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Transportation

**CIVIL RESERVE AIR FLEET LOAD
PLANNING GUIDE MCDONNELL DOUGLAS
MD 11**



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This volume implements AFD 24-2, Preparation and Movement of Air Force Materiel, and provides information needed to load plan a portion of the Civil Reserve Air Fleet (CRAF). Aircraft discussed in this volume is the wide-body McDonnell Douglas MD11. Provisions of this volume applies to Active Duty, National Guard, Military Reserve Units and other government agencies while utilizing commercial aircraft during contingencies.

This volume of AMCP 24-2 is intended for use as a load planning guide. Equipment listed is dimensionally compatible with all McDonnell Douglas MD11 aircraft and cargo areas discussed. Final approval of the procedures in this publication, however, ultimately rests with the individual contractor providing air-lift services to the DoD. When new or additional information is received from the manufacturer, it will be provided as a change to this publication.

SUMMARY OF REVISIONS

This document is substantially revised and must be completely reviewed. The information contained herein is identical to the information in the previous pamphlet broken down into a more manageable file size. No data has changed. Users of this volume should print volume one which deals with the Administration, Policies, Specialized Loading Support Equipment, and Passenger, and Baggage Loading.

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1. General Description. The McDonnell Douglas MD11 is a long-range wide body cargo aircraft in the inventory of the CRAF. There are passenger and cargo versions of the MD-11 available for military use. The aircraft is basically an extended version of the DC-10 (see chapter 6) and provides additional cargo capabilities. [Figure 2.](#), [Figure 3.](#) and [Figure 4.](#) provides general planning information. For additional information, contact HQ AMC/DOF (DSN 779-2400).

Figure 1. McDonnell Douglas MD-11.



2. Passenger Seating. The MD-11 is capable of carrying upwards of 410 passengers depending on the configuration of the aircraft and any limitations driven by local airport conditions such as weather, runway length etc. However the contracted number of passengers is 255. This number may be increased or decreased by the carrier.

3. Main Deck Palletized Cargo Capability. The aircraft is capable of transporting up to 35 military pallets. [Figure 8.](#) and [Table 1.](#) depicts this maximum palletized cargo capability and provides individual pallet weight maximums. As with the DC-10, the MD-11 also requires that adherence to cumulative shell zone capacities be considered during pallet selection and placement. [Figure 9.](#) and [Figure 10.](#) provides these zone load limitations. [Table 1.](#) provides this information in tabular form along with individual compartment location information. [Figure 12.](#) and [Figure 13.](#) depicts palletized cargo profiles for the main deck.

4. Lower Lobe Cargo Capability. As of this publication, the Forward Lower Lobe compartments of all MD-11s can accommodate as many as six 463L cargo pallets. Some models have a larger modified Aft Lower Lobe Cargo Door that can accommodate four extra 463L pallets on the floor. On the models that have the smaller doors the carrier can add five "P9" commercial pallets (60"x120") capable of caring a

total of 1190 Cu. Ft. of bulk cargo. **Figure 16.** provides lower deck bulk cargo description and door size information. **NOTE:** The weight of the tie downs, slings, shoring, etc., must be included with the cargo weight when determining the maximum allowable load per each cargo hold.

5. MD-11 Freighter Package-Size Tables. **Table 2.** through **Table 5.** provide guidance for loading cargo on the MD-11 using the upper deck cargo door and the various lower lobe compartment doors. Based on the width and height of the cargo (package), it is possible to determine the maximum allowable length. The charts also permit the planner to determine either the maximum width of the cargo by consulting the chart in reverse. For example, an item to be loaded throughout the forward hold door, which is 42 inches high and 228 inches long, can be loaded provided the width of the item does not exceed 48 inches.

6. Wheeled Vehicle Loads. For general planning, plan single-pallet bulk only cargo for the MD-11 aircraft. The transport of wheeled vehicles should only be considered as a result of carrier-user coordination.

7. Loading Sequence. Load bulk designated for the forward lower lobe (FLL), then pallet position 1L and 1R on the main deck and, finally, the remainder of the main deck from the aft section forward and the center lower lobe (CLL) and aft bulk compartment (ABC).

NOTE: Consult the specific contracted carrier regarding the loading sequence prior to loading.

8. Placement of Hazardous Materials. Pallets containing hazardous materials identified as "cargo only aircraft" and "dagger" type cargo must be planned for pallet positions 1L, 1R, 2L, 3L, and 4L. Pallets placed in pallet positions 1L and 1R will have an 18-inch aisleway along the 108-inch (longitudinally loaded) side. Aisleway will face outboard.

9. Loading Times and Crews. (See AMCP 24-2 Volume I, paragraph 2.7. for contract aircraft load times.) Typical loading times vary greatly, depending on the experience level of the crew in loading an MD-11. In general, the following can be used as a guideline, based on a 7-member crew working the lower lobes and a 7-member crew working the main deck.

Reconfigure main deck pallet locks (as required)	+ 55 to 1 + 05
Install main deck subfloor	+ 40 to 1 + 05
Load main deck	1 + 30 to 2 + 30
Hand load lower lobe baggage*	+ 50 to 1 + 30

**Lower lobe normally is loaded concurrently with main deck.*

10. General Rules. Some of the rules have been discussed in previous paragraphs; however, this list is given as a guide:

- 10.1. All cargo must be loaded over and placed on a subfloor, preferably military pallets.
- 10.2. Wooden shoring at least 2 inches thick may be use in between pallets or as a subfloor.
- 10.3. ACL includes pallet and tie-down weights figured at 354 pounds per pallet (290 pounds per pallet, 64 pounds for tie-down chains and devices).
- 10.4. A 60K Loader or wide-body elevator loader is needed for main deck cargo onload and off-load.

10.5. All cargo loaded on 463L pallets is limited to 250 pounds per square inch and is also restricted to the maximum pallet weight according to **Figure 8**.

10.6. Determining weight limits is a four-step process:

10.6.1. Ensure individual pallet weights are within limits.

10.6.2. Ensure combined weight of lateral pallets and lower lobe cargo within the pallet position zone does not exceed total allowable zone load weight.

10.6.3. Ensure zone limits are not exceeded (**Figure 9**).

Figure 2. MD-11 Allowable Weights and Wingtip Radii.

MD-11 FREIGHTER

Aircraft Type	Aircraft Engines	MTOW (lb)	MLW (lb)	MZFW (lb)	OEW (lb)	Payld (lb)
Freighter	CF6-80C2	602,500	471,500	451,300	256,000	195,300
Freighter	PW4460	602,500	471,500	451,300	255,700	195,600

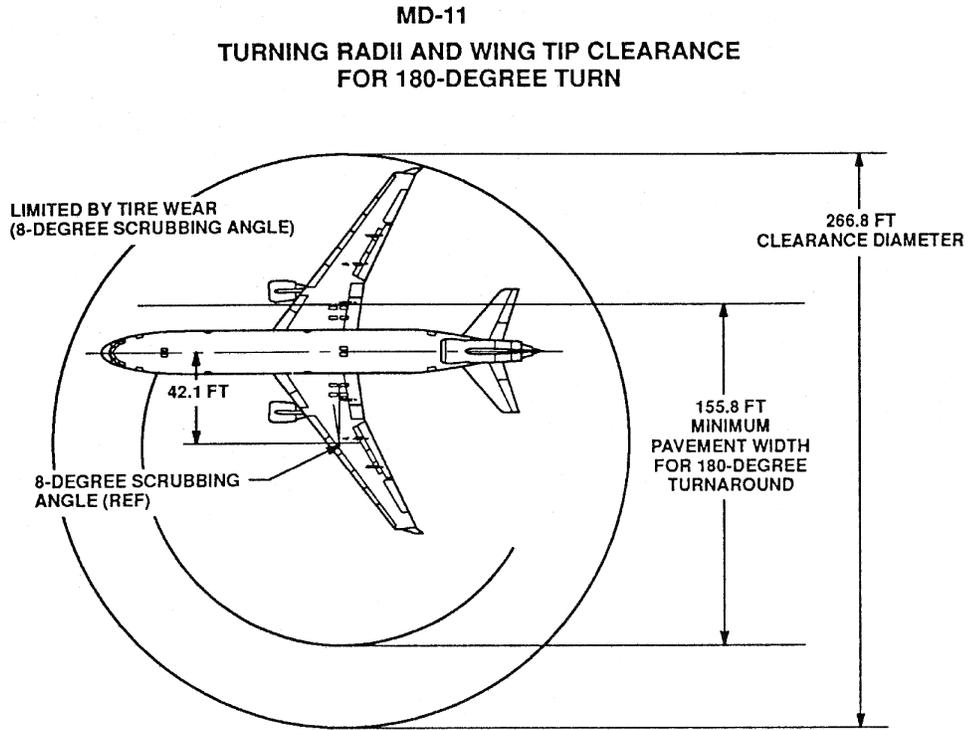


Figure 3. MD-11 Fuselage Side View.

