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Transportation

**CIVIL RESERVE AIR FLEET LOAD
PLANNING GUIDE BOEING 767**



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This volume implements AFPD 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 Boeing 767. 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 Boeing 767 aircraft and cargo areas discussed. Final approval of the procedures in this publication, however, ultimately rests with the individual contractor providing airlift 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 Boeing 767 is a twin engine, wide body aircraft capable of long-range international operations. General information is in [Figure 2](#). Currently, it is capable of fulfilling a dual role, one role for passenger/cargo transport and the other for long-range Aeromedical evacuation by the addition of an Aeromedical Evacuation Ship Set (AESS). For more information, contact HQ AMC/DOF. Ground clearances around and under the aircraft is in [Figure 3](#). and [Figure 4](#).

Figure 1. Boeing 767.



2. Passenger Seating. Contracted seat capacity ranges from 152-207 passengers, based on the model and carrier configuration. A range and payload chart is in [Attachment 2](#). Typical seating configurations are in [Figure 5](#). through [Figure 8](#).

3. Lower Lobe Compartments. The B767 has three lower lobe compartments. Passenger baggage will be loaded by hand. There is no capability to load or secure 463L pallets in the lower compartments. Lower lobe information is in figure.

4. Aeromedical Evacuation. [Figure 10](#). and [Figure 11](#). depict two typical configurations available in the B767 in the Aeromedical role. The B767-200 provides either an 87 litter with 41 ambulatory or crew seat capability or an expanded litter capability (111 litter maximum) with reduced ambulatory or crew seating. The B767-300 provides either 111 litters with 30 ambulatory or crew seat capability or a reduced litter capability (87 litter minimum) with increased ambulatory or crew seating.

4.1. Material Handling Equipment. (MHE) Requirements. One or two 40/60K loaders are required at military aerial ports along with a Patient Loading System (PLS). The loader with PLS mounted on the platform is utilized strictly as an elevator to raise and lower up to 24 litter patients from aircraft to ambulance/bus level. The 40/60K loader is positioned at either the forward left or right door. Portable stairs are required for enplaning and deplaning ambulatory patients from either the aft doors or forward door not utilizing a PLS.

4.2. Multi-servicing units (MSU). Each B767 has a medical oxygen system (MOS) capable of storing 450 liters of liquid oxygen (LOX) The MSU is an adapter manifold which allows the technician to fill

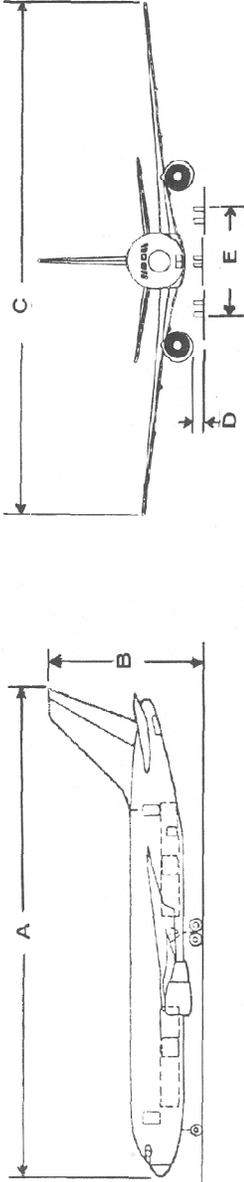
the liquid oxygen sub-system (LOSS) converters from a variety of civilian and military LOX servicing equipment. An MSU is required at installations handling CRAF Aeromedical missions.

5. Cargo. At print time the B-767 is obligated for passenger and Aeromedical Evacuation only and addressing the cargo capabilities is beyond the scope of this pamphlet. However [Figure 12.](#) of this chapter will give some limited dimensions of the B-767 Freighter version.

Figure 2. B767 General Description.

B767 GENERAL INFORMATION

(NOTE: Passenger and ABC doors are on the left side; FLL and CLL doors are on the right side.)

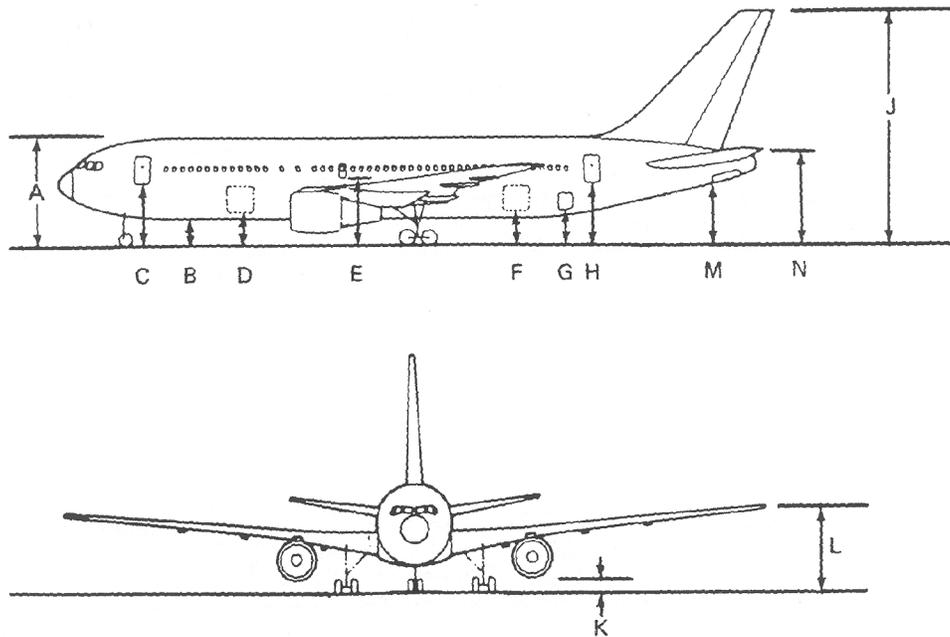


AIRCRAFT	A	B	C	D 1/	E	TURNING RADIUS 2/	RWY 180° TURN 3/	MIN RWY WIDTH 4/	MIN TXWY WIDTH 4/	CG RANGE	FUEL GAL/HR 5/	BLOCK SPEED 5/
B767-200	159' 2"	52'	156' 1"	32' - 43"	36'	117'	129'	75'	75'	...	1240	449
B767-200ER	159' 2"	52'	156' 1"	32' - 43"	36'	117'	129'	75'	75'	...	1380	449
B767-300	180' 3"	52'	156' 1"	32' - 43"	36'	123'	146'	75'	75'	...	1412	449
B767-300ER	180' 3"	52'	156' 1"	32' - 43"	36'	123'	146'	75'	75'	...	1575	449

AIRCRAFT	DESIGN WEIGHTS				MAX PAYLOAD 6/	CONTRACT ACU/PAX	SEATS 7/	PALLETS		LCN 1/	GEAR TYPE
	MAX T/O	MAX LAND	ZERO FUEL	OPERATING				MIL 88x108	CIV 88x126		
B-757-200	335,000	270,000	253,000	181,500	34.9	...	184	NONE	NONE	68	TT
B-737-200/ER	351,000	278,000	253,000	180,960	34.75	...	210	NONE	NONE	69	TT
B-757-300	345,000	300,000	278,000	192,142	42.9	...	216	NONE	NONE	71	TT
B767-300ER	407,000	350,000	288,000	205,100	41.45	...	218	NONE	NONE	72	TT

- NOTES:
- 1/ Dependent on gross weight, C.G., and engine model.
 - 2/ From pivot point of aircraft to most distant point on fuselage/wing.
 - 3/ Based on distance needed for wheels to remain on runway for 180° turn.
 - 4/ To be used only as a guide. Individual carrier will make final determination.
 - 5/ Based on a 8500 NM leg.
 - 6/ Maximum payload in short tons is based on aircraft structural payload. See Attachment 1 for range payloads.
 - 7/ Numbers are for typical seating arrangements. See Attachment 1 for passenger range payloads.

Figure 3. B767 Ground Clearances -200 and -200ER.

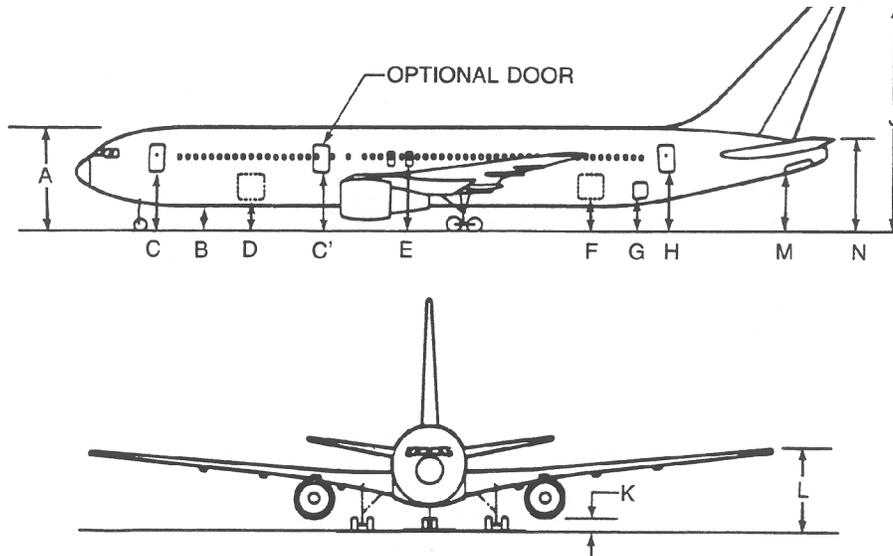


	VERTICAL CLEARANCES			
	MINIMUM		MAXIMUM	
	FT-IN	M	FT-IN	M
A	23-6	7.16	24-6	7.47
B	5-8	1.73	6-9	2.05
C	13-5	4.09	14-8	4.46
D	7-5	2.25	8-3	2.52
E	15-1	4.58	15-7	4.75
F	7-5	2.26	8-3	2.51
G	7-6	2.29	8-6	2.60
H	13-4	4.07	14-6	4.42
J	51-2	15.60	52-11	16.13
K	2-8	0.81	3-7	1.09
L	16-3	4.95	18-3	5.56
M	12-9	3.89	14-3	4.35
N	19-6	5.93	21-7	6.57

THESE MAXIMUM AND MINIMUM GROUND CLEARANCES REFLECT THE AIRPLANE LOADING WITHIN THE BOUNDARIES OF NORMAL OPERATIONAL C.G. ENVELOPES

B 767-200 and 200ER Series

Figure 4. B767 Ground Clearances -300 and -300ER.



	VERTICAL CLEARANCES			
	MINIMUM		MAXIMUM	
	FT-IN.	M	FT-IN.	M
A	23-7	7.18	24-7	7.50
B	5-10	1.77	6-10	2.09
C	13-7	4.13	14-9	4.50
C'	13-8	4.16	14-8	4.47
D	7-6	2.28	8-5	2.56
E	15-1	4.59	15-8	4.77
F	7-2	2.18	8-3	2.50
G	7-3	2.20	8-6	2.58
H	13-1	3.98	14-5	4.40
J	50-6	15.38	52-7	16.03
K	2-10	0.85	3-8	1.10
L	16-1	4.90	17-11	5.47
M	12-2	3.72	14-1	4.28
N	19-2	5.84	21-3	6.48

THESE MAXIMUM AND MINIMUM GROUND CLEARANCES REFLECT THE AIRPLANE LOADING WITHIN THE BOUNDARIES OF NORMAL OPERATIONAL C.G. ENVELOPES

B 767-300 and -300ER Series

Figure 5. B767-200, -200ER Interior Arrangements, Mixed Class Configurations.

