

4 Weight and Balance Information

4.1 Installed Equipment List

To meet the requirements of the LSA airworthiness standard, the listed minimum instrumentation is provided as basic equipment.

- Airspeed indicator
- Altimeter
- Vertical speed indicator
- Compass
- Slip indicator
- RPM gauge
- Oil pressure gauge
- Oil temperature gauge
- CHT gauge
- Exhaust gas temperature (only with Rotax Flydat / D-120)
- Electric fuel gauge
- Position- and tail lights
- ACL (Anti Collision Light)
- Master-, avionics and engine kill (ignition) switch
- Electrical system including circuit breakers
- 4-point safety belts for pilot and passenger

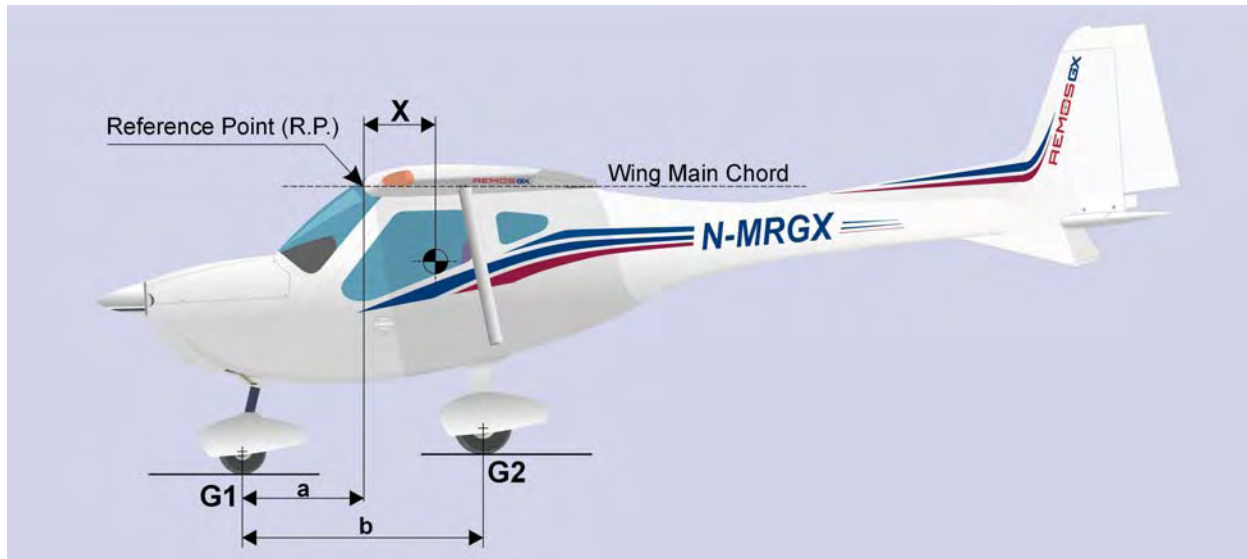
4.2 Weight and Balance Form

The complete equipment list including all additional and optional equipment has to be listed in the separately provided weight and balance form. The CG determination shall refer to the valid weight and balance form.

4 Weight and Balance Information

4.3 Center of Gravity (CG) Range and Determination

To determine “CG”, put the aircraft on 3 weighing scales, positioned on a level surface. Before weighing, a level wing main chord has to be established (use pads between main wheels and scale beneath). A check-mark (R.P.) on the leading edge of the left wing, adjacent to the wing root is provided to ease examination to level wing main chord - use a flexible clear hose, filled with water as a spirit level. The total weight $G = G1 + G2$, has to be used for calculating “CG”, located at the distance “X” behind R.P.



4 Weight and Balance Information

4.4 CG-Calculation

The following procedure has to be maintained for the correct calculation of the center of gravity “CG”.

$$\text{Moment (lb-Inch)} = \text{Weight (lb)} \times \text{Arm (Inch)}$$

$$\text{Center of Gravity (Inch)} = \frac{\text{Moment Total (lb-Inch)}}{\text{Weight Total (lb)}}$$

	Weight lb	Arm Inch	Moment lb-Inch
Empty Weight	_____	_____	_____
Occupants	_____	8.3	_____
Fuel	_____	37.8	_____
Luggage	_____	37.4	_____
Weight Total:	_____	Moment Total:	_____

The permissible CG range, measured from R.P. must be within the limits of 9.6 to 16.3 Inches.