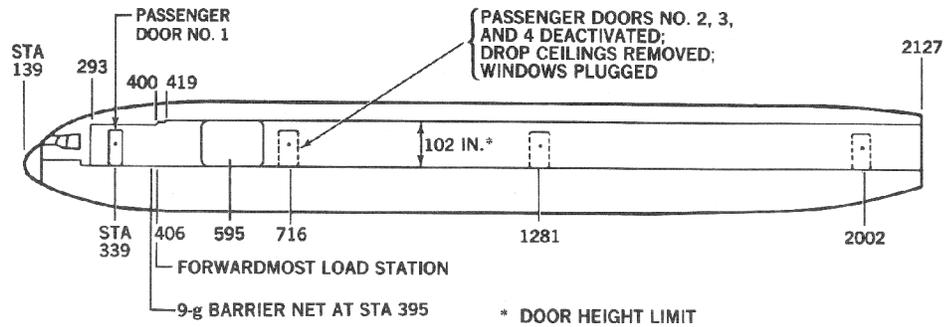
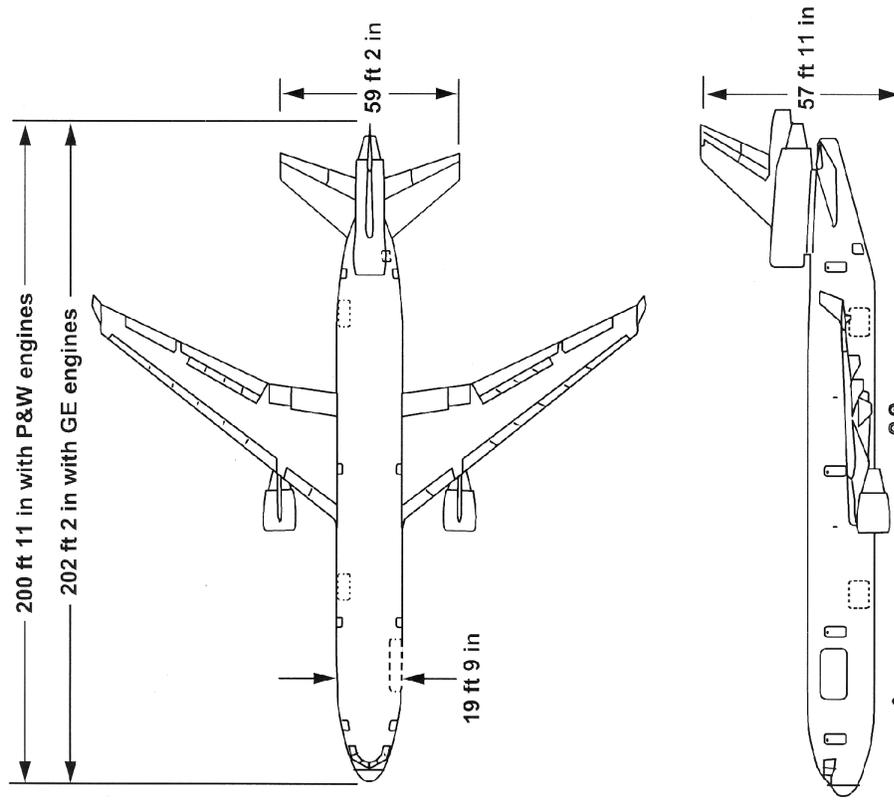


Figure 4. MD-11 General Arrangements.



**MD-11 Freighter
General Arrangements**

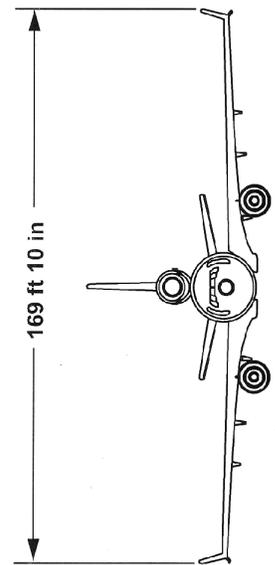
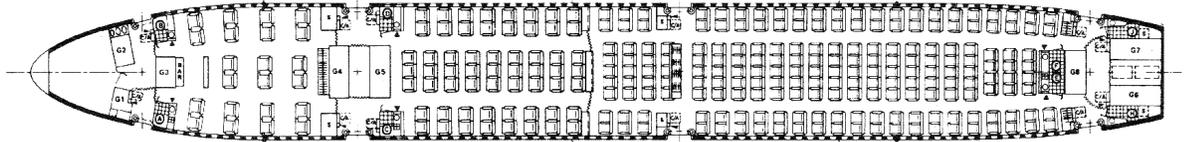


Figure 5. MD-11 Typical Passenger Configurations.

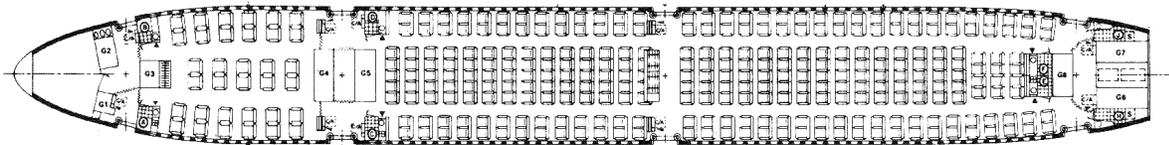
MD-11 TYPICAL CONFIGURATIONS

276 SEATS — THREE-CLASS



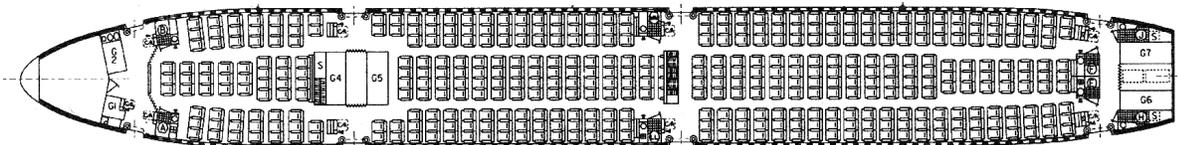
6 ABREAST — FIRST CLASS	22 SEATS — 62-IN. SEAT PITCH
7 ABREAST — BUSINESS CLASS	59 SEATS — 38-IN. SEAT PITCH
9 ABREAST — ECONOMY CLASS	195 SEATS — 34-IN. SEAT PITCH
TOTAL	276 SEATS

323 PASSENGERS — TWO-CLASS



6 ABREAST — FIRST CLASS	34 SEATS — 42/41-IN. SEAT PITCH
9 ABREAST — ECONOMY CLASS	289 SEATS — 33/34-IN. SEAT PITCH
TOTAL	323 SEATS

HIGH-DENSITY SEATING 410 ALL-ECONOMY*



10 ABREAST — 34/33/32-IN. SEAT PITCH

Figure 6. MD-11 Passenger Seating Dimensions.