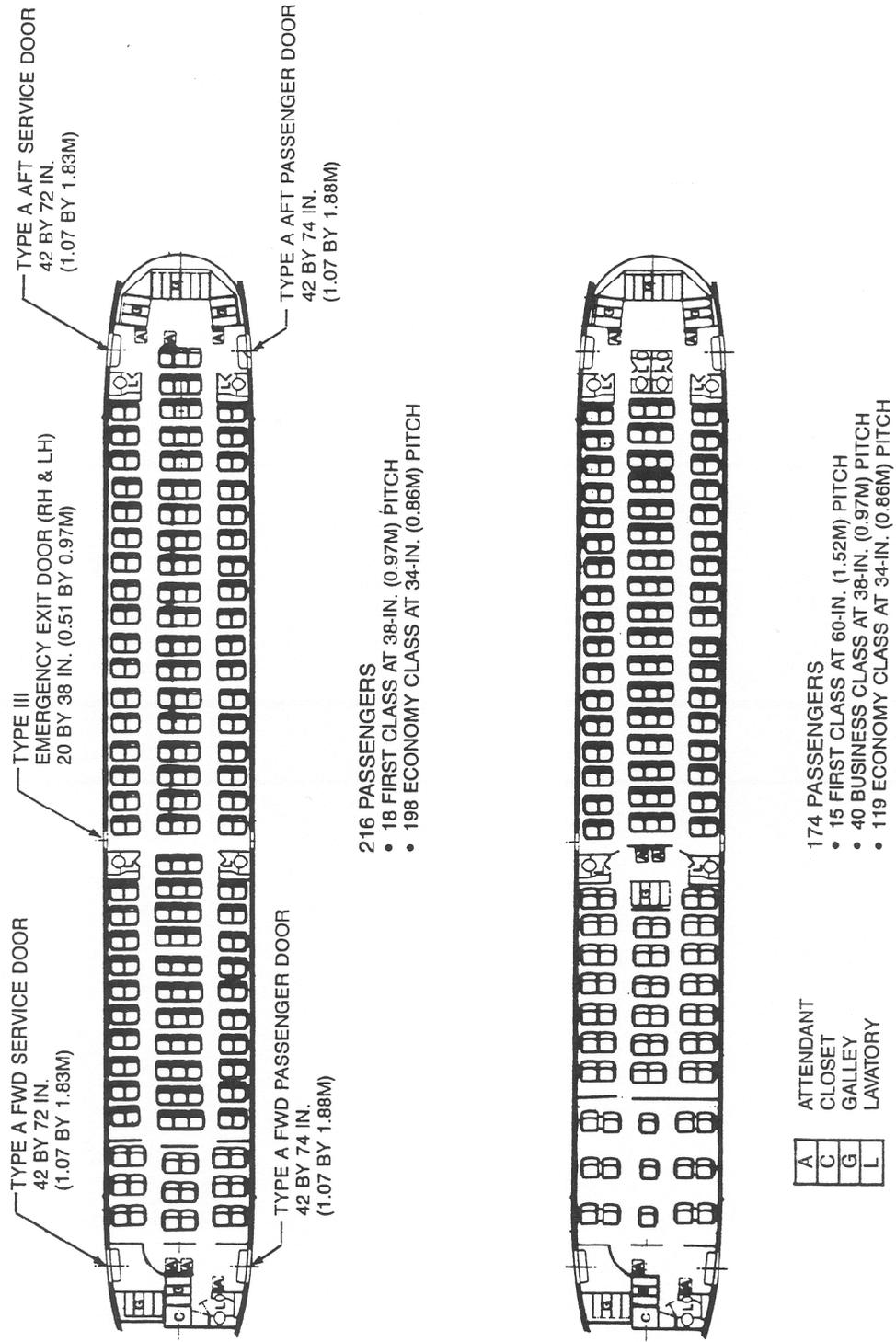


Figure 6. B767-300, -300ER Interior Arrangements, Mixed Class Configurations.

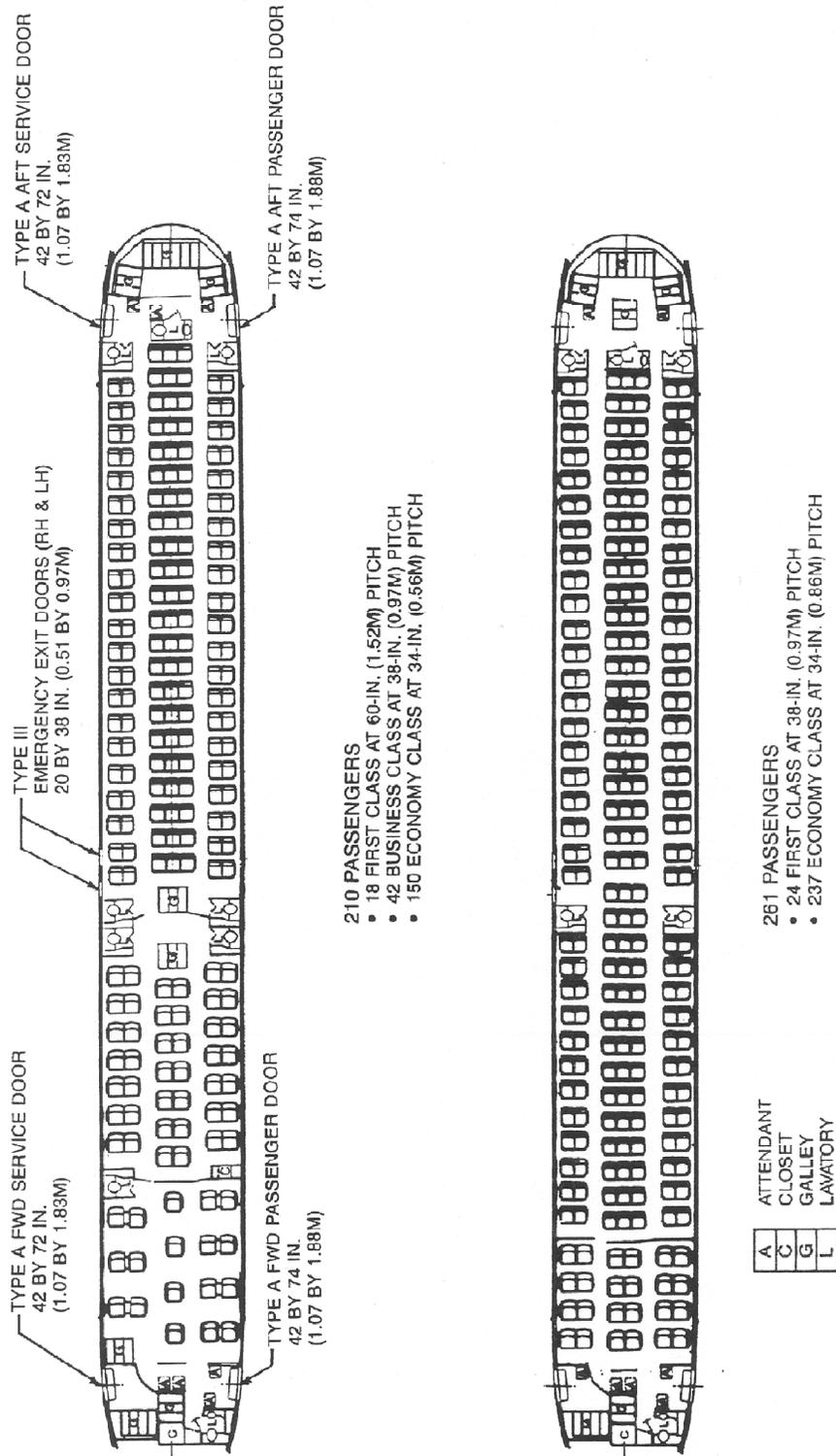


Figure 7. B767-300, -300ER Interior Arrangements, All Economy Class Configurations.

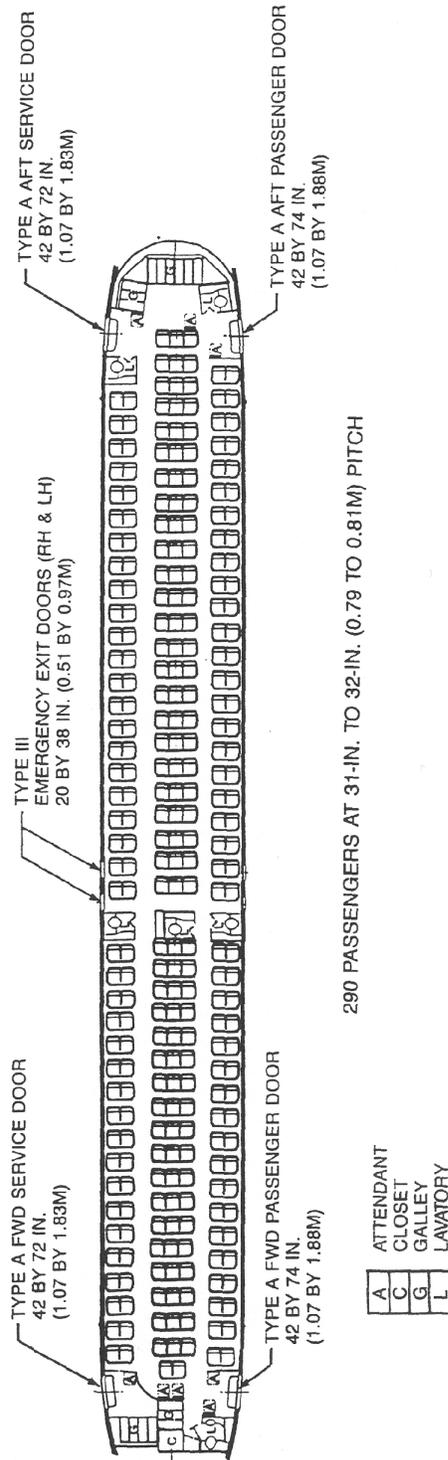


Figure 8. B767-300, -300ER Interior Arrangements, Mixed Class Configurations.

