

Subtract the weight and moment of fuel to be used from the take-off weight and moment. The landing moment must be within the minimum and maximum moments shown on Gross Weight Moment Limits graph for that weight. If the total moment is less than the minimum moment allowed, useful load items must be shifted aft or forward load items reduced. If the total moment is greater than the maximum moment allowed, useful load items must be shifted forward or aft load items reduced. If the quantity or location of load items are changed, the calculations must be revised and the moments rechecked.

SAMPLE LOADING CALCULATION

	Sample Airplane		N1533W	
	Weight (Lbs)	Moment (/100)	Weight (Lbs)	Moment (/100)
Empty CG 79.29				
1. Basic Empty				
Weight Arm	2050	1613	2132	1690.39
2. Fuel (74 gal) 75	444	333		
3. Front seat occupied 85	340	289		
4. Rear seat occupied 117	340	398		
5. Seats removed				
6. Baggage 140	126	176		
7. Passenger				
8. Total at take-off (check graph)	3300	2809		
9. Less fuel (60 gals)	<u>-360</u>	-270		
10. Total at landing (check graph)	2940	2539		

*When the rear seats are removed, subtract the respective weight and moment/100 from the Basic Empty Weight and Moment/100.

USEFUL LOAD WEIGHTS AND MOMENTS

WEIGHT	OCCUPANTS			MOM/100
	FRONT SEATS ARM 85	REAR SEATS ARM 117	FIFTH SEAT ARM 144	
	MOMENT/100	WEIGHT		
120	102	140	20	29
130	111	152	30	43
140	119	164	40	58
150	128	176	50	72
160	136	187	60	86
170	145	199	70	101
180	153	211	80	115
190	162	222	90	130
200	170	234	100	144
			110	158
			120	173
			130	187
			140	202
			150	216
			160	230
			170	245

USEFUL LOAD WEIGHTS AND MOMENTS

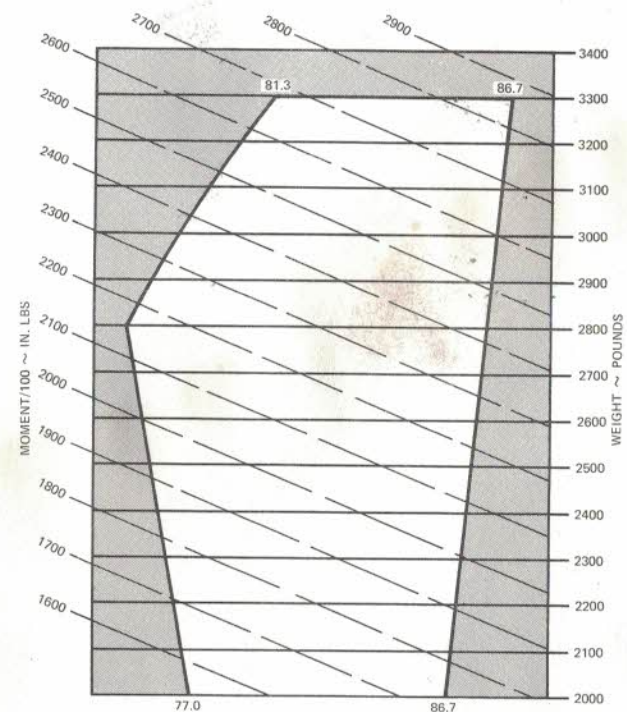
WEIGHT	BAGGAGE	CARGO (WITH REAR SEATS REMOVED)	
	ARM 140	FWD. OF SPAR ARM 108	AFT OF SPAR ARM 135
		MOMENT/100	
10	14	11	14
20	28	22	27
30	42	32	41
40	56	43	54
50	70	54	68
60	84	65	81
70	98	76	95
80	112	86	108
90	126	97	122
100	140	108	135
110	154	119	149
120	168	130	162
130	182	140	176
140	196	151	189
150	210	162	203
160	224	173	216
170	238	184	230
180	252	194	243
190	266	205	257
200	280	216	270
210	294		284
220	308		297
230	322		311
240	336		324
250	350		338
260	364		351
270	378		365

USEFUL LOAD WEIGHTS AND MOMENTS

FUEL

LEADING EDGE TANKS ARM 75		
GALLONS	WEIGHT	MOMENT/100
5	30	23
10	60	45
15	90	68
20	120	90
25	150	113
30	180	135
35	210	158
40	240	180
44	264	198
50	300	225
55	330	248
60	360	270
65	390	293
70	420	315
74	444	333

GROSS WEIGHT MOMENTS LIMITS



CENTER OF GRAVITY - INCHES AFT OF DATUM
ENVELOPE BASED ON THE FOLLOWING WEIGHT AND
CENTER OF GRAVITY LIMIT DATA (LANDING GEAR DOWN)

WEIGHT CONDITION	FORWARD C.G. LIMIT	AFT C.G. LIMIT
3300 LB. (MAXIMUM TAKE-OFF OR LANDING)	81.3	86.7
2800 LB. OR LESS	77.0	86.7