MD-11 SEATING FLEXIBILITY (DIMENSIONS IN INCHES)

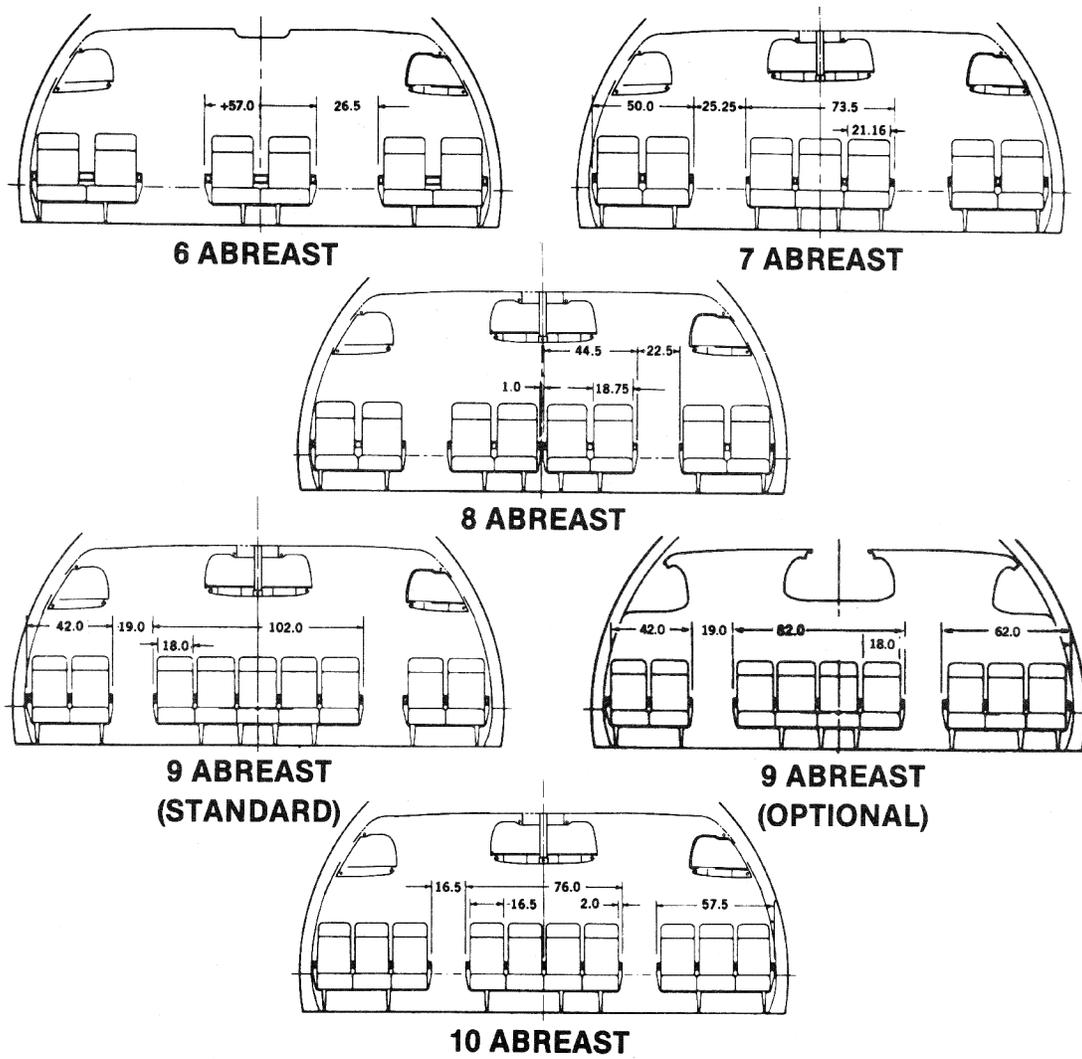
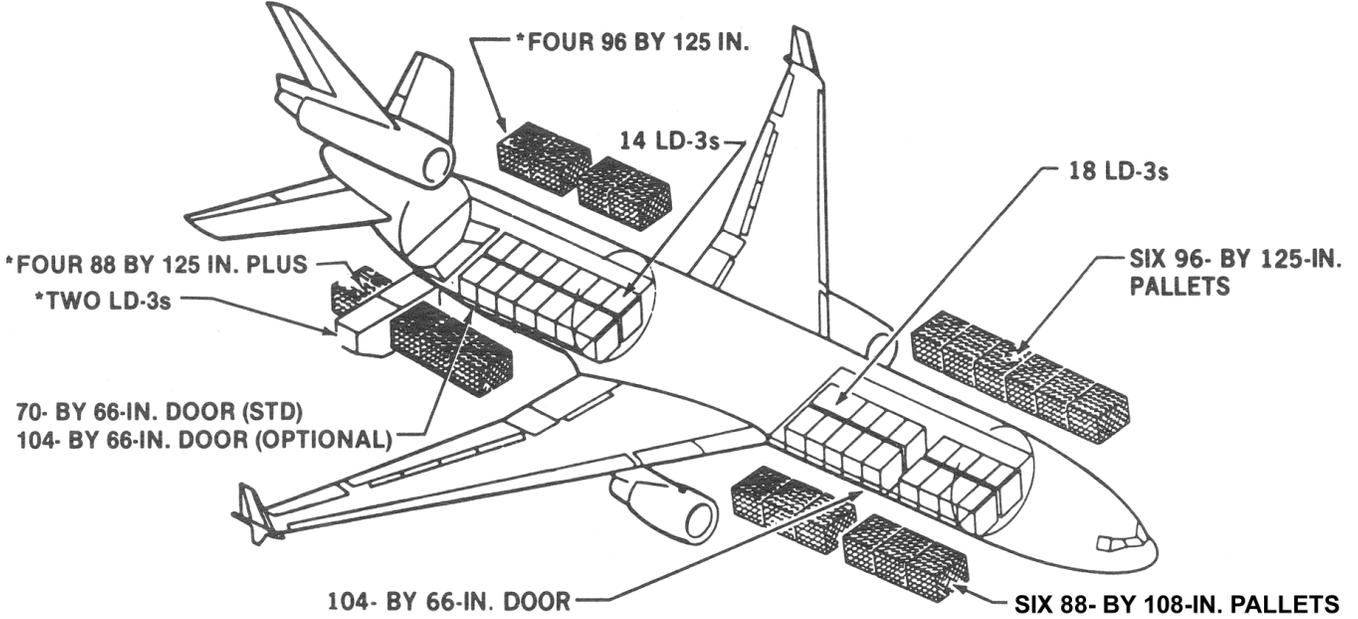


Figure 7. MD-11 Lower Lobe Compartments.

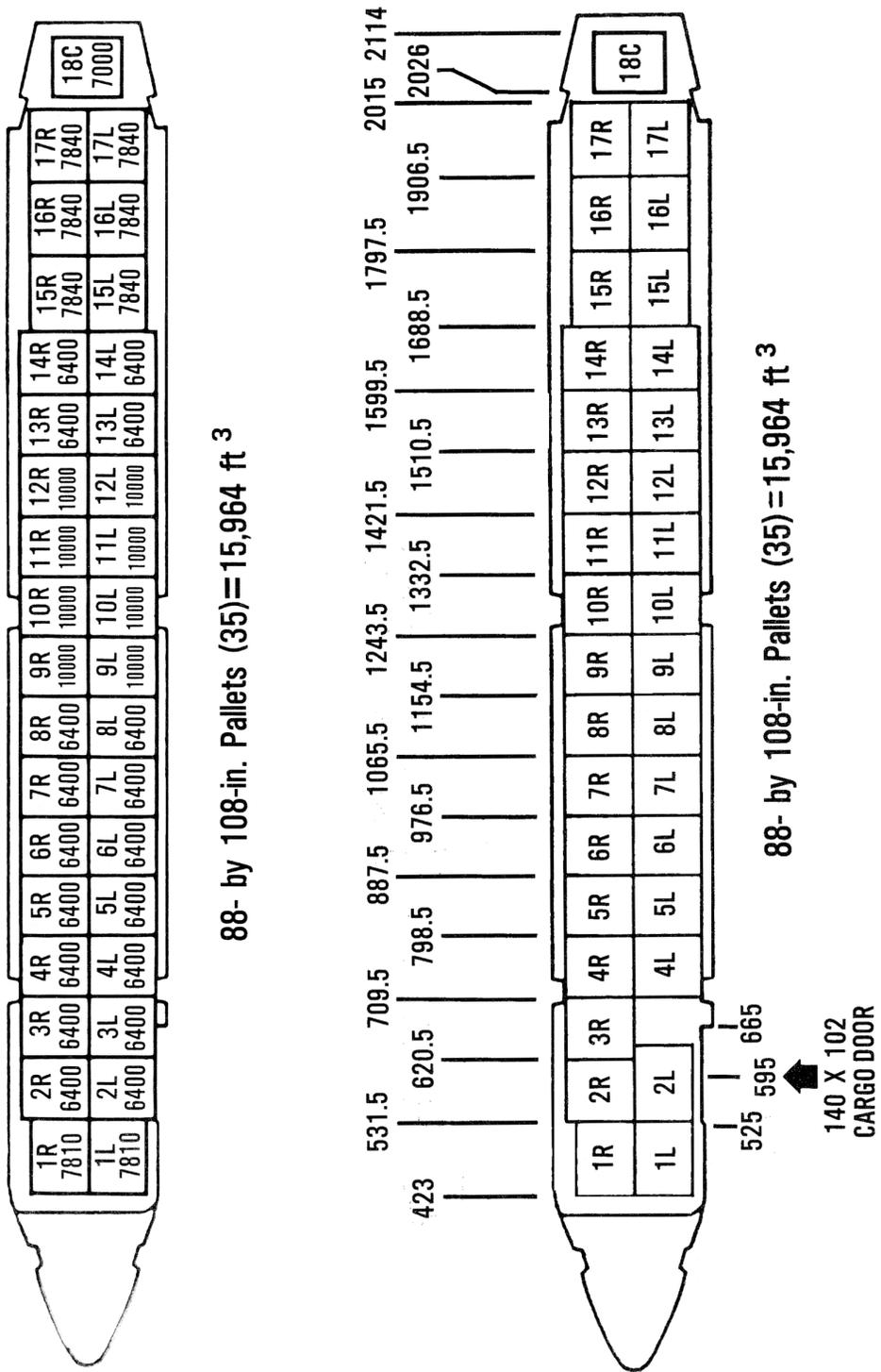
MD-11 LOWER COMPARTMENTS



	88 BY 108 IN.	LD-3	96 BY 125 IN.	MAX VOLUME (FT ³)
FORWARD	(6) 2,232 FT ³	(18) 2,844 FT ³	(6) 2,442 FT ³	2,844
CENTER	(4)+2 LD-3:1,804 FT ³ *	(14) 2,212 FT ³	(4) 1,628 FT ³ *	2,212
AFT BULK	— 510 FT ³ —			510
				HIGHEST TOTAL VOLUME 5,566 FT ³