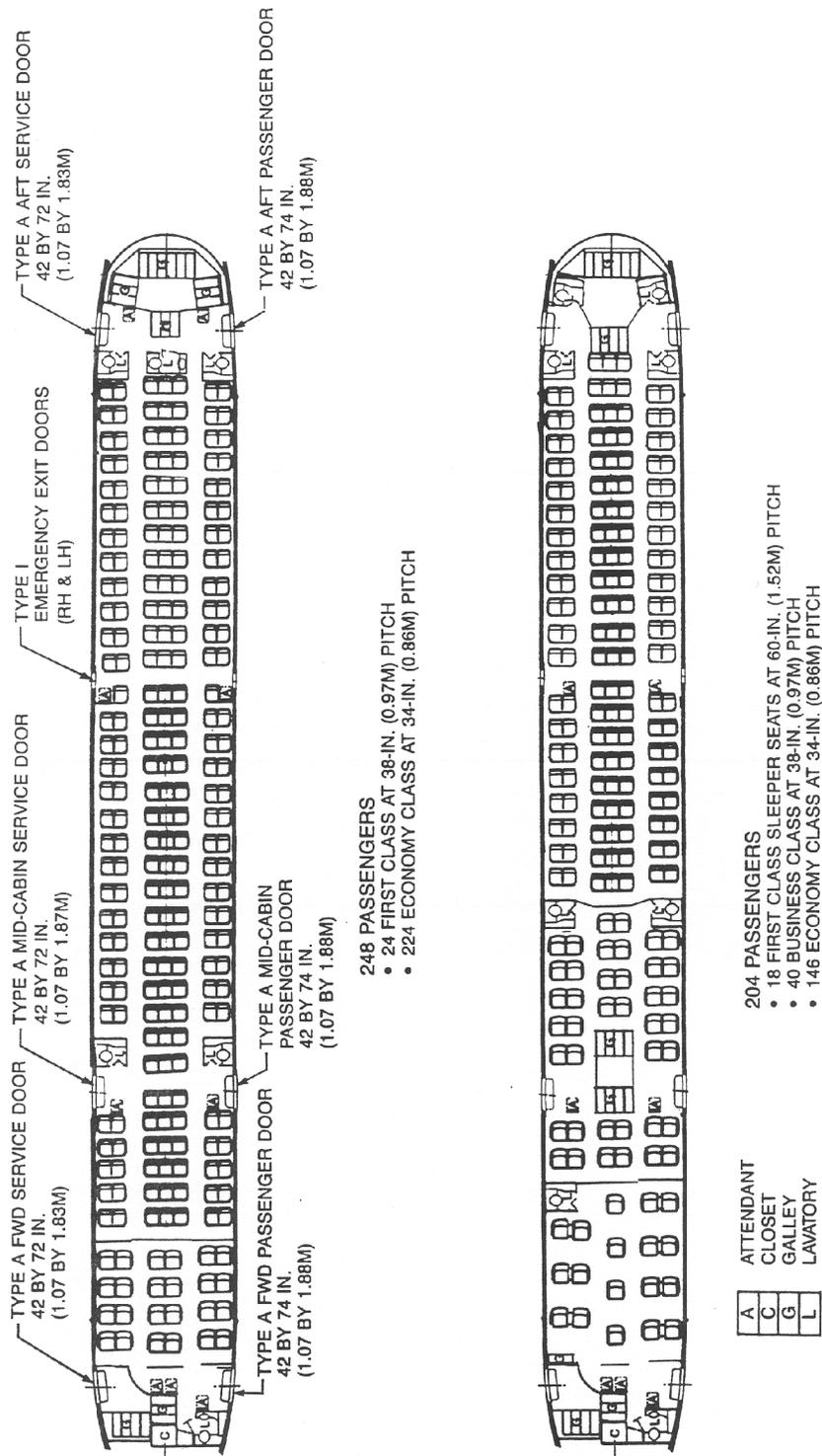
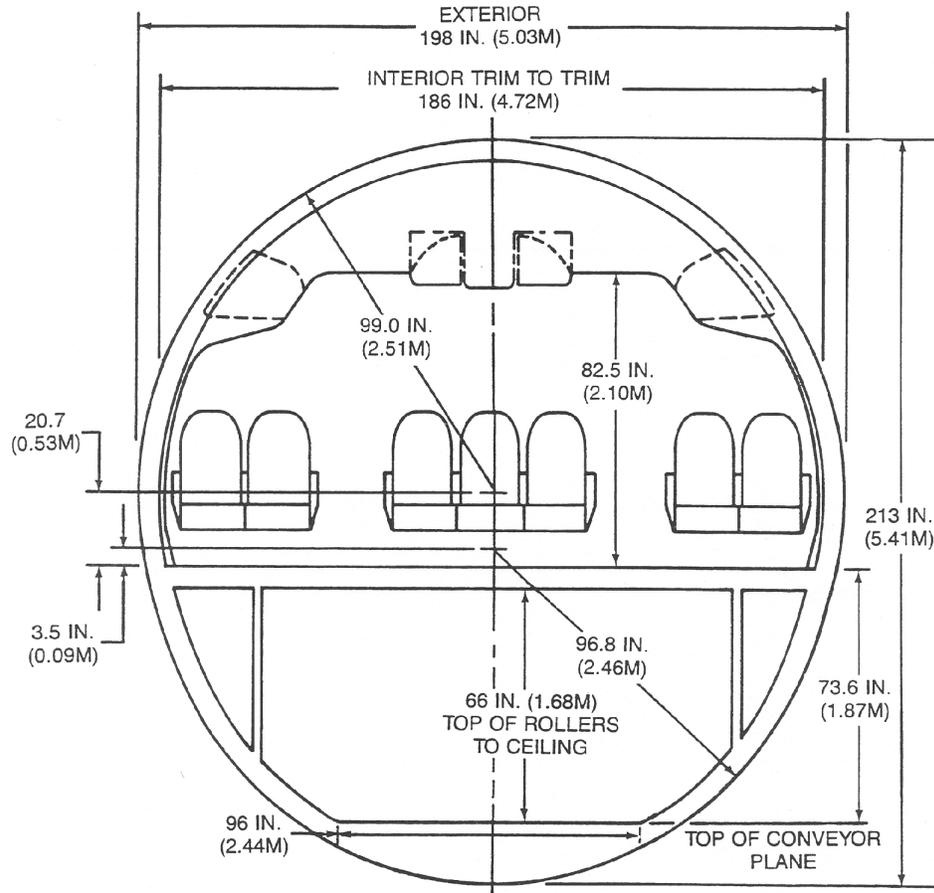
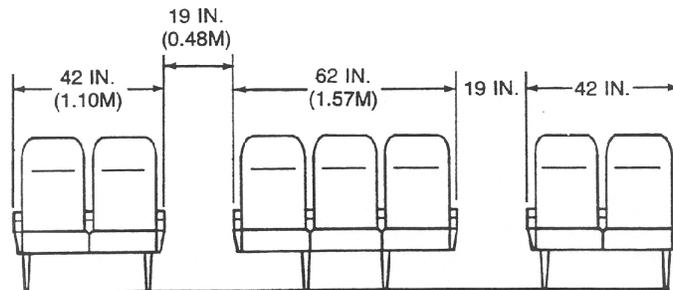


Figure 9. B767 Cabin Cross Section – Alternate Seat Arrangements.

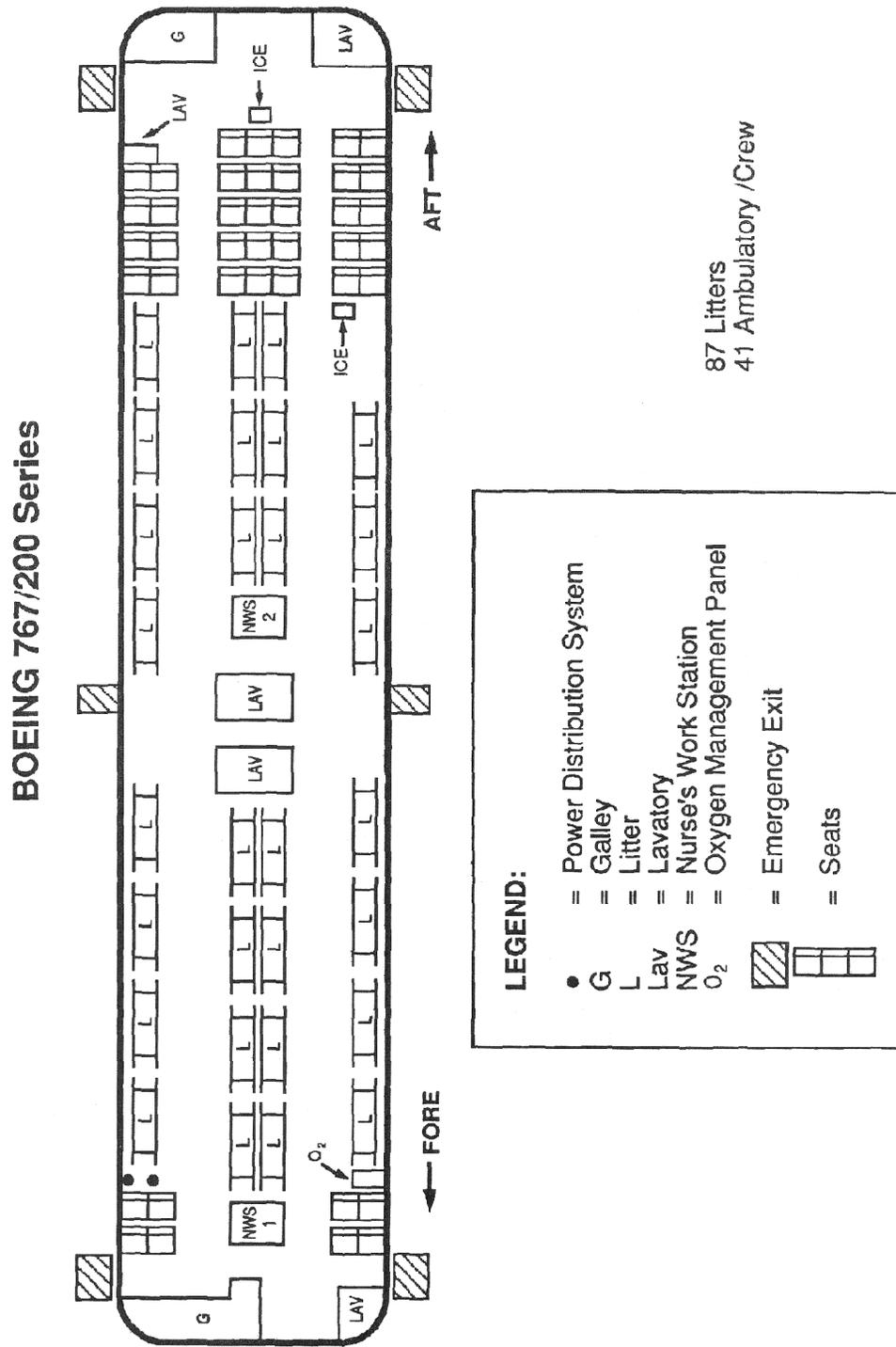


LOOKING AFT



ECONOMY CLASS SEATING

Figure 10. B767-200 Aeromedical Evacuation Configuration.



B767-200 Series Aeromedical Evacuation Configuration

Figure 11. B767-300 Areomedical Evacuation Configuration.

