BY ORDER OF THE COMMANDER
AIR MOBILITY COMMAND

AIR MOBILITY COMMAND PAMPHLET 24-2, VOLUME 9

1 DECEMBER 2001

Transportation

CIVIL RESERVE AIR FLEET LOAD PLANNING GUIDE AIRBUS A310

NOTICE: This publication is available digitally on the AFDPO WWW site at: **http://afpubs.hq.af.mil.**

OPR: HQ AMC/DOF (MSgt Gary Langford)
Supersedes AMCP 24-2, Chapter 12, 1 May 2001

Certified by: HQ AMC/DOF (Col Halbert)
Pages: 12
Distribution: F

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 Airbus A310. 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 Airbus A310 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.

1. General Description . The Airbus A310 is a wide-body, long-range, passenger aircraft. The A310 is normally configured to carry from 191-279 passengers. Variations on passenger seats depend on aircraft series, location of galley, spacing requirements of the seats, and contract requirements. As of this publication, there is no cargo conversion of the A310 available for military use. **Figure 1.** provides general information regarding the A310 airbus. For additional information, contact HQ AMC/XOC.

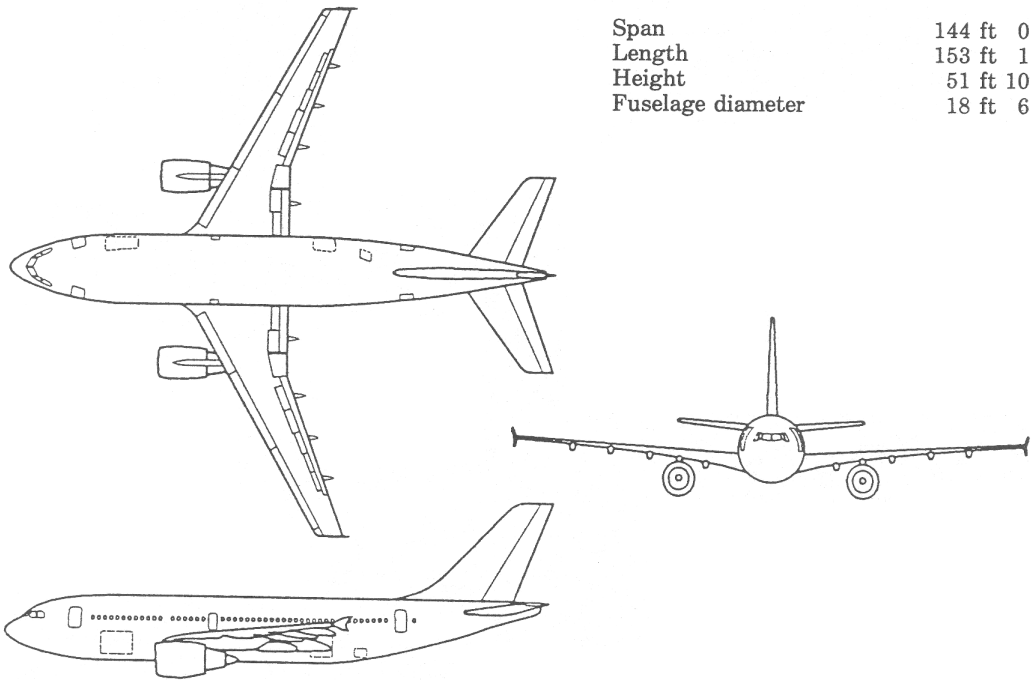
Figure 1. Airbus A-310.

2. Passenger Seating. Passenger configuration and seating capacity vary greatly by aircraft series, model and individual carrier. The JSCP uses 180 passengers per airplane for the A310 for wartime planning, based on 400 pounds per individual over a 3,500 nautical mile leg. **Figure 2.** provides typical seating arrangements that may be seen on CRAF A310 aircraft. Passenger payload capabilities for the aircraft are listed in **Attachment 2**. Users are encouraged to contact the specific contracted carrier to determine which configuration is to be available for their use.

3. Lower Lobe Compartments. The A310 has three lower lobe compartments: forward lower lobe (FLL), center lower lobe (CLL), and aft bulk compartment (ABC). The size of these compartments and access doors vary with aircraft model and series (see **Figure 3.** for dimensions and capacities). There is no restraining mechanism available to secure 463L pallets, and the user should plan to bulk load all available compartments.

