

heavy duty use. The six single-stud and double-stud tie-down ring anchors are also available separately. The single-stud anchors can be attached to any tie-down point in the airplane which isn't placarded for attachment of partition nets only, whereas the double-stud anchors can be attached to the aft seat tracks only. See Figure 6-10 for maximum load ratings and tie-down ring anchor spacing restrictions.

CARGO POD

The airplane may be equipped with a 111.5 cubic foot capacity cargo pod attached to the bottom of the fuselage. The pod is divided into four compartments (identified as zones A, B, C, and D) by bulkheads and has a maximum floor loading of 30 pounds per square foot and maximum load weight limit of 1090 pounds. Each compartment has a loading door located on the left side of the pod. The doors are hinged at the bottom, and each has two latches. When the latch handles are rotated to the horizontal position with the doors closed, the doors are secured. Refer to Figure 6-5 and 6-12 for additional details.

MAXIMUM ZONE/COMPARTMENT LOADINGS

Maximum zone loadings are as follows:

	ZONE/ COMPART- MENT	VOLUME (CUBIC FEET)	WEIGHT LIMITS (LBS)		C.G. (STATION LOCATION)
			*SECURED BY TIE-DOWNS	**UNSECURED USING PARTITIONS OR IN CARGO POD	
FUSELAGE	1	52.9	1780	415	172.0
	2	109.0	3100	860	217.8
	3	63.0	1900	495	264.4
	4	43.5	1380	340	294.5
	5	40.1	1270	315	319.5
	6	31.5	320	245	344.0
CARGO/POD	A	23.4	--	230	132.4
	B	31.5	--	310	182.1
	C	27.8	--	270	233.4
	D	28.8	--	280	287.6

* THIS IS THE MAXIMUM CARGO ALLOWED IN THE BAY INDICATED.

** DENSITY MUST BE 7.9 LBS/FT³ OR LESS AND BAY 75% OR MORE FULL.

CENTER OF GRAVITY PRECAUTIONS

Since the airplane can be used for cargo missions, carrying various types of cargo in a variety of loading configurations, precautions must be taken to protect the forward and aft C.G. limits. Load planning should include a careful comparison of the mission requirements with the volume and weight limitation in each loading zone and the final airplane C.G. Cargo loaded in the forward zones may need to be balanced by loading cargo in one or more aft zones. Conversely, loadings can not be concentrated in the rear of the airplane, but must be compensated by forward cargo to maintain balance. Under ideal conditions, loadings should be accomplished with heavy items on the bottom and the load distributed uniformly around the C.G. of the cabin cargo area zone and/or cargo pod compartment. Loading personnel must maintain strict accountability for loading correctly and accurately, but may not always be able to achieve an ideal loading. A means of protecting the C.G. aft limit is provided by supplying an aft C.G. location warning area between 38.33% MAC and the maximum allowable aft C.G. of 40.33% MAC. The warning area is indicated by shading on the C.G. Moment Envelope (Figure 6-17) and C.G. Limits (Figure 6-18). This shaded area should be used only if accurate C.G. determination can be obtained.



CAUTION

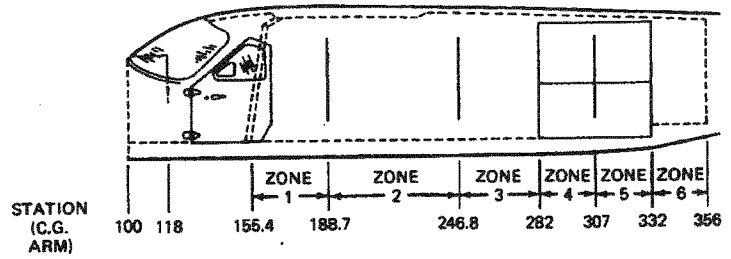
Exercise caution while loading or unloading heavy cargo through the cargo doors. An ideal loading in every other respect can still cause tail tipping and structural damage if proper weight distribution is ignored. For example, heavy cargo loaded through the doors and placed momentarily in zones 4 and 5, plus the weight of personnel required to move it to a forward zone, could cause an out-of-balance condition during loading.