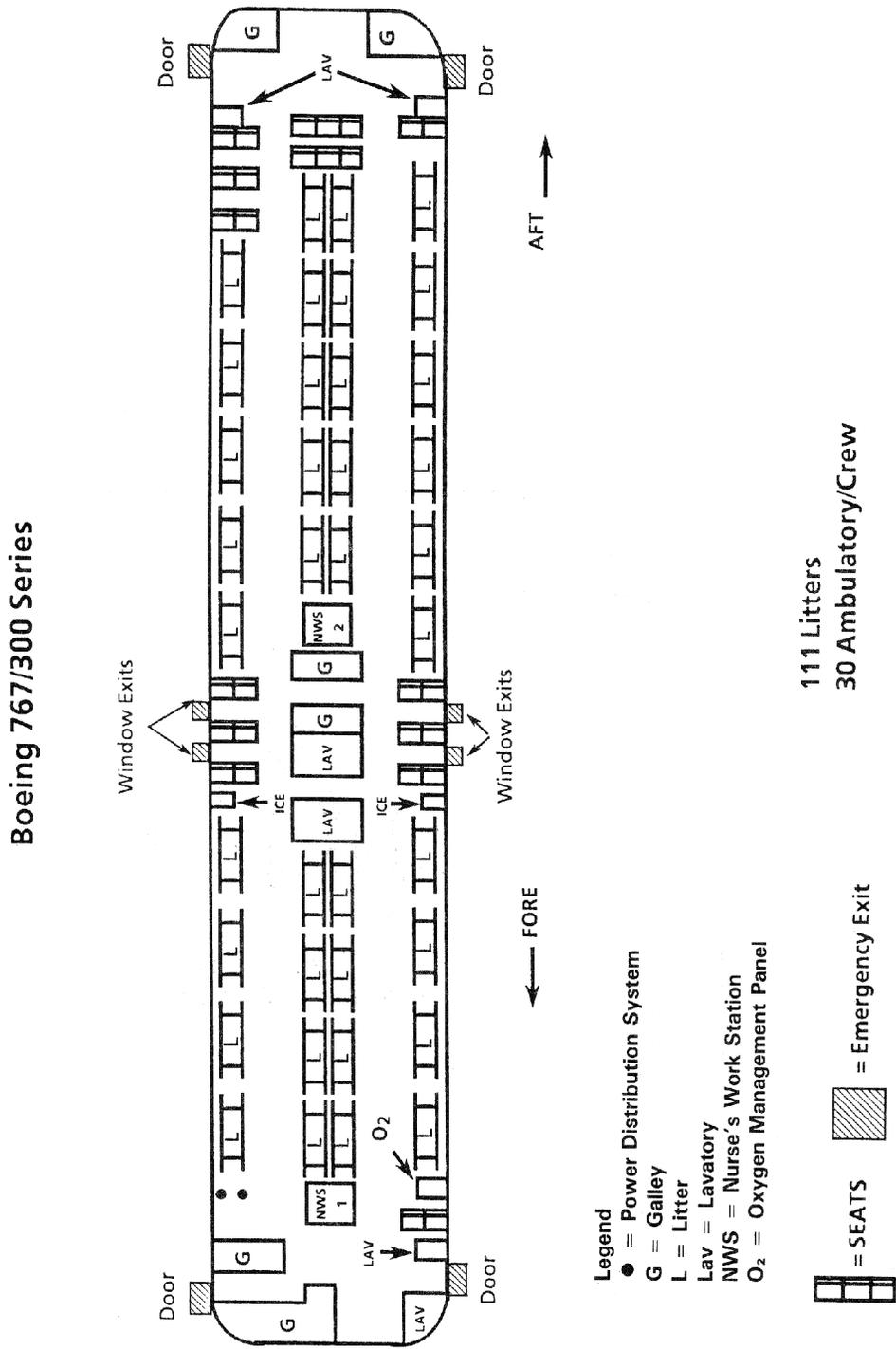


Figure 12. B767 Cargo Configuration Cross Section.

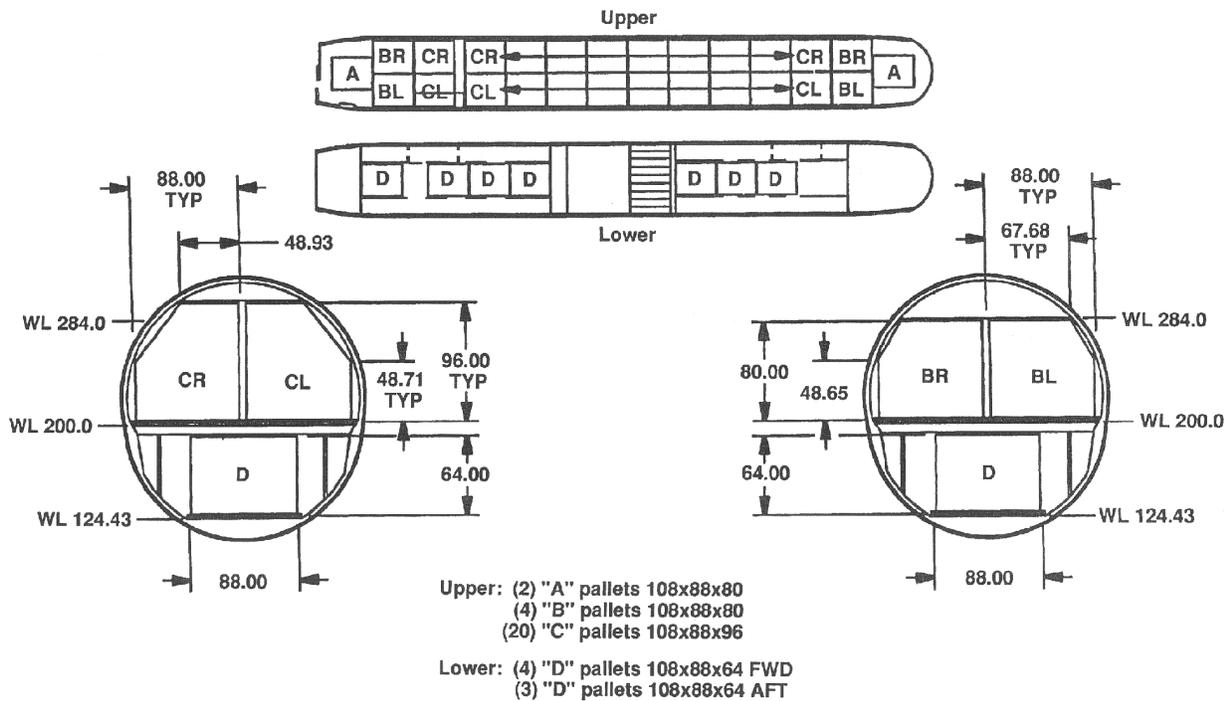
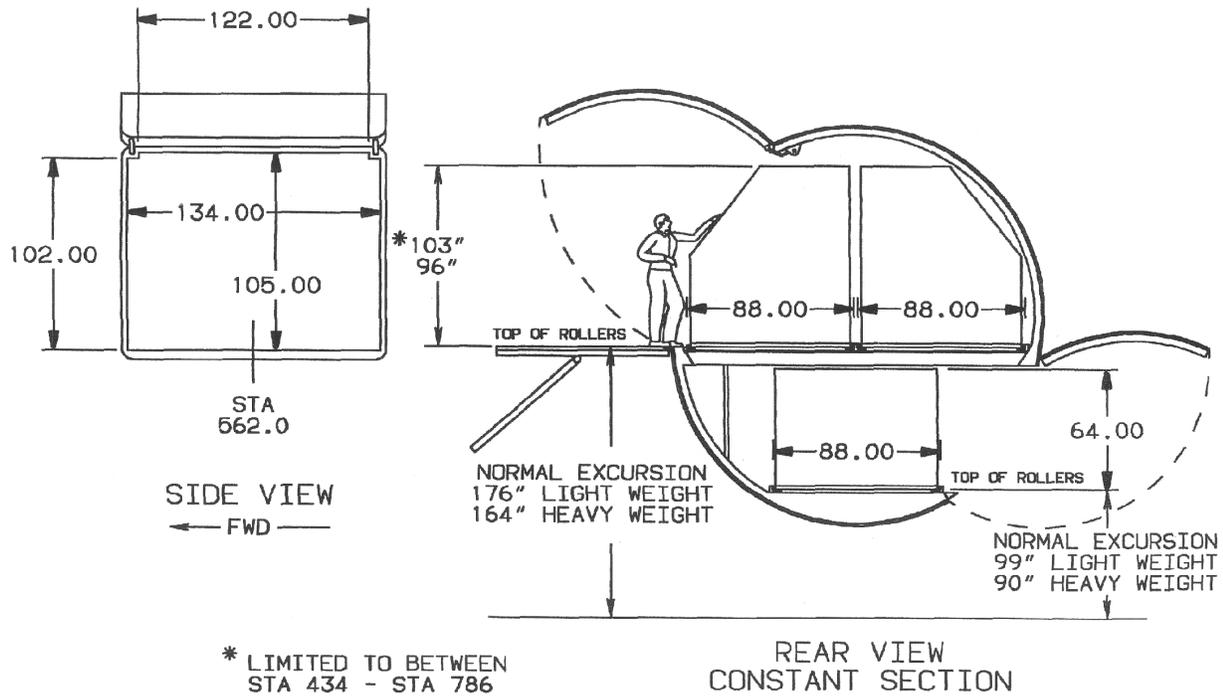


Figure 13. B767 Lower Lobes Specifications.

B767 LOWER LOBES

Forward and aft lower lobe doors are on the right side; bulk cargo compartment door is on the left side.

AIRCRAFT	FORWARD LOWER LOBE				AFT LOWER LOBE				BULK CARGO COMPARTMENT					
	DOOR		LENGTH	MAX WT	BULK CUBE	DOOR		LENGTH	MAX WT	BULK CUBE	DOOR		LENGTH	MAX WT
WxH	AGL (MAX)	WxH				AGL (MAX)	WxH				AGL (MAX)	WxH		
B767-200	70'x67'	101'	383'	21,600	1931'	70'x67'	99'	315'	18,000	1588'	98'x45'	102'	6,450	430'
B767-300	70'x67'	101'	508'	28,800	2537'	70'x67'	99'	458'	25,200	2251'	98'x45'	102'	6,450	430'

Figure 14. B767 Lower Lobes Description (-300 and -400).

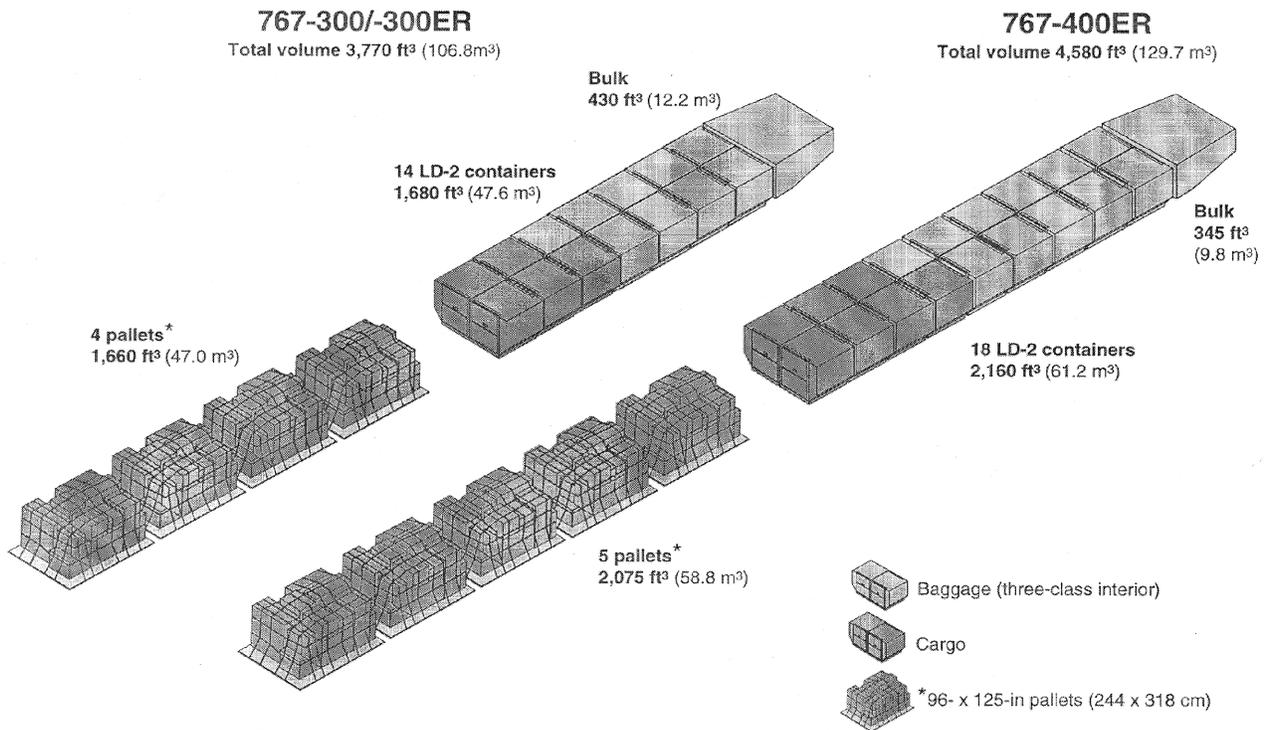


Figure 15. B767 Lower Lobes.