*WITH OPTIONAL 104-IN. CENTER CARGO DOOR

Figure 8. MD-11 Main Deck 463L Pallet Load Plan.



MD-11 FREIGHTER MAIN DECK PALLETIZED CARGO CAPABILITY

Figure 9. MD-11 Shell Zone Load Limits (463L Pallets).

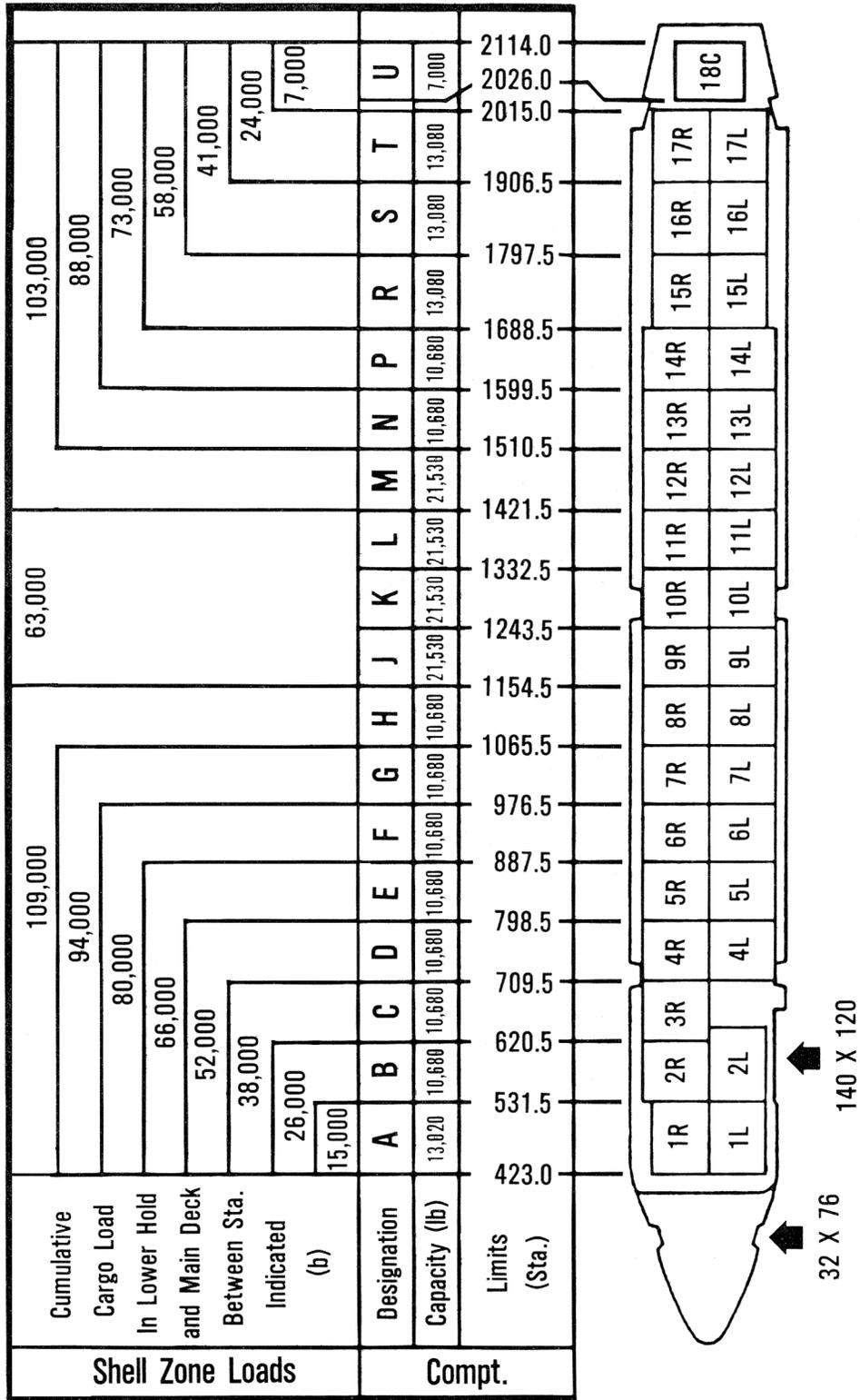
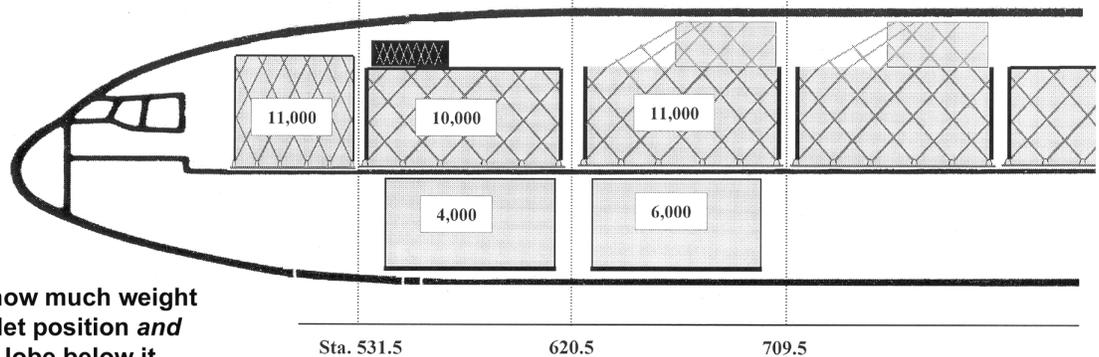


Figure 10. MD-11 Shell Zone Load Example Computations.

Shell Zone Limits:

ZONE:	A	B	C	D
(from figure 11.9) ZONE ALLOWABLE:	15,000	26,000	38,000	52,000



Determine how much weight is in the pallet position and in the lower lobe below it.

Accumulated:	0	11,000	25,000
Pallet:	11,000	10,000	11,000
Lower Lobe:	0	4,000	6,000
TOTAL:	11,000	25,000	42,000
Zone Allowable:	15,000	26,000	38,000

11. Zone Load Computations. In order to keep from bending the fuselage, the maximum cargo weight forward and aft of the wings must be considered when load planning. Zone Load Limits have been established to prevent this from happening. In the example in [Figure 9](#) above, Zone A has a total of 11,000 pounds between the two pallets in Pallet positions 1L and 1R. There is no cargo in the Lower Lobes directly below 1L and 1R so the total weight in Zone A is 11,000 lbs. Pallet positions 2L and 2R have a total of 10,000 lbs. on the main floor with an additional 4,000 lbs. in the Lower Lobe directly below it. This 14,000 lbs. (10,000 plus 4,000) is added to the accumulated weight from zone A which totals 25,000 lbs. that is forward of sta. 620.5 (zone B). The limit for zone B is 26,000 lbs. so the load plan is within limits. However, when cargo is loaded in pallet positions 3L and 3R (11,000 lbs.) and the lower lobe directly below it (6,000 lbs.), the accumulated weight is 42,000 lbs. The zone limit for zone C is 38,000 lbs. At this point the load plan must be changed to fall within zone limits.

NOTE: It is possible to load the individual pallets to their maximum limits and exceed the zone limits. Both limitations must be considered.

Table 1. MD-11 Freighter Allowable Loads (35 Pallet Configuration). THIS PAGE REFLECTS INFORMATION FROM **Figure 9.** IN A TABULAR FORM.

