAY AREA MUST BE UNITIZED WITH TWO LATERALLY APPLIED 1 1/4" STEEL STRAPS PER STACK, EACH TENSIONED AND SEALED WITH TWO DOUBLE CRIMPED SEALS. WHEN THE ACCUMULATED VOID SPACE LATERALLY IN THE CAR IS GREATER THAN 5 INCHES, SUFFICIENT DUNNAGE SHALL BE NAILED TO THE SIDE WALLS OF THE CAR AND/OR INSERTED BETWEEN ROWS TO DECREASE THE LATERAL VOID SPACE TO 5 INCHES OR LESS. SECURELY CLOSE DOORS AND WIRE TOGETHER WITH A STRONG FLEXIBLE STEEL WIRE INSERTED THROUGH THE HOLES IN THE DOOR LATCH ASSEMBLY ONE OR MORE TIMES AND THE WIRE ENDS TWISTED TOGETHER.



REVIEW ACTIVITY  
NAVY-05

PREPARING ACTIVITY  
NAVY-05  
PROJECT NO. 9140-N-75)

## SPECIFICATION ANALYSIS SHEET

Form Approved  
Budget Bureau No 22-R

**INSTRUCTIONS** This sheet is to be filled out by personnel, either Government or contractor, involved in use of the specification in procurement of products for ultimate use by the Department of Defense. This sheet is provided for obtaining information on the use of this specification which will insure that suitable products can be procured with a minimum amount of delay and at the least cost. Comments and the return of this form will be appreciated. Fold on lines on reverse side, staple in corner, and send to preparing activity. Comments and suggestions submitted on this form do not constitute or imply authorization to waive any portion of referenced document(s) or serve to amend contractual requirements.

SPECIFICATION

MIL-STD-1325-101 (Navy)

ORGANIZATION

CITY AND STATE

CONTRACT NUMBER

MATERIAL PROCURED UNDER A

 DIRECT GOVERNMENT CONTRACT       SUBCONTRACT

1 HAS ANY PART OF THE SPECIFICATION CREATED PROBLEMS OR REQUIRED INTERPRETATION IN PROCUREMENT USE?

A GIVE PARAGRAPH NUMBER AND WORDING

B RECOMMENDATIONS FOR CORRECTING THE DEFICIENCIES

2 COMMENTS ON ANY SPECIFICATION REQUIREMENT CONSIDERED TOO RIGID

3 IS THE SPECIFICATION RESTRICTIVE?

YES       NO (If "yes", in what way?)

4 REMARKS (Attach any pertinent data which may be of use in improving this specification. If there are additional pages attach to form and place both in an envelope addressed to preparing activity)

SUBMITTED BY (Printed or typed name and activity - Optional)

DATE

00 FORM 1428  
1 JUN 68

REPLACES DOWNSIDE OF WHICH MAY BE USED

S/N 0102-014-1801

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