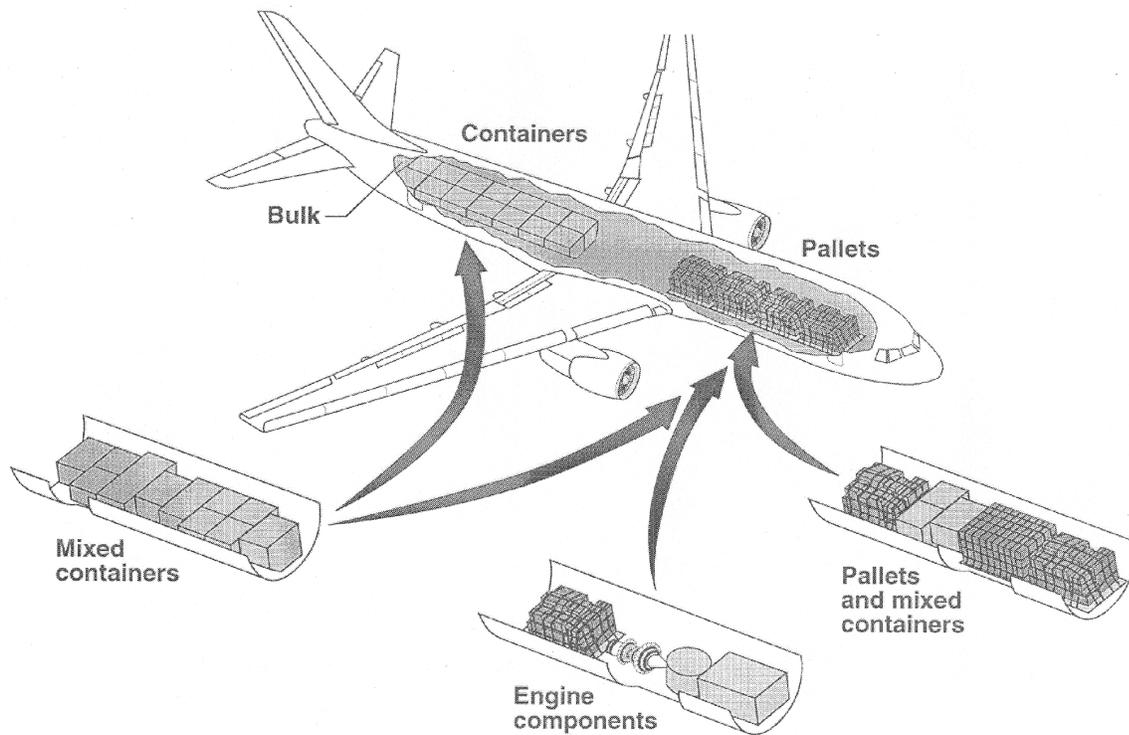
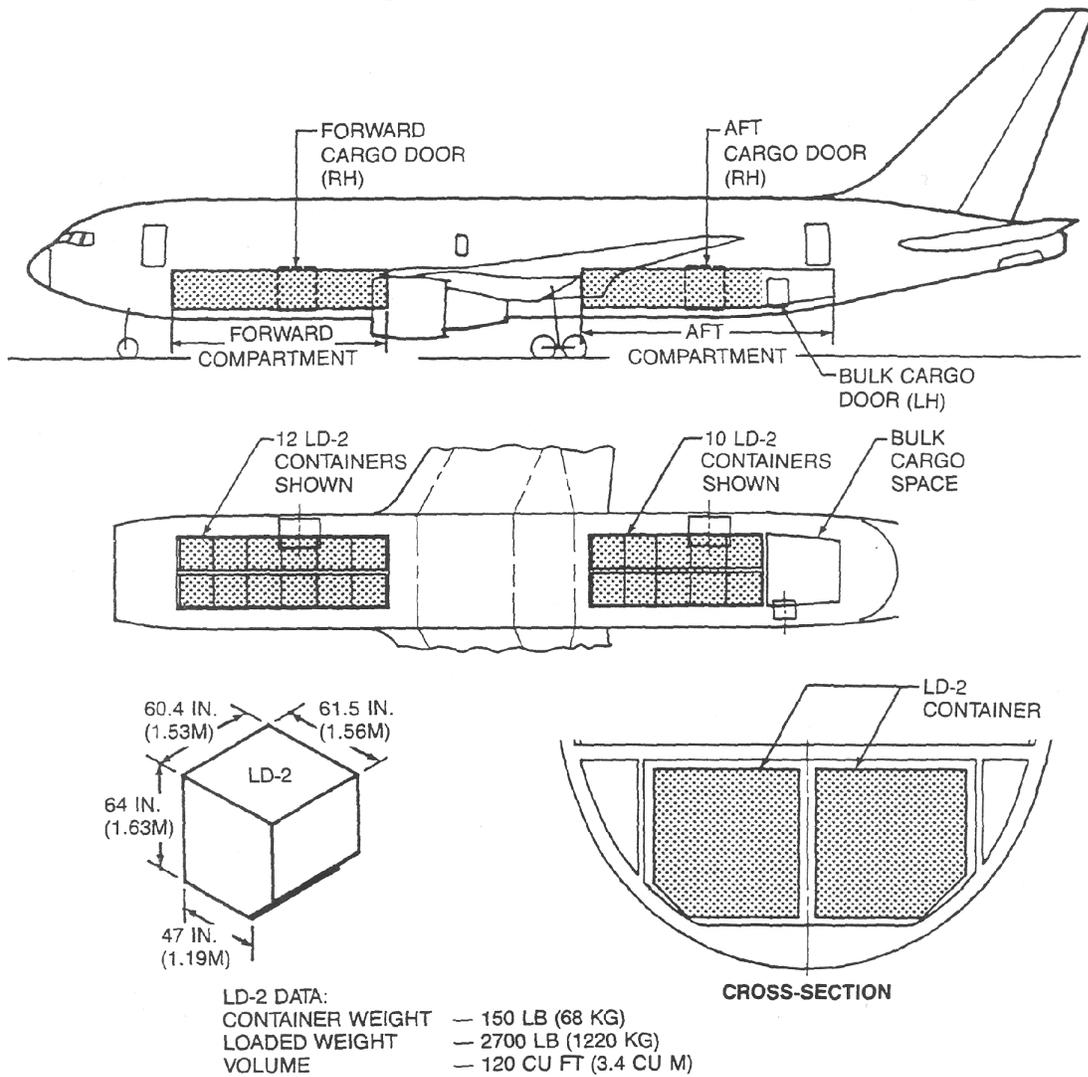


Figure 16. B767 Lower Lobe Compartments, LD-2 Containers and Bulk Cargo.



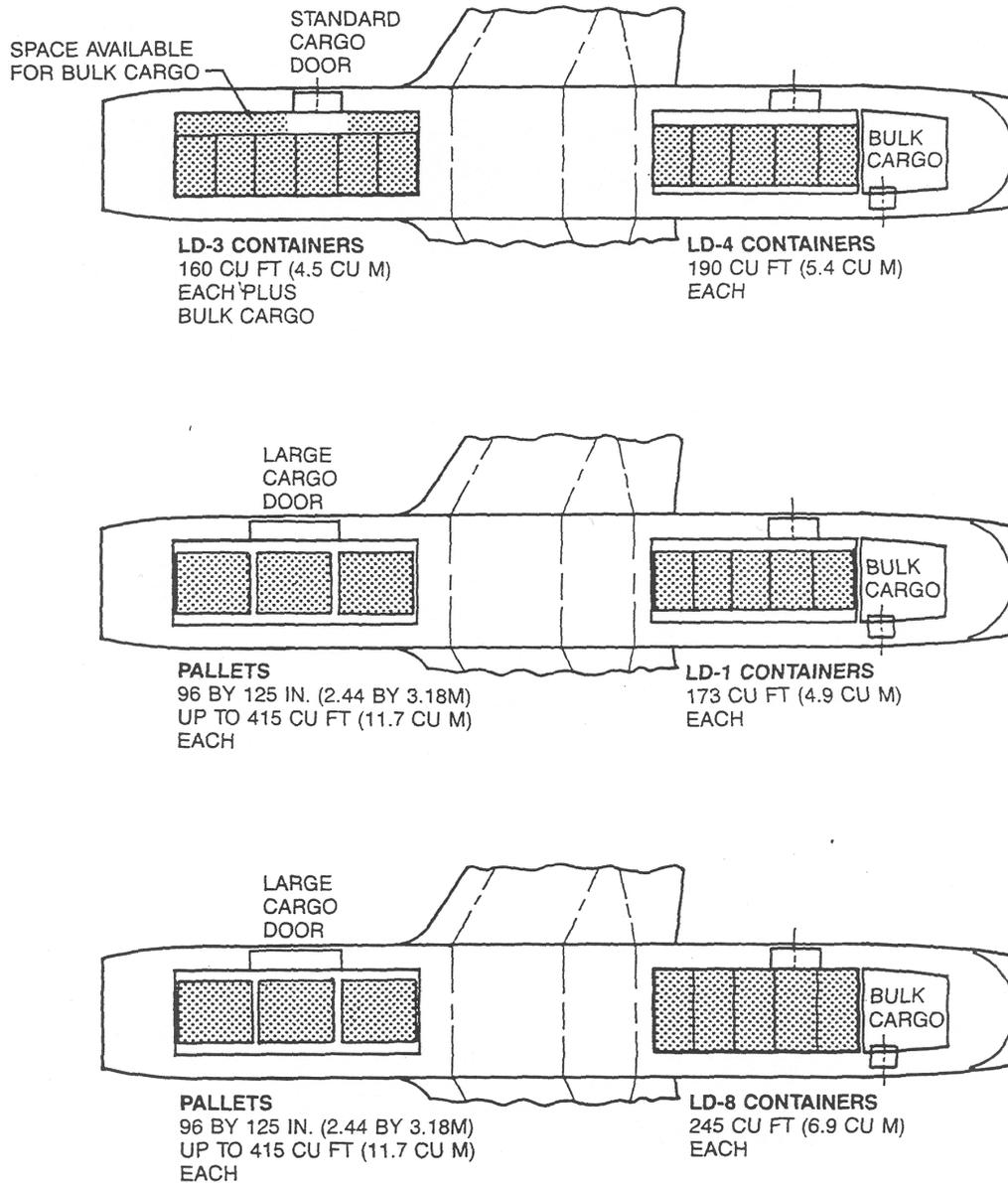
		FORWARD COMPARTMENT	AFT COMPARTMENT		TOTAL
		12 LD-2 CONTAINERS	10 LD-2 CONTAINERS	BULK CARGO	
VOLUME	CU FT	1,440	1,200	430	3,070
	CU M	40.78	33.98	12.17	86.93

STRUCTURAL WEIGHT LIMIT

7-ABREAST SEATING	LB	33,750	27,000	6,450	67,200
	KG	15,310	12,250	2,925	30,405
8-ABREAST SEATING	LB	21,600	18,000	6,450	46,050
	KG	9,800	8,165	2,925	20,890

Lower Cargo Compartments, LD2 Containers and Bulk Cargo Model 767-200, -200ER

Figure 17. B767-200 Lower Lobe Compartments, Alternate Arrangements.