4. Loading Sequence. The carrier determines loading sequence for establishing proper center of gravity.

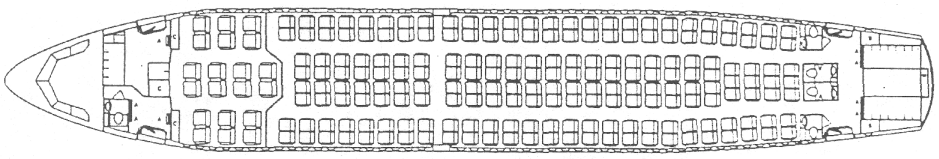
Figure 2. General Description, A310.



		AIRPLANE VERSION			
		A310-300 GE CF6 80C2		A310-300 PW JT90 7R4E	
MAXIMUM TAXI WEIGHT	POUNDS	332680	339288	332680	339288
MAXIMUM LANDING WEIGHT	POUNDS	271166	271166	271166	271166
MAXIMUM TAKE-OFF WEIGHT	POUNDS	330690	337304	330690	337304
OPERATING WEIGHT EMPTY	POUNDS	169836	169836	169124	169124
ZERO FUEL WEIGHT	POUNDS	249120	249120	249120	249120
MAXIMUM STRUCTURAL PAYLOAD	POUNDS	79284	79284	79996	79996

Figure 3. Typical Seating Arrangements, A310.

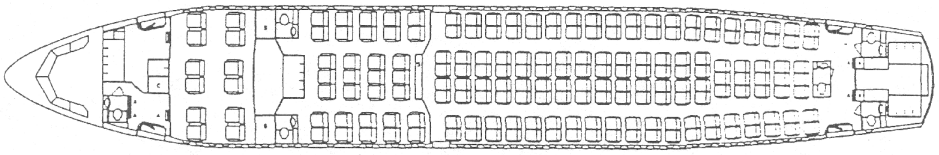
Two-class



20 First + 200 Economv = 220 seats

seat pitches : First 40 inch, Economy 32 inch.

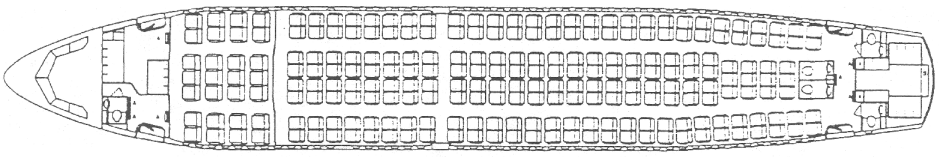
Three-class



12 First + 35 Business + 147 Economy = 191 seats

seat pitches : First 62 inch, Business 40 inch, Economy 32 inch.

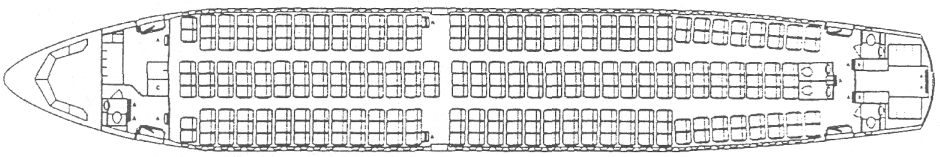
Two-class regional (specification)



28 Business + 212 Economy = 240 seats

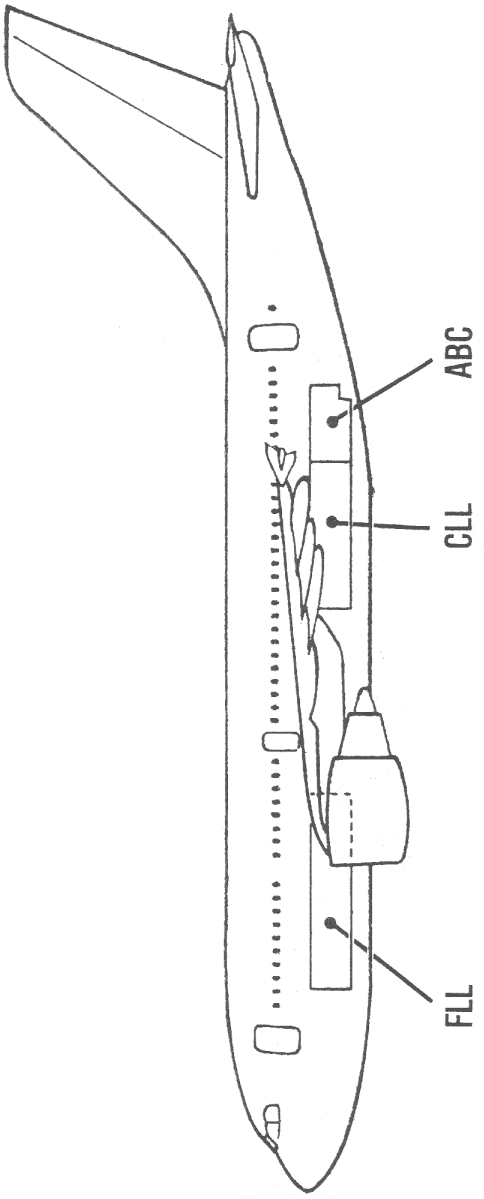
seat pitches : Business 36 inch, Economy 31 inch.