CARGO LOAD RESTRAINT

PREVENTION OF MOVEMENT

Cargo restraint requires the prevention of movement in five principal directions: forward, aft, upward (vertical), left (side), and right (side). These movements are the result of forces exerted upon the cargo due to acceleration or deceleration of the airplane in takeoffs and landings as well as forces due to air turbulence in flight. Correct restraint provides the proper relationship between airplane configuration (with or without barrier), weight of the cargo, and the restraint required. Restraint is required for flight, landing, and taxi loads and for crash loads.

Cargo must be tied down for flight, landing and taxi load restraint and/or crash load restraint. When a cargo barrier is not installed, all cargo must be prevented from movement in the five principal directions and secured to provide

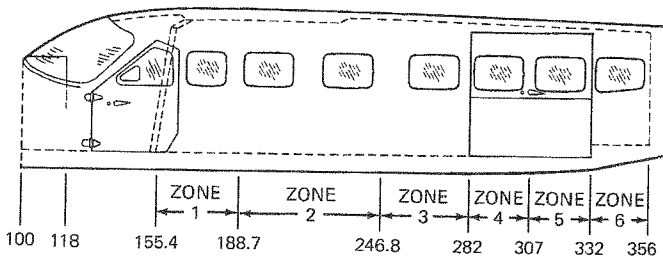


* Pilot or front passenger center of gravity on adjustable seats positioned for an average occupant with the seat locking pin at station 145.0. Numbers in parentheses indicate forward and aft limits of occupant center of gravity range.

** Cargo area center of gravity in Zones 1 thru 6 based on the mid point of the zone.

NOTE:

Vertical lines marked on the cargo area sidewalls or the forward face of the raised floor (Station 332.0) can be used as a convenient reference point for determining the location of occupant or cargo fuselage station.



* Pilot or front passenger center of gravity on adjustable seats positioned for an average occupant with the seat locking pin at station 145.0. Numbers in parentheses indicate forward and aft limits of occupant center of gravity range.

** Cargo area center of gravity in Zones 1 thru 6 based on the mid point of the zone.

NOTES:

1. The forward face of the raised floor (Station 332.0) can be used as a convenient reference point for determining the location of occupant or cargo fuselage stations.
2. When a cargo barrier is installed, two-place Commuter seats 4 and 5 or individual Commuter or Utility seats 3 and 4 must be removed. Mission requirements will dictate if any aft passenger seating is to remain installed.

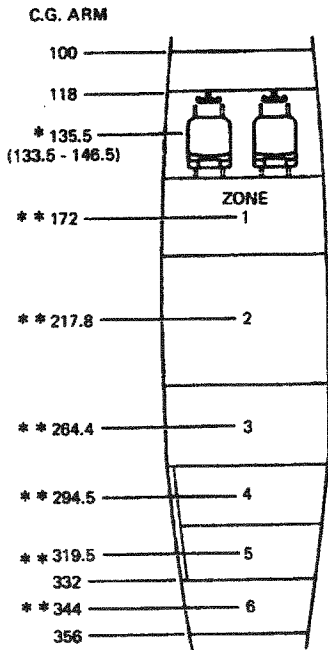


Figure 6-11. Internal Cabin Loading Arrangements
(Cargo Version) (Sheet 1 of 4)

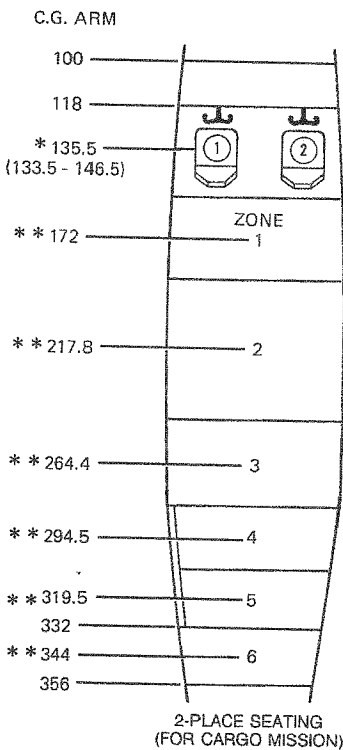


Figure 6-11. Internal Cabin Loading Arrangements
(Passenger Version) (Sheet 2 of 4)