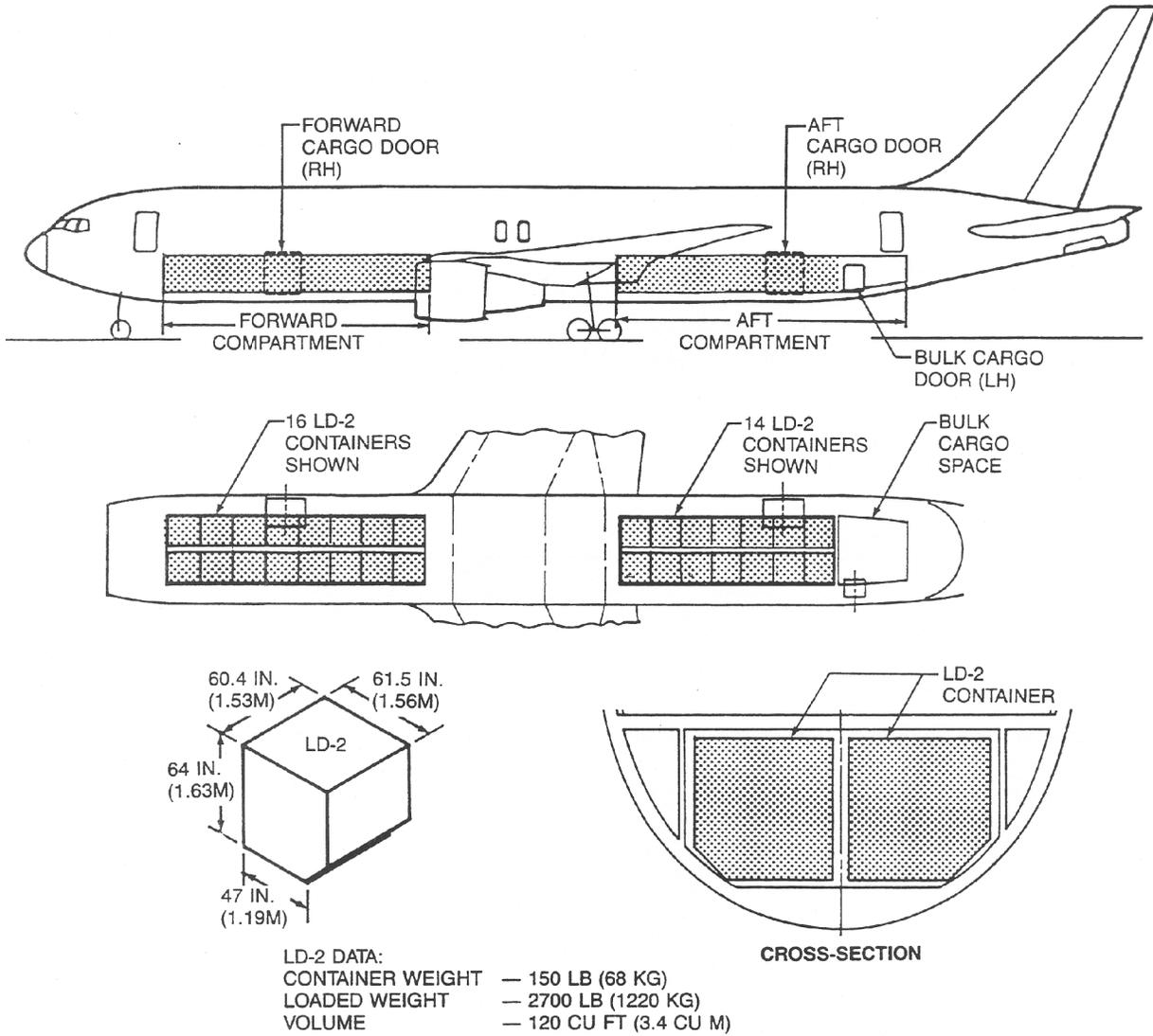


NOTES:

- ANY NUMBER OF CONTAINER COMBINATIONS MAY BE LOADED SUBJECT TO SPACE AND WEIGHT LIMITATIONS.
- CONSULT WITH USING AIRLINE REGARDING SPECIFIC OPERATING PROCEDURES.

Lower Cargo Compartments-Alternate Arrangements
Model 767-200, -200ER

Figure 18. B767-300 Lower Lobe Compartments, LD-2 Containers and Bulk Cargo.



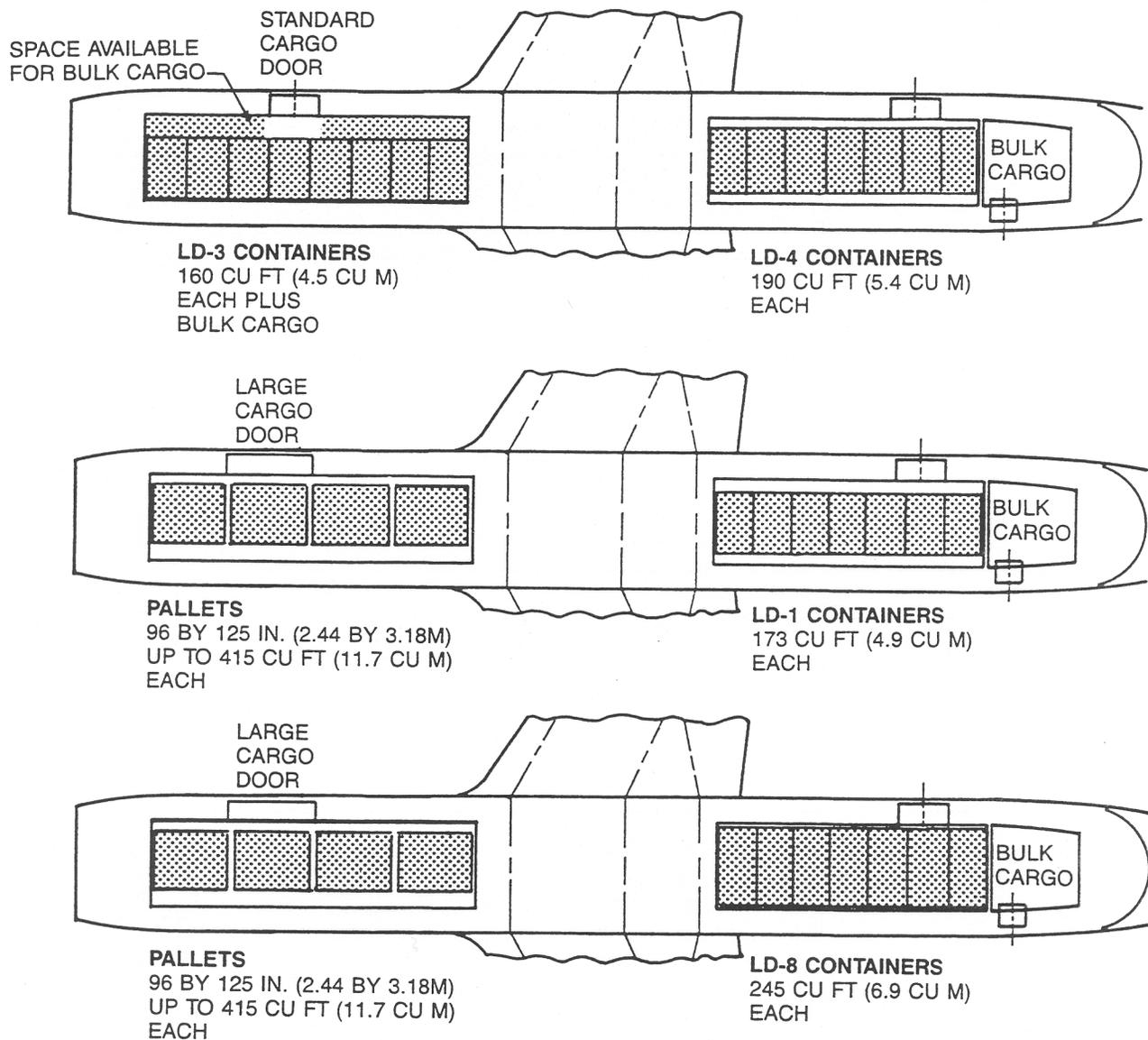
		FORWARD COMPARTMENT		AFT COMPARTMENT		TOTAL	
		16 LD-2 CONTAINERS		14 LD-2 CONTAINERS			BULK CARGO
VOLUME	CU FT	1,920		1,680		430	4,030
	CU M	54.4		47.6		12.2	114.2

STRUCTURAL WEIGHT LIMIT

7-ABREAST SEATING	LB	45,000	37,800	6,450	89,250
	KG	20,410	17,145	2,925	40,480
8-ABREAST SEATING	LB	28,800	25,200	6,450	60,450
	KG	13,060	11,430	2,925	27,415

Lower Cargo Compartments, LD2 Containers and Bulk Cargo Model 767-300, -300ER

Figure 19. B767-300 Lower Lobe Compartments, Alternate Arrangements.



NOTES:

- ANY NUMBER OF CONTAINER COMBINATIONS MAY BE LOADED SUBJECT TO SPACE AND WEIGHT LIMITATIONS.
- CONSULT WITH USING AIRLINE REGARDING SPECIFIC OPERATING PROCEDURES.

**Lower Cargo Compartments-Alternate Arrangements
Model 767-300, -300ER**

Figure 20. B767 Door Clearances—Passenger and Service Doors.