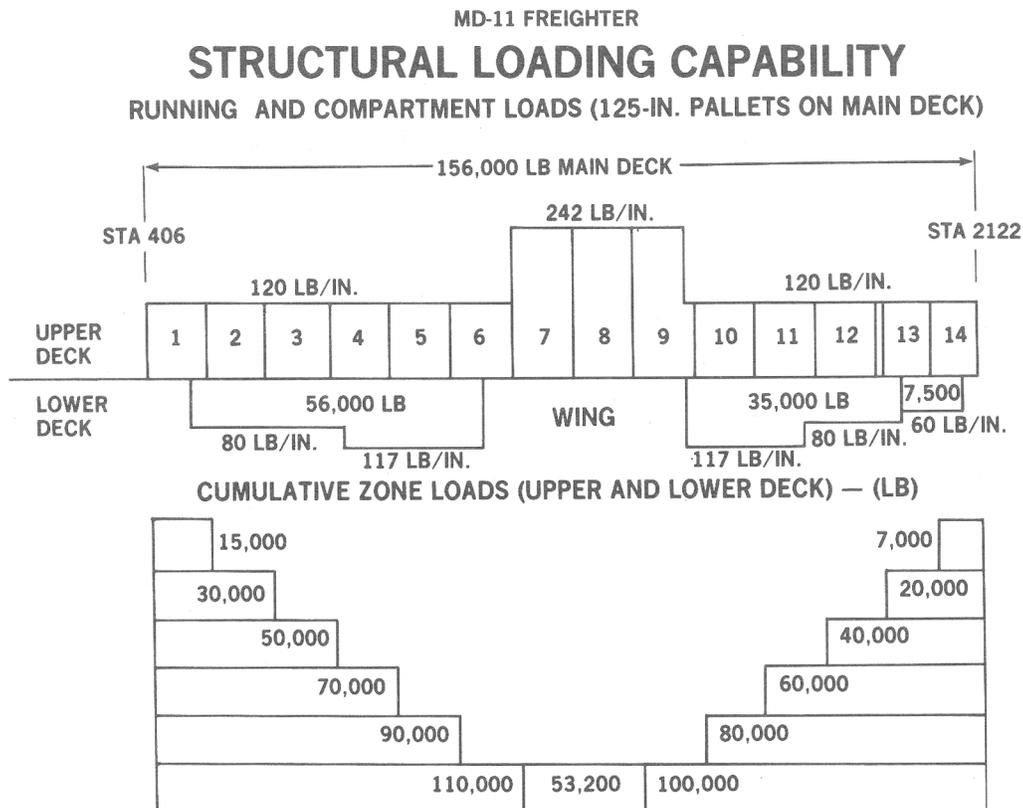
ALLOWABLE LOADS 35 PALLET CONFIGURATION									
Compartment Data ⁵						Pallet Data ⁵			
Cargo									
Compt					Capacity				Individual
Desig-	Sta. Location		Centroid		Total ⁸	Lateral Location			Capacity
nation	Fwd	Aft	(Arm) ¹	L or R ²	(shell zone)	Left	Center	Right	(lb) ³
A	423	531.5	477.3	8,710	13,020	1L	--	1R	7,810
B	531.5	620.5	567	6,400	13,020	2L	--	2R	6,400
C	620.5	709.5	665	6,400	10,680	3L	--	3R	6,400
D	709.5	798.5	754	6,400	10,680	4L	--	4R	6,400
E	798.5	887.5	843	6,400	10,680	5L	--	5R	6,400
F	887.5	976.5	932	6,400	10,680	6L	--	6R	6,400
G	976.5	1065.5	1021	6,400	10,680	7L	--	7R	6,400
H	1065.5	1154.5	1110	6,400	10,680	8L	--	8R	6,400
J	1154.5	1243.5	1199	10,760	21,530	9L ⁷	--	9R ⁷	10,000
K	1243.5	1332.5	1288	10,760	21,530	10L ⁷	--	10R ⁷	10,000
L	1332.5	1421.5	1377	10,760	21,530	11L ⁷	--	11R ⁷	10,000
M	1421.5	1510.5	1466	10,760	21,530	12L	--	12R	10,000
N	1510.5	1599.5	1555	6,400	10,680	13L	--	13R	6,400
P	1599.5	1688.5	1644	6,400	10,680	14L	--	14R	6,400
R	1688.5	1797.5	1743	7,840	13,080	15L	--	15R	7,840
S	1797.5	1906.5	182	7,840	13,080	16L	--	16R	7,840
T	1906.5	2015	1960	7,840	13,080	17L	--	17R	7,840
U	2026.5	2114	2070	4,200	7,000	--	18C		7,000

NOTES:

1. The Arm of each pallet is the same as the centroid of its compartment.
2. L (left) or R (right) is for bulk cargo in that half of the compartment with respect to the airplane centerline.
3. The maximum pallet load is subject to missing and/or inoperative restraint limitations.
4. Sum of the load in this compartment plus loads in compartments aft (main cabin plus lower cargo compartment) must not exceed shell zone allowable shown for compartment.
5. Total weight of pallets, containers, and payload in each compartment must not exceed Compartment Placarded Capacity.

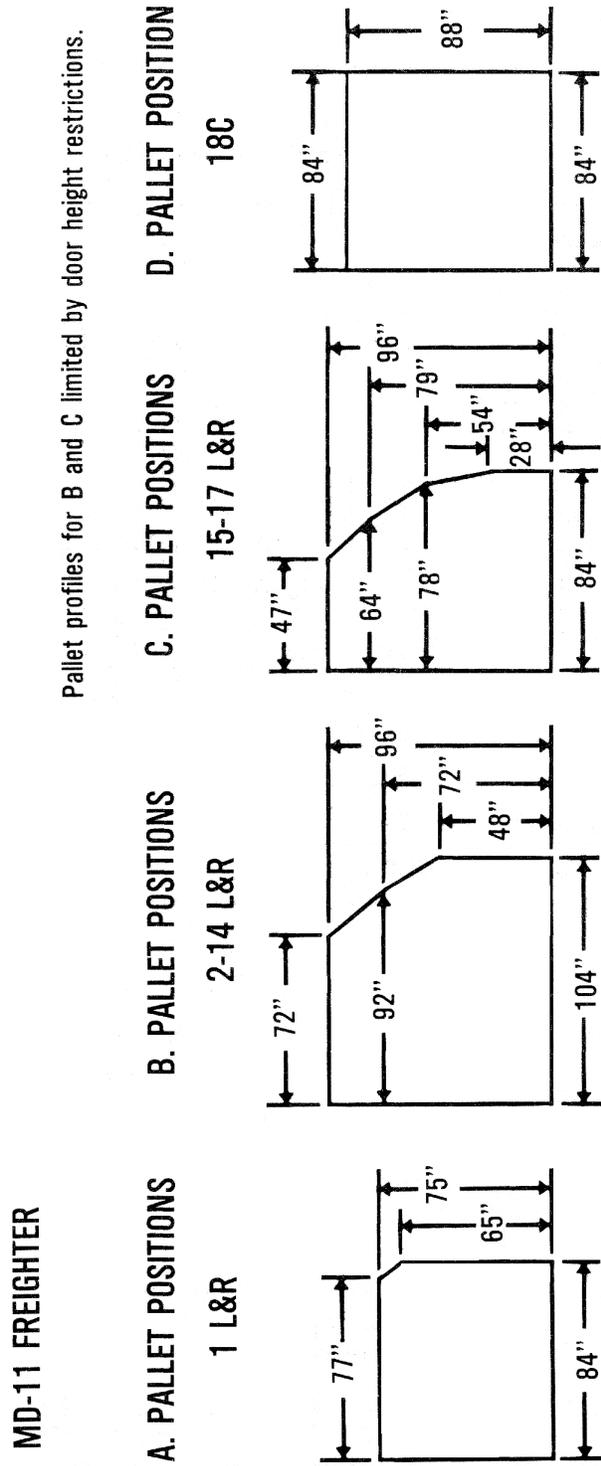
6. Weight of galley, galley contents, pallets, and containers must be considered as payload for computing shell zone allowable capacity for comparison with this table.
7. Sum of load in compartments 9, 10 and 11 must not exceed shell zone compartment allowables.
8. Sum of the load in this compartment plus loads in compartments forward (main cabin plus lower cargo compartment) must not exceed shell zone allowable shown for compartment.

Figure 11. MD-11 Structural and Zone Loading Limits, 125" Pallet.