4 Weight and Balance Information

4.5 Calculation Example

The following example is given to show how to calculate the center of gravity „CG“.

	Weight lb	Arm Inch	Moment lb-Inch
Empty Weight	670	12.5*	8,375
Occupants	175	8.3	1,452.5
Fuel	120	37.8	4,536
Luggage	30	37.4	1,122
Weight Total:	995	Moment Total:	15,485.5

$$\text{Center of Gravity (Inch)} = \frac{\text{Moment Total (lb-Inch)}}{\text{Weight Total (lb)}} = 15.56 \text{ Inch}$$

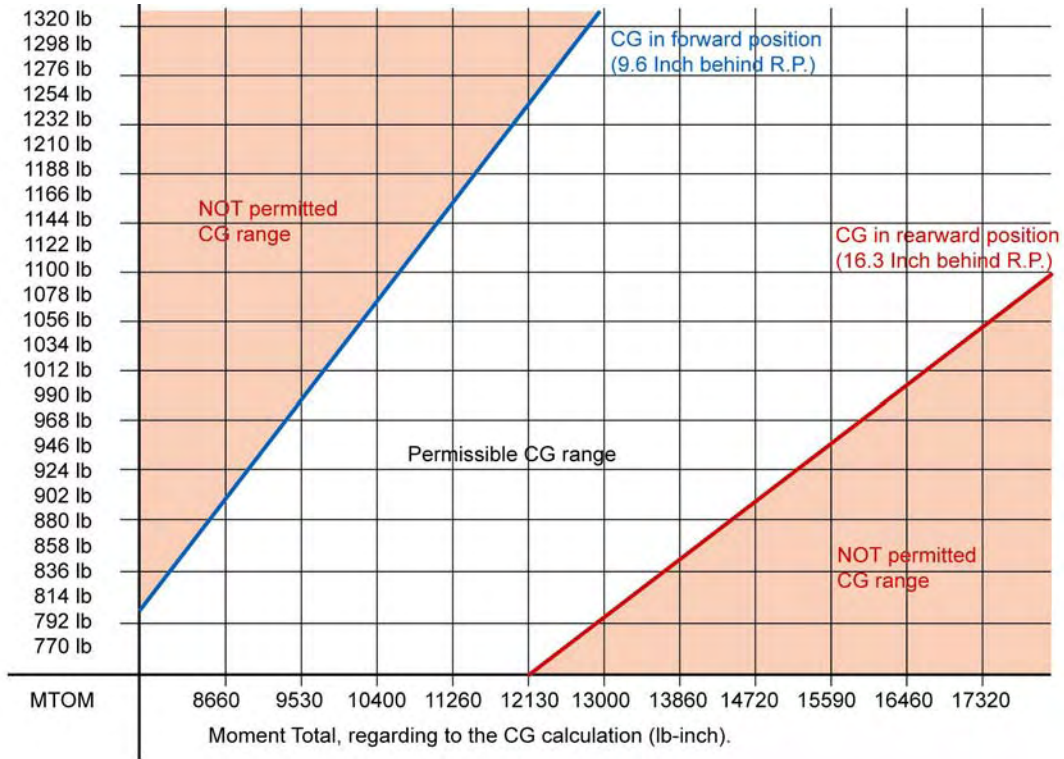
Calculation example to determine payload

In the example below the max take-off weight is 1,320 lb at an empty weight of 670 lb.

- | | |
|--|---|
| <p>A. Fuel quantity 10 gallons = 60 lb
 Permissible payload: = 590 lb</p> | <p>B. Fuel quantity 20 gallons = 120 lb
 Permissible payload: = 530 lb</p> |
|--|---|

4 Weight and Balance Information

4.6 CG-Diagram



4 Weight and Balance Information

4.7 Aircraft Specific Weights

Below the aircraft specific data shall be notified. Pilots must use this information to ensure a correct weight and balance calculation prior to every flight. This is essential for a safe conduction of each flight.

Empty Weight: lb

Maximum Take-Off Weight: lb

Maximum Payload: lb

Center of Grafity „CG“: Inches behind R.P.