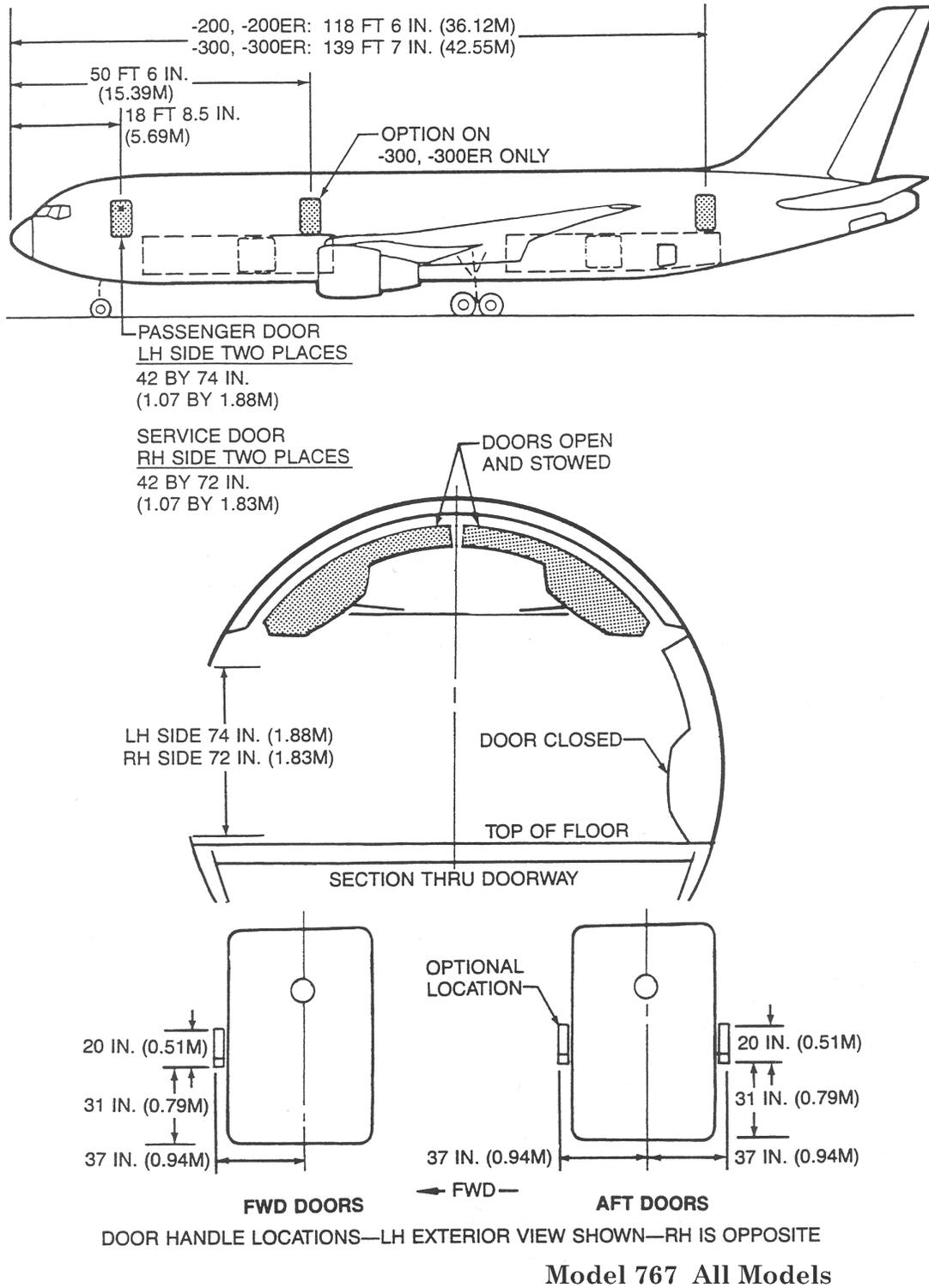
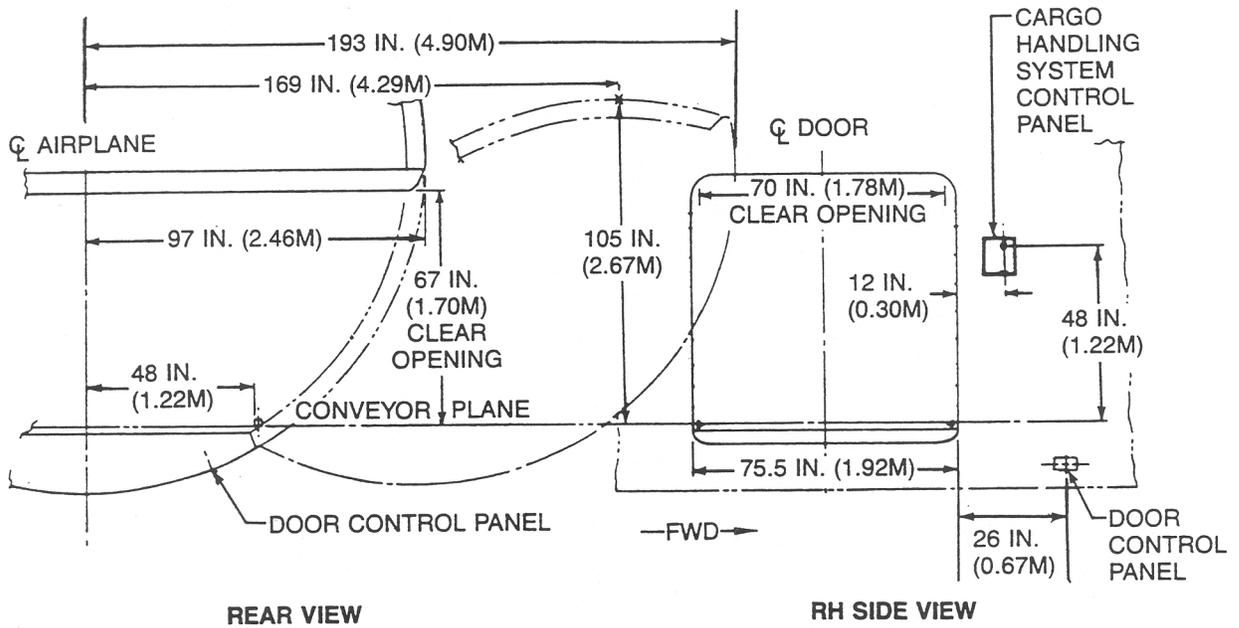
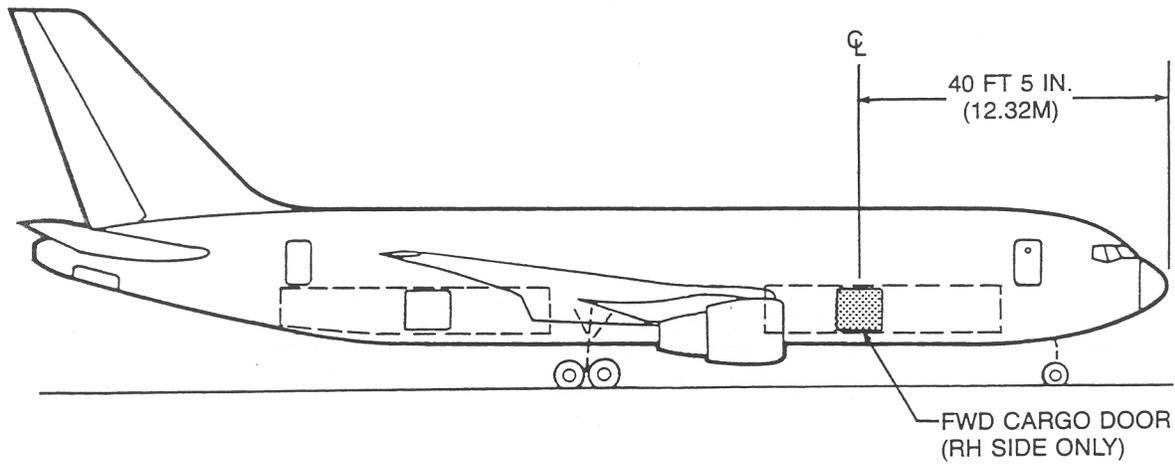


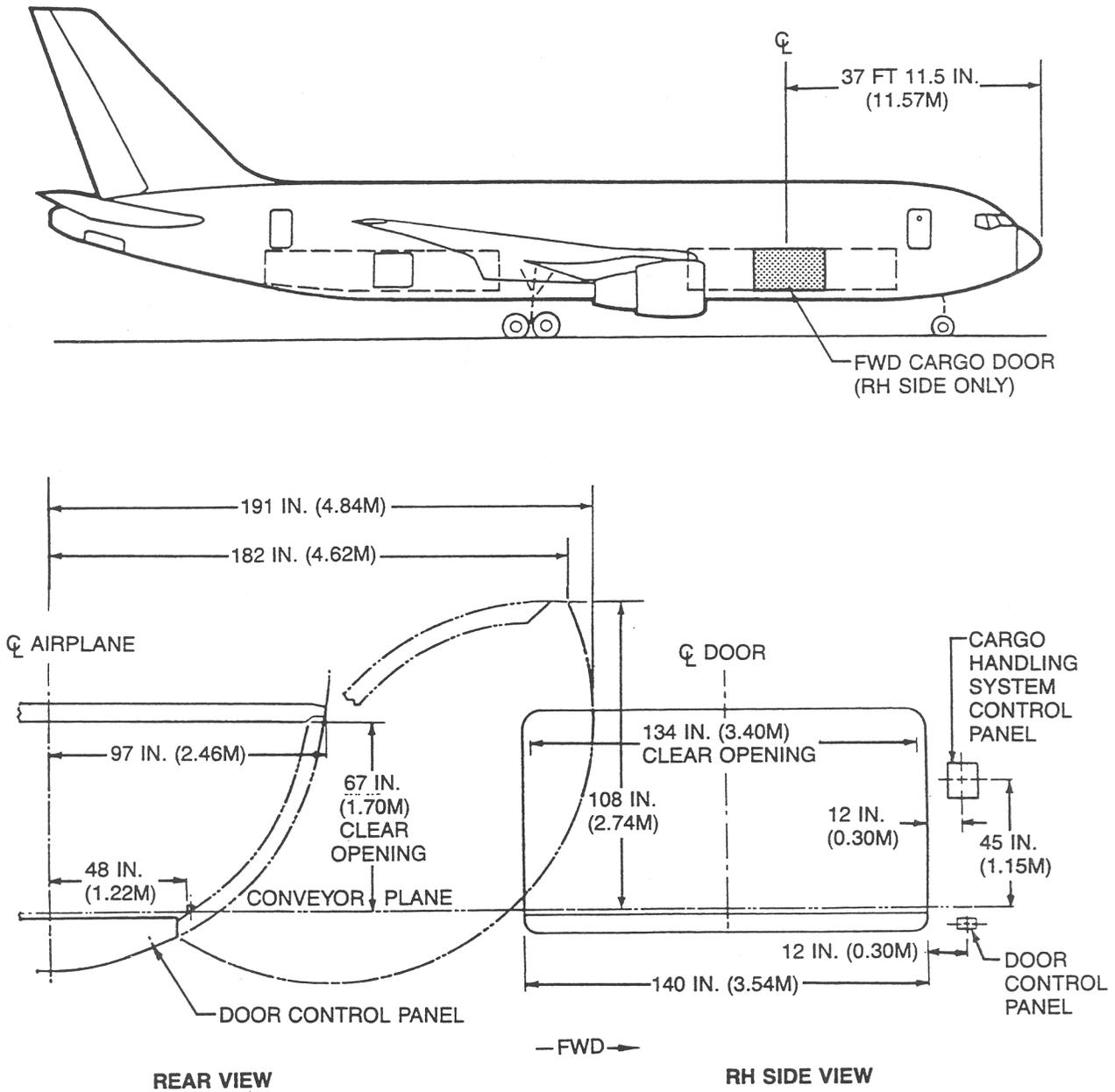
Figure 21. B767 Door Clearances-Standard Forward Cargo Door.



- NOTES:
- STANDARD ON 767-200, -300.
 - OPTIONAL ON 767-200ER, -300ER.

