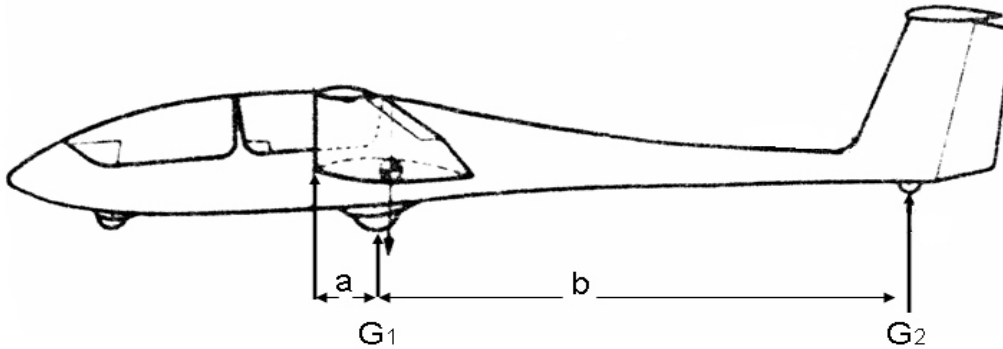


Weight and Balance
 Grob G103 Twin II
 N4426F S/N 3821
 13-May-07



Distances	Inches	Weights	Lbs
a	21	G1	839
b	171	G2	43
a+b	192		
Datum	Leading edge of main wing at wing root		

Equipment list:

Front panel: magnetic compass, airspeed indicator, variometer, altimeter, G-meter, temperature indicator, Becker radio, boom mic, Borgelt variometer

Rear panel: magnetic compass, airspeed indicator, variometer, altimeter, boom mic, Borgelt variometer repeater, ball, radio speaker

Weighed Aircraft:

	Lbs	Inches	In Lbs	
	Weight	Arm	Moment	
Main Wheel	839	21	17619	
Tail Wheel	43	192	8256	
C.G.	882	29.34	25875	Empty weight & CG as weighed

Aircraft weighed without the battery, oxygen tank, or ballast installed.

Edward A. Thistlethwaite, Jr.

May 13, 2007

Edward A. Thistlethwaite, Jr. A&P 2089030 IA

Date

Weight and Balance Calculations
 Grob G103 Twin II
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Maximum Gross Weight	1279 lbs
Forward Limit CG for flight	10.24 in
Rear Limit CG for flight	18.11 in
Empty weight	882 lbs
Empty weight CG	29.34 in
Each ballast weight	12.3 lbs
Battery weight	3 lbs
Oxygen tank weight	29 lbs

Calculations:

1. Enter weights in column A.
2. Multiply weight values in column A by arm values in column B. Enter into column C
3. Calculate gross weight; add all weights in column A; enter sum at bottom of column A.
4. Add all moments in column C; enter sum at bottom of column C.
5. Calculate CG; divide total moment by total weight; enter result in bottom of column B.

	A	B	C
	Weight	Arm	Moment
	Lbs	Inches	In lbs
Empty aircraft	882	29.34	25875
Battery		33	
Oxygen		34	
Front Pilot		-45.3	
Rear Pilot		1.6	
Ballast		-61	
Totals			

Notes:

1. Flying CG limitations are 10.24 to 18.11 inches aft of datum.
2. Maximum non-lifting parts weight is 882 lbs. Main wings weigh 416 lbs total.
3. Non-lifting weight of aircraft is 466 lbs.
4. Maximum payload due to non-lifting limitation is 466 lbs - not a factor.
5. Maximum payload due to gross weight limitation is 397 lbs.

Weight and Balance Examples

Grob G103 Twin II

N4426F S/N 3821

13-May-07

Minimum front pilot weight for solo flight without ballast, with oxygen and battery

	A	B	C
	Weight	Arm	Moment
	Lbs	Inches	In lbs
Empty aircraft	882	29.34	25875
Battery	3	33	99
Oxygen	29	34	986
Front Pilot	165	-45.3	-7474.5
Rear Pilot	0	1.6	0
Ballast	0	-61	0
Totals	1079	18.0589	19485.5

Minimum front pilot weight for solo flight without ballast, no oxygen, with battery

	A	B	C
	Weight	Arm	Moment
	Lbs	Inches	In lbs
Empty aircraft	882	29.34	25875
Battery	3	33	99
Oxygen	0	34	0
Front Pilot	157	-45.3	-7112.1
Rear Pilot	0	1.6	0
Ballast	0	-61	0
Totals	1042	18.1016	18861.9

Minimum front pilot weight for solo flight with 12.3 lbs ballast, no oxygen, with battery

	A	B	C
	Weight	Arm	Moment
	Lbs	Inches	In lbs
Empty aircraft	882	29.34	25875
Battery	3	33	99
Oxygen	0	34	0
Front Pilot	142	-45.3	-6432.6
Rear Pilot	0	1.6	0
Ballast	12.3	-61	-750.3
Totals	1039.3	18.0805	18791.1

Weight and Balance Examples

Grob G103 Twin II

N4426F S/N 3821

13-May-07

Minimum front pilot weight for solo flight with 24.6 lbs ballast, no oxygen, with battery

	A	B	C
	Weight	Arm	Moment
	Lbs	Inches	In lbs
Empty aircraft	882	29.34	25875
Battery	3	33	99
Oxygen	0	34	0
Front Pilot	125	-45.3	-5662.5
Rear Pilot	0	1.6	0
Ballast	24.6	-61	-1500.6
Totals	1034.6	18.1818	18810.9

Maximum front pilot weight for solo flight with 24.6 lbs ballast, no oxygen, with battery

	A	B	C
	Weight	Arm	Moment
	Lbs	Inches	In lbs
Empty aircraft	882	29.34	25875
Battery	3	33	99
Oxygen	0	34	0
Front Pilot	273	-45.3	-12367
Rear Pilot	0	1.6	0
Ballast	24.6	-61	-1500.6
Totals	1182.6	10.2372	12106.5