High-density / charter



seat pitches : 30 inch. 279 Economy-seats

Figure 4. Lower Lobe Compartments and Doors, A310.



(FLL) FORWARD LOWER LOBE						(CLL) CENTER LOWER LOBE						(ABC) AFT BULK CARGO		
DOOR						DOOR						DOOR		
WXH	AGL (MAX)	LENGTH	WIDTH (MAX)	HEIGHT	BULK CUBE	WXH	AGL (MAX)	LENGTH	WIDTH (MAX)	HEIGHT	BULK CUBE	WXH	AGL (MAX)	BULK CUBE
106" X 67"	8.5 FT.	300 inches	164 inches	67 inches	1780 CU. FT.	71" X 67"	8.9 FT.	199 inches	164 inches	65 inches	1218 CU. FT.	37" X 37"	9.0 FT.	611 CU. FT.

Figure 5. Lower Lobe Compartments, with LD-3 Containers.

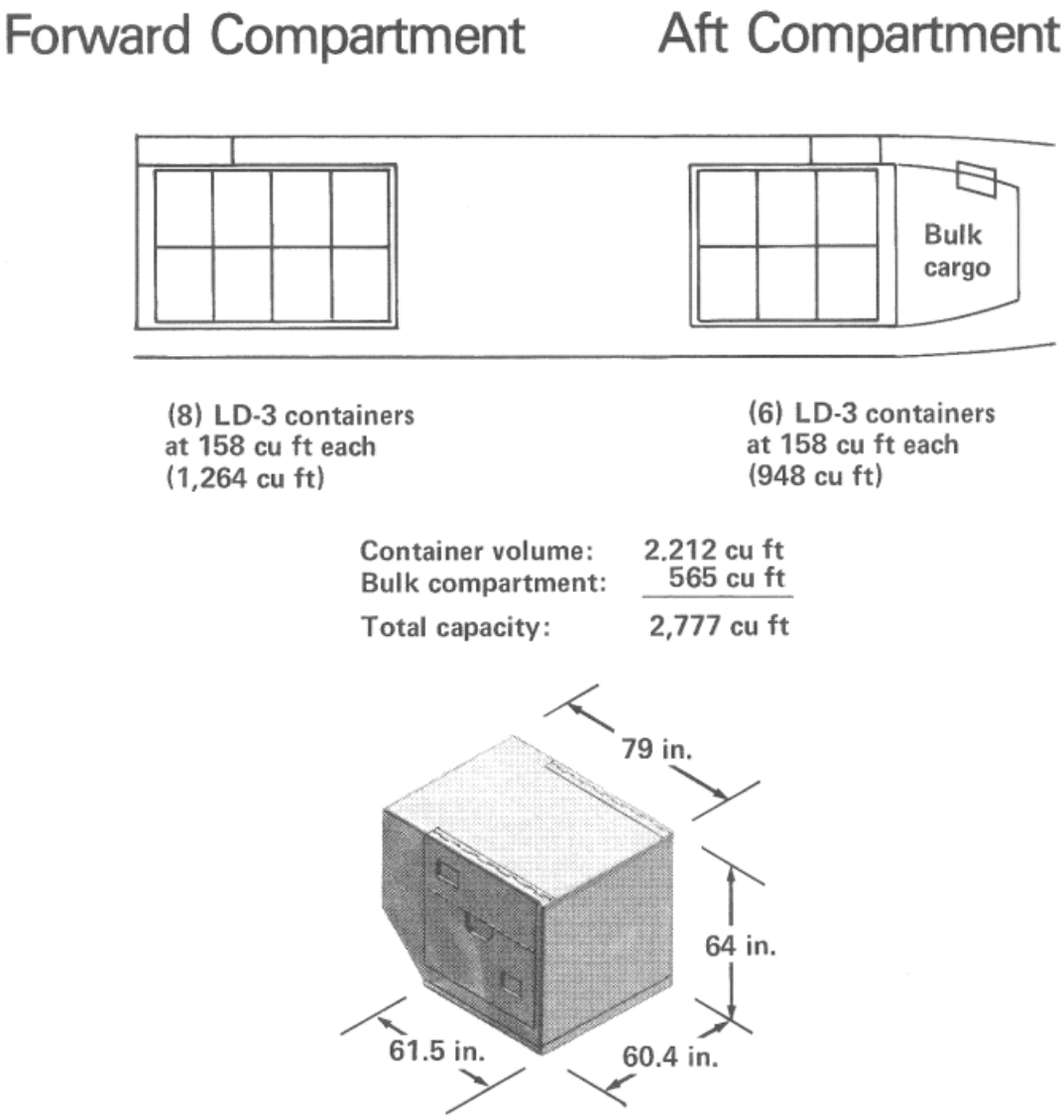
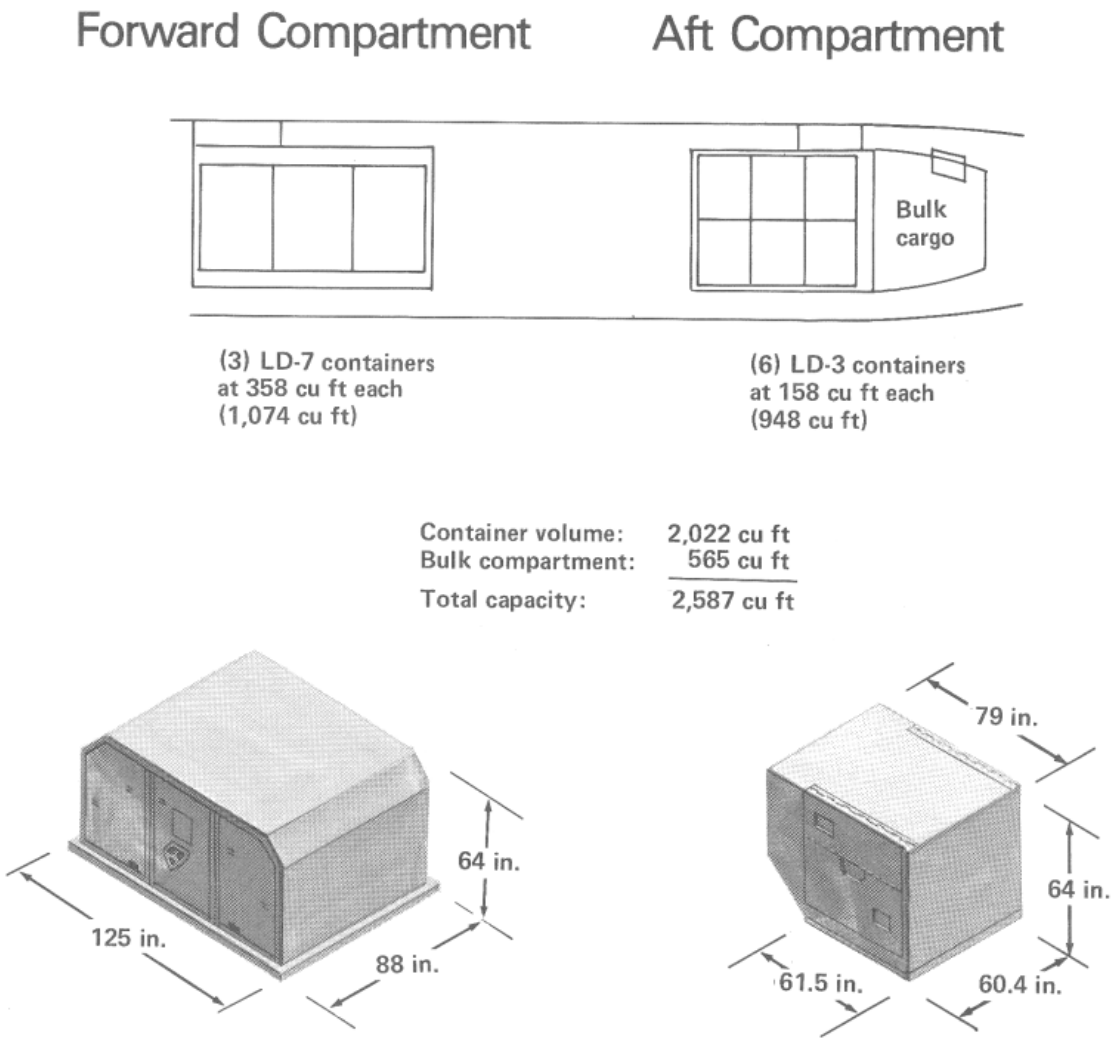


Figure 6. Lower Lobe Compartment with LD-3 and LD-7 Containers.



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**.