Note: This chart refers to the 125" pallets
 PLI limits for the 463L pallets will be published at a latter date.

Figure 12. MD-11 463L Pallet Load Profiles (88" x 108" pallets).



NOTE: Pallet Profiles are shown with the RIGHT SIDE OUTBOARD

Figure 13. MD-11 Pallet Load Profiles for the 88 and 96 inch Pallets.

**MD-11 FREIGHTER
PALLET-LOAD PROFILES
(88- BY 125- OR 96- BY 125-INCH PALLETS)**

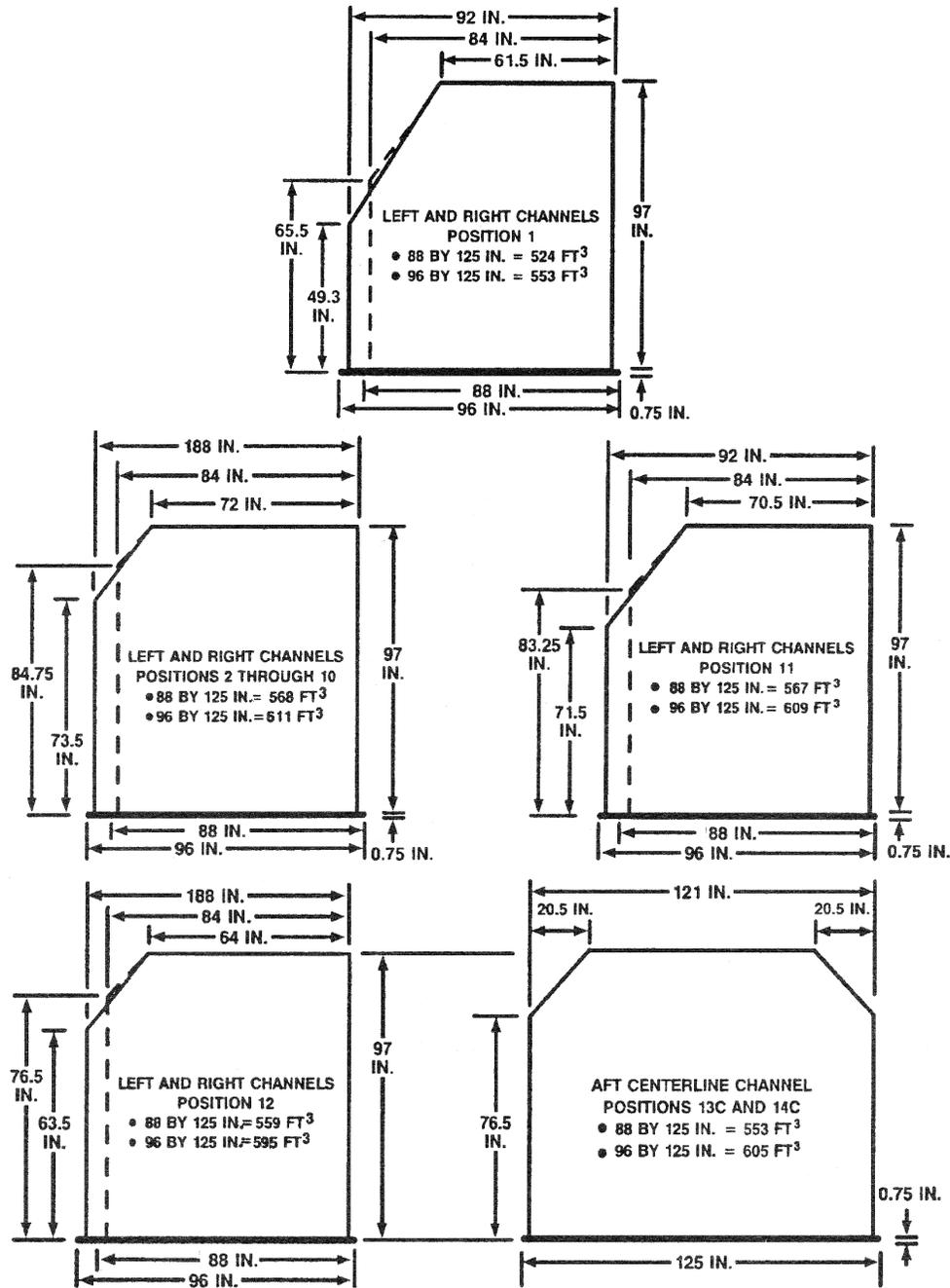
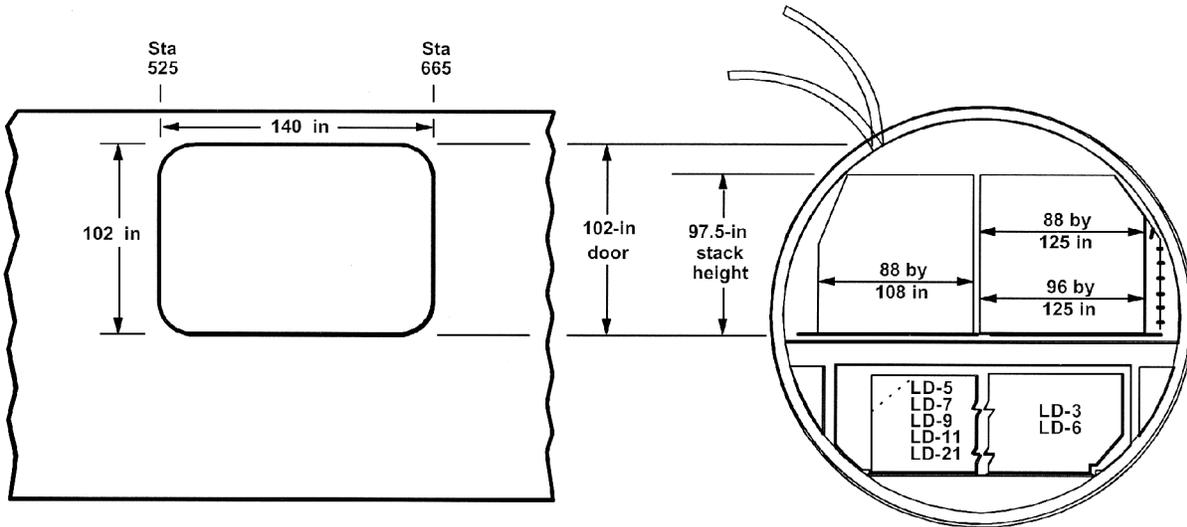


Figure 14. MD-11 Cargo Loading Door, Main Deck.

Main Deck Cargo Door



- Normal cargo door operation employs an independent hydraulic system with pressure supplied by an electrically driven pump
- If electrical power is not available, the cargo door can be operated with a manual hydraulic pump

Figure 15. MD-11 Cargo Load Cut Away View.