Model 767, All Models

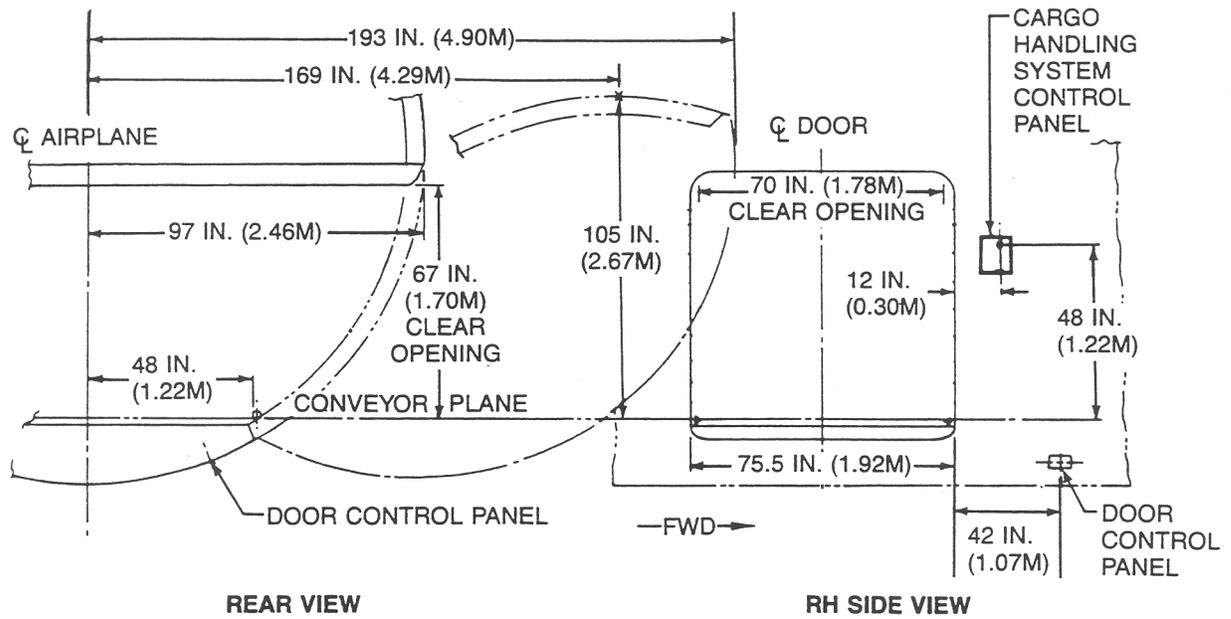
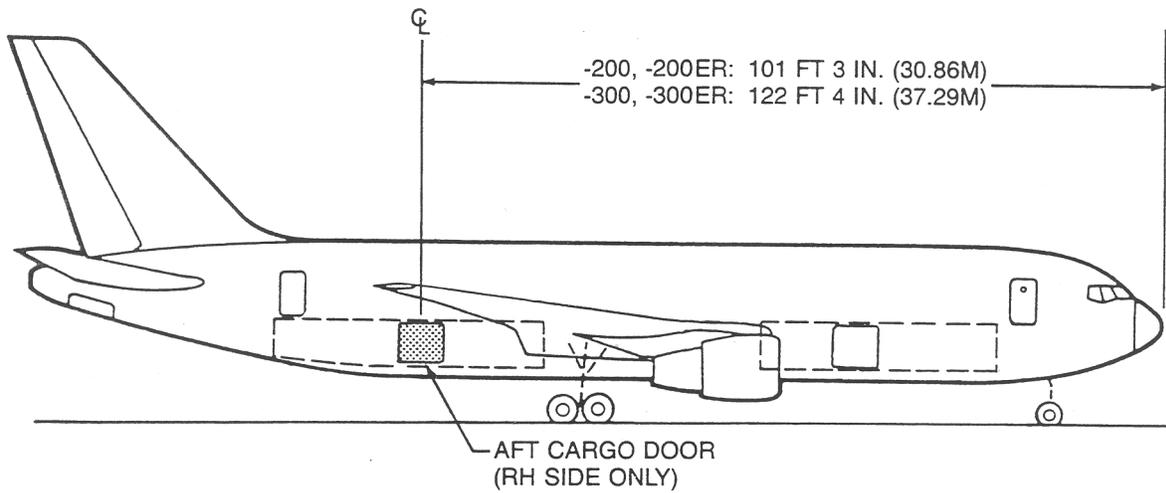
Figure 22. B767 Door Clearances-Large Forward Cargo Door.



- NOTES:
- STANDARD ON 767-200ER, -300ER.
 - OPTIONAL ON 767-200, -300.

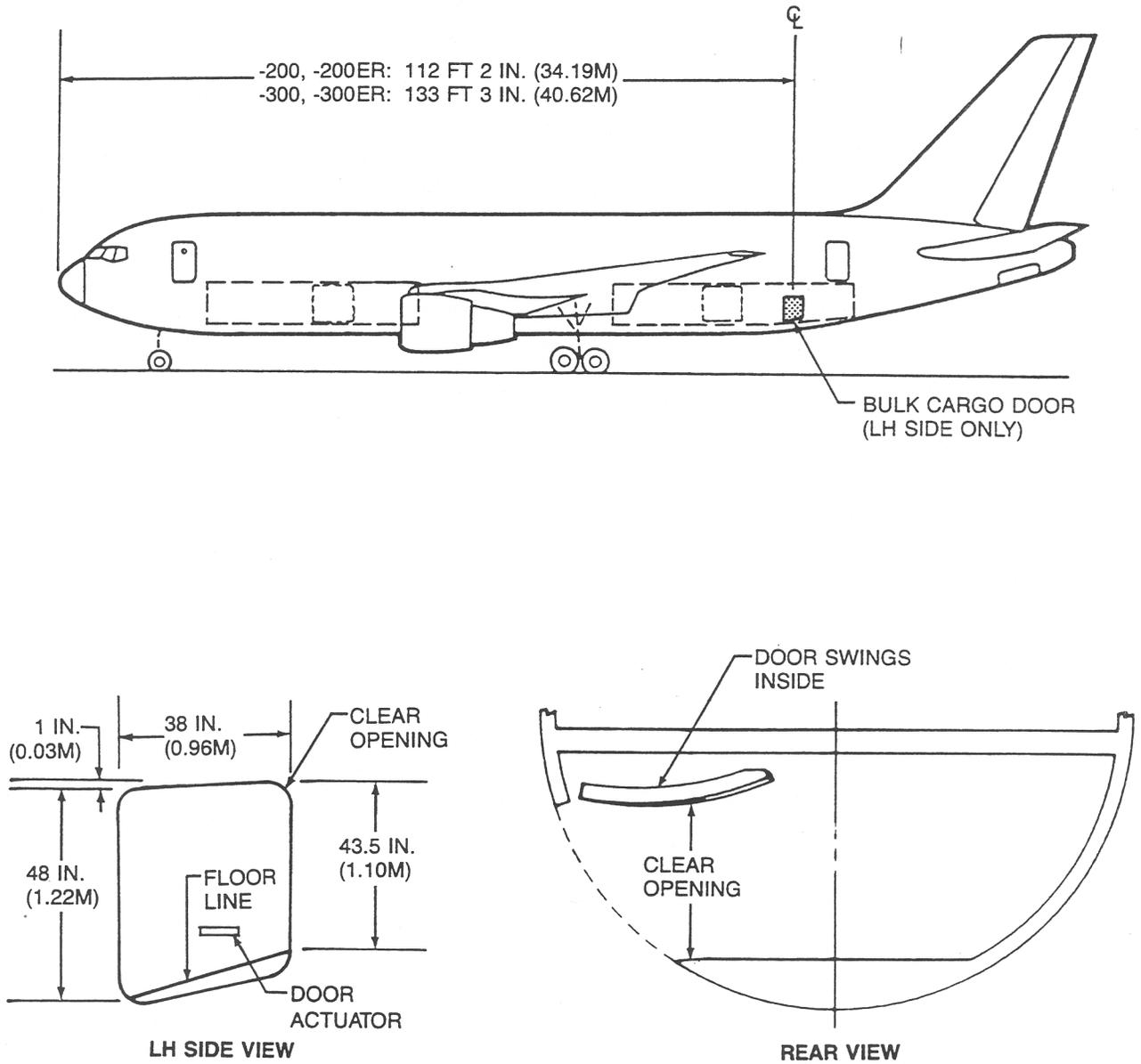
Model 767, All Models

Figure 23. B767 Door Clearances-Aft Cargo Door.



Model 767, All Models

Figure 24. B767 Door Clearances-Bulk Cargo Door.



Model 767, All Models

Figure 25. B767-300, -300ER, Expansion.

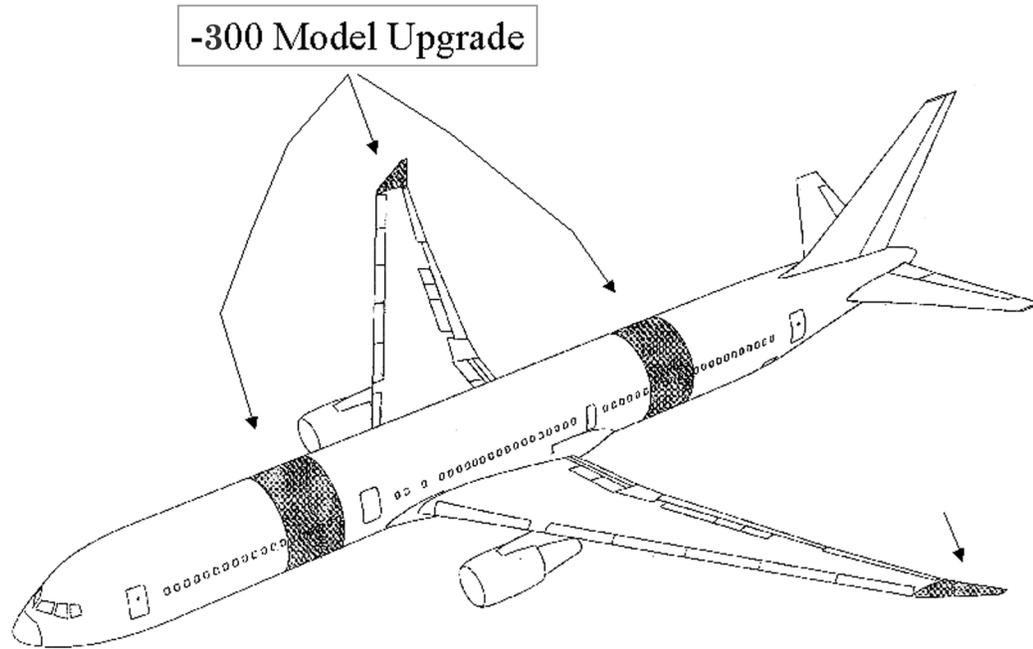
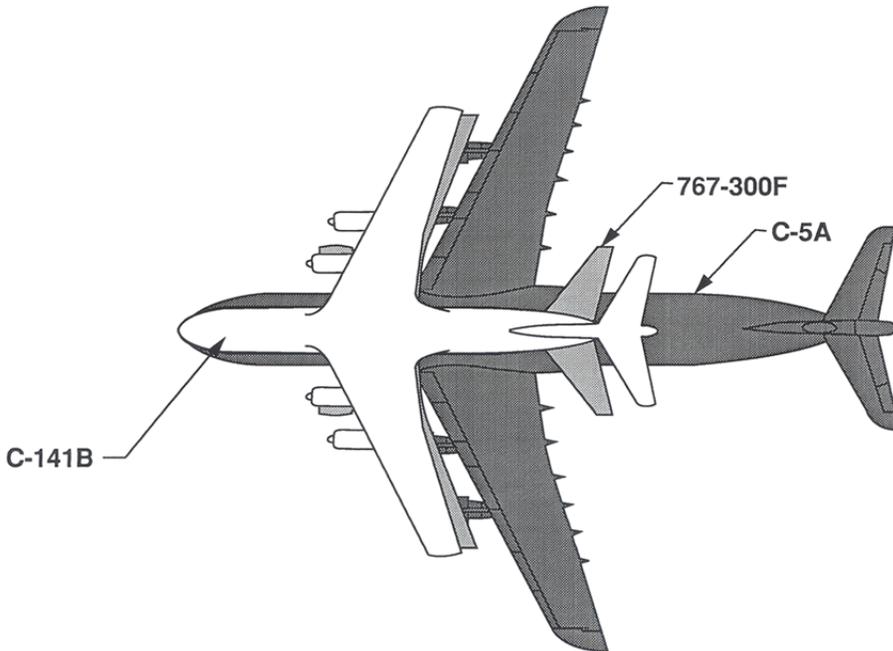


Figure 26. B767-300, -300ER, Size Comparison.



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