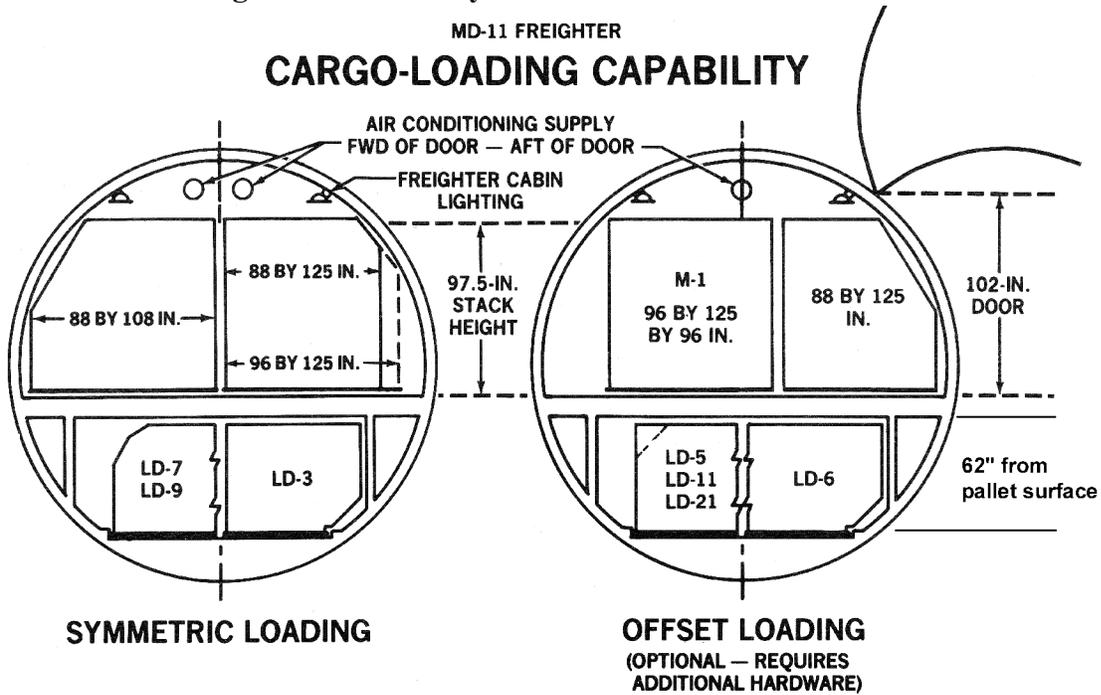
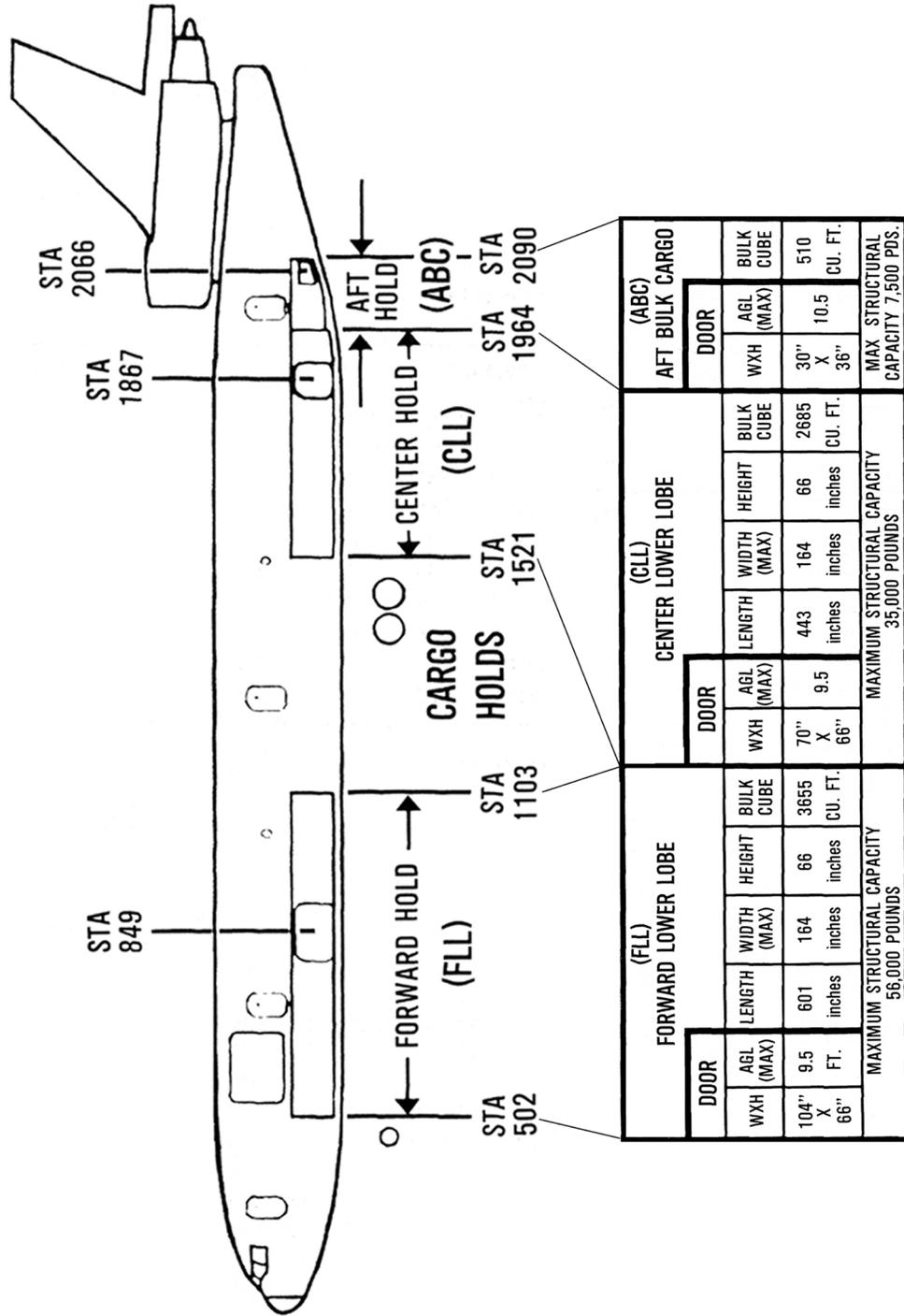


Figure 16. MD-11 Lower Lobe Dimensions and Weight Limits.



MD-11 FREIGHTER PACKAGE SIZE TABLES

The following package charts can be used to determine whether a package can fit in a specific compartment based on the restrictions imposed by the cargo door and compartment size.

Lengths are determined for packages in contact with the top of rollers in the cargo loading system. Tilting, twisting, bending and/or rotating packages through door opening will allow additional lengths in many cases, but these should be determined for special situations depending on allowable conditions.

Loading bulk cargo into this hold will require the exclusion of some or all containers.

The table below shows the maximum length in inches for the given height and width.

Table 2. Main Deck Maximum Loading Length Chart (Upper Cargo Door). 140"W x 102"H Upper Cargo Door.

Package Height (inches)	Package Width (inches)										
	12	24	36	48	60	72	84	96	108	120	132
12	1323	1000	730	578	478	402	350	311	280	252	229
24	1323	992	730	578	478	402	350	311	280	252	229
36	1323	982	725	572	472	400	349	308	277	250	228
48	1266	900	675	542	452	390	341	303	275	247	225
60	1066	750	582	482	410	359	318	284	261	242	221
72	800	610	500	425	366	326	288	261	243	224	204
84	620	500	420	370	325	285	256	21	227	202	184
96	490	420	370	325	285	260	235	210	185	170	145

Table 3. Lower Lobe Maximum Loading Length Chart (Forward Hold Door). 104"W x 66"H Forward Hold Door

Package Height (inches)	Package Width (inches)																
	6	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96	102
64	363	327	302	283	266	251	239	227	220	203	191	180	166	154	143	134	126
60	369	331	305	284	268	251	239	227	220	203	191	180	166	154	143	134	126
54	378	338	306	286	270	251	239	227	220	203	191	180	166	154	143	134	126
48	382	346	313	292	271	253	239	227	220	203	191	180	166	154	143	134	126
42	388	350	317	295	273	255	240	228	220	203	191	180	166	154	143	134	126
36	402	357	321	299	275	257	241	228	220	203	191	180	166	154	143	134	126
30	415	367	330	306	279	260	242	228	220	203	191	180	166	154	143	134	126
24	415	388	342	312	286	263	246	228	220	203	191	180	166	154	143	134	126
18	415	407	360	323	293	268	248	231	220	203	191	180	166	154	143	134	126
12	415	409	385	336	300	276	252	233	220	203	191	180	166	154	143	134	126
6	415	409	407	348	315	284	257	238	220	203	191	180	166	154	143	134	126

MD-11 FREIGHTER PACKAGE SIZE TABLES (Continued)

Table 4. Lower Lobe Maximum Loading Length Charts (Center and Aft Hold Door). 70"W x 66"H Center Hold Door

Package Height (inches)	Package Width (inches)										
	6	12	18	24	30	36	42	48	54	60	66
64	266	251	233	216	205	197	184	171	156	142	130
60	268	252	235	218	206	197	184	171	156	142	130
54	274	254	235	218	207	197	184	171	156	142	130
48	277	254	236	220	207	197	184	171	156	142	130
42	280	258	238	221	207	197	184	171	156	142	130
36	283	259	238	222	207	197	184	171	156	142	130
30	290	267	243	224	207	197	184	171	156	142	130
24	300	275	248	225	207	197	184	171	156	142	130
18	320	285	255	231	211	198	184	171	156	142	130
12	360	305	273	240	217	198	184	171	156	142	130
6	390	340	291	252	224	204	186	171	156	142	130

30"W x 36"H Aft Hold Door						
Package Height (inches)	Package Width (inches)					
	6	12	18	24	30	36
36	142	135	130	115	89	
30	142	136	131	115	89	
24	143	138	131	115	89	
18	144	138	132	115	89	
12	144	138	133	115	89	
6	144	138	133	115	89	

NOTE: When loading through the aft hold door, consideration must be given to packages exceeding 125 inches in length. These packages must be positioned diagonally across the aircraft floor.

Table 5. Lower Lobe Maximum Loading Length Charts (Aft hold loaded through center).

Package Height (inches)	Package Width (inches)										
	6	12	18	24	30	36	42	48	54	60	66
64	--	--	--	--	--	--	--	--	--	--	--
60	113	112	--	--	--	--	--	--	--	--	--
54	113	113	--	--	--	--	--	--	--	--	--
48	128	122	117	117	107	103	101	100	97	93	93
42	142	135	126	126	120	118	118	118	120	109	98
30	142	136	131	127	122	120	120	120	120	109	98
24	143	138	131	128	122	121	121	121	120	109	98
18	144	138	132	129	123	122	122	122	120	109	98
12	144	138	133	130	124	122	122	122	120	109	98
6	144	138	133	131	125	123	123	123	120	109	98

NOTE: This chart is based upon storing packages in the small (126 inch long) aft hold after loading through the center hold door. This requires that a hold separator be installed after loading any packages exceeding the size of those which can be loaded through the 30" W x 36" H door.

Many sizes listed must be positioned diagonally or crosswise on the floor because of ceiling height limitations or compartment length limitations.

ROGER A. BRADY, Maj Gen
Director of Operations

ATTACHMENT 1

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

Abbreviations and Acronyms

ABC—aft. bulk compartment
ACL—Allowable Cargo/Cabin Load
AESS—Aeromedical Evacuation Ship Set
AFB—Air Force Base
AFR—Air Force Regulation
AGL—Above Ground Level
TALCE—Tanker Airlift Control Element
ALCS—Airlift Control Squadron
ALS—Airlift Squadron
AMC—Air Mobility Command
AMCOS—Air Mobility Combat Operations Staff
AMCP—Air Mobility Command pamphlet
AMCR—Air Mobility Command regulation
APC—Armored Personnel Carrier
APS—Aerial Port Squadron
ASD—Aeronautical Systems Division
ATA—Air Transport Association
AW—Airlift Wing
BL—Butt Line
CB—Center of balance (or center of gravity)
CCE—Commercial Construction Equipment
CF/F—Convertible Freighter Or Freighter
CFR—Code of Federal Regulations
CG—Center Of Gravity (Or Center Of Balance)
CIV—Civilian/Civil
CL—Center Line
CLL—Center Lower Lobe
COMBI—Combination
COMM—Commercial

CONF—Configuration
CRAF—Civil Reserve Air Fleet
CU FT—Cubic Feet
DDT—Double Dual Tandem Type Landing Gear (B-747 etc.)
DIST—Distance
DOD—Department of Defense
EST.—Estimate
ELEV—Elevator
FAA—Federal Aviation Administration
FAR—Federal Aviation regulation
FLL—Forward Lower Lobe
FS—Flight Station Or Fuselage Station
GACL—Guaranteed Allowable Cabin (Or Cargo) Load
HGT—Height
HQ—Headquarters
IATA—International Air Transport Association
IN.—Inches
JSCP—Joint Strategic Capabilities Plan
LAT.—Laterally
LBL—Left Butt Line
LCN—Load Classification Number
LONG—Longitude
LOX—Liquid Oxygen
LOSS—Liquid Oxygen Subsystem
MAC—Mean Aerodynamic Chord
MAX—Maximum
MHE—Material Handling Equipment
MIL—Military
MOS—Medical Oxygen Subsystem
MSU—Multi-Servicing Unit
MTMC—Military Traffic Management Command
MTOW—Maximum Take Off Weight

MLW—Maximum Landing Weight
MZFW—Maximum Zero Fuel Weight
N/A—Not Applicable
NM—Nautical Mile (Statute Mile X 1.15)
OEW—Operating Empty Weight
OL—Operation Location
PAX—Passenger
PDO—Publications Distribution Office
PLF—Pounds Per Linear Foot
PLI—Pounds Per Linear Inch
PLS—Patient Loading System
PP—Pallet Position
PSF—Pounds Per Square Foot
PSI—Pounds Per Square Inch
RBL—Right Butt Line
RWY—Runway
SBTT—Single-Belly Twin Tandem Landing Gear (DC-10, KC-10 etc.)
S/T—Short Ton (2,000 lbs.)
SPR—Single Point Refueling
STN—Station
TACC—Tanker Airlift Control Center
TAW—Tactical Airlift Wing
TO—Technical Order
T/O—Takeoff
TT—Twin Tandem (DC-8, B757, B767)
UKN—Unknown
WDT—Width
WBEL—Wide Body Elevator Loader
WL—Water Line
WRSK—War Readiness Spares Kit
WT—Weight
ZFW—Zero Fuel Weight

ATTACHMENT 2

INTERNATIONAL CARGO AND PASSENGER PLANNING FACTORS

Table A2.1. CRAF LONG-RANGE INTERNATIONAL CARGO PLANNING FACTORS

Aircraft Type	Maximum ACL (s/t)	Pallets	Range with Maximum ACL (nautical mi)	Maximum ACL (s/t) per Leg Length (nautical mile)				Ferry Range No Cargo (nautical mi)
				2,000	2,500	3,000	3,500	
A300-600F	56.6	15	1,800	54	52.5	46	40	4,450
B-757-200F	43	13	3,600	43	43	43	43	4,850
B-767-300F	65.9	26	3,500	65.9	65	65.9	65.9	7,150
DC-8-55F	43.8	13	2,400	43.8	42.5	37	31.5	4,700
DC-8-62F	44	14	3,500	44	44	44	44	5,600
DC-8-62 Combi	36	10	3,450	36	36	36	35.5	5,700
DC-8-63F	55	18	2,250	55	52.3	47.5	42.8	4,600
DC-8-71F	48.5	18	2,300	48.5	45	38.5	32.3	4,700
DC-8-73F	54.3	18	2,500	54.3	54.3	50.3	43.5	4,800
B-747-100F	106.5	33	3,200	106.5	106.3	106.5	99.8	6,800
B-747-200F	120	33	3,200	120	120	120	112	7,900
B-747-300F	116	33	3,100	116	116	116	113.5	7,900
B-747-400F	129.7	33	3,800	129.7	129.7	129.7	129.7	8,650
DC/MD-10-10F	69.3	30	2,000	69.3	61.25	54.6	46.7	4,200
DC-10-30CF	71.8	30	3,000	71.8	71.8	71.8	69.5	6,700
DC/MD-10-30F	83.1	30	3,600	83.1	83.1	83.1	83.1	6,700
MD-11CF	89	35	4,500	89	89	89	89	7,800
MD-11F	96	35	3,750	96	96	96	96	7,800
L-1011-200F	63	26	2,600	63	63	55.5	48.5	3,750

NOTE: Ferry Range is distance the aircraft can fly with no cargo

Table A2.2. CRAF LONG-RANGE INTERNATIONAL PASSENGER PLANNING FACTORS

Aircraft Type	Maximum Seats (Troops)	Range with Maximum Troops (NM)	Maximum Troops per Leg Length (NM)				Ferry Range No Troops (NM)
			2,000	2,500	3,000	3,500	
A-300-600ER	138	3,200	138	138	138	120	4,260
B-757-200	127	2,300	127	120	103	85	4,400
B-757-200ER	131	3,175	131	131	131	116	4,700
B-757-300ER	166	2,700	166	166	150	126	4,400
DC-10-10	222	2,300	222	201	150	100	4,000
DC-10-30	235	3,900	235	235	235	235	5,800
DC-10-40	222	2,750	222	222	203	160	4,875
DC-10-40J	219	3,200	219	219	219	195	4,856
MD-11	233	5,000	233	233	233	233	6,800
MD-11ER	338	4,500	338	338	338	338	6,800
B-747-100	394	2,900	394	394	365	313	6,600
B-747-200	365	3,800	365	365	365	365	7,600
B-747-400	295	6,250	295	295	295	295	8,650
B-767-200	149	2,450	149	145	120	98	7,500
B-767-200ER	161	3,650	161	161	161	161	7,700
B-767-300	186	3,375	186	186	186	167	6,800
B-767-300ER	213	3,500	213	213	213	213	7,200
B-767-400ER	232	3,500	232	232	232	232	6,500
B-777-200	250	4,200	250	250	250	250	9,200
B-777-200ER	263	5,515	263	263	263	263	9,500
L-1011-50	225	2,300	225	215	183	140	4,000
L-1011-100/150	230	2,900	230	230	220	174	4,400
L-1011-500	223	4,100	223	223	223	223	6,000

NOTE: Troop weights are calculated at 400 pounds each, which includes personal equipment and field gear for combat operations.