

Weight & Balance

The **W&B** panel allows you to prepare a weight and balance sheet for a flight.

Real time news		WEIGHT AND BALANCE COMPUTATION		Reg.: A-BCEB	
C56X - Cessna Citation Excel					
Date: 02-Jan-2023	Flight No.: MAN023A	Route: EPWA - EDOM	PAX: 3		

AIRCRAFT STATIONS				CALCULATIONS			
Station name	Weight	Max	Arms	Moment	Weight	Max	Moment
	[kg]	[kg]	[in]	[kg*in]	[kg]	[kg]	[kg*in]
Crew	276	400	135.32	3738.96	EMPTY AIRCRAFT	12 276	41 796.16
Crew baggage	60	700	431.00	2586.00	Crew & Passes	0.00	0.00
Cat Chair Case	0	15	158.20	0.00	MAX OPERATING WEIGHT	12 888	43 721.95
Bin Chair Case	0	15	158.20	0.00	Payload	776	2 392.46
Refueling of Cabin / Catering	30	113	172.30	86.13	ZERO FUEL WEIGHT	13 664	15 300
Bin FWD Closed	15	78	109.70	25.40	Wing fuel	0.000	0.000
WTF Closed	15	68	174.30	16.13	Wing FUEL WEIGHT	19 664	20 600
Crew & Passes:	314			908.10	Tail fuel	220	477.30
Seat 3	212	340	234.39	496.95	TAKE-OFF WEIGHT	19 884	20 080
Seat 4	212	340	234.39	496.95	Wing FUEL	0.000	0.000
Seat 5	172	340	236.54	402.65	LANDING WEIGHT	19 464	19 700
Seat 6	0	340	236.54	0.00	Remaining fuel	2 800.0	
Seat 7	0	340	232.62	0.00			
Seat 8	0	340	232.62	0.00			
Seat 10 Fwd	0	340	186.60	0.00			
Seat 10 Aft	0	340	234.63	0.00			
Wt AB MTG	0	340	357.00	0.00			
WTF Baggage	100	700	431.00	775.00			
Payload:	776			2 392.46			

LMC			
Weight	Max	Moment	LMC

Take off after LMC:

The graph plots Weight (kg) on the Y-axis (9,000 to 22,000) against Aircraft CG (%MAC) on the X-axis (13 to 31). A takeoff envelope is defined by a diagonal line from (15, 11,500) to (29.15, 19,884) and a vertical line at 29.15% MAC. The current weight of 19,884 kg is marked on the Y-axis, and the current CG of 23.00% is marked on the X-axis. The graph indicates that the aircraft is within the takeoff envelope.

Example of a W&B sheet (PDF) prepared in Leon

Sections

The form is split into sections, in which you can edit the weight of each station taken into account during the W&B calculations:

- **Configuration** - allows selecting aircraft configuration other than the default (if available)
- **MTOW** - shows aircraft's MTOW
- **Crew & Pantry** - the place where you can edit weights for crew & pantry stations
- **Passengers** - in this section, you can edit PAX weights on the flight
- **Baggage** - the weight of the luggage (and/or cargo, mail, etc.) on the flight
- **Fuel** - the weight of fuel planned as a block, taxi and trip fuel

Calculation result

RESULT 	PREVIEW 	
	% MAC	Weight
EMPTY AIRCRAFT	37.9	12373.8
CREW & PANTRY	0	514
DRY OPERATING WEIGHT	30	12887.8
PAYLOAD	0	776
ZERO FUEL WEIGHT	27.6	13663.8
		REMAINS 1436
BLOCK FUEL	0	6000
RAMP WEIGHT	27.3	19663.8
		REMAINS 736
TAXI FUEL	0	200
TAKE-OFF WEIGHT	27.3	19463.8
		REMAINS 736
TRIP FUEL	0	3000
LANDING WEIGHT	27.1	16463.8
		REMAINS 2236

W&B calculation result - all weights and CG are within the limits

This section shows the result of W&B calculations - the position of the CG and aircraft weights versus structural limits.

For each structural weight limit, the difference between the structural limit and the actual weight will be shown. Weights within the structural limits and with CG within the envelope are green, while weights beyond structural limits or with CG beyond the envelope are red. There is also a green tick or a red triangle to indicate if the W&B results are correct.

Next to the **Result** section, there is a 'Preview' button, which opens a PDF file with a W&B sheet.

Activating W&B module

Weight & Balance functionality is optional and involves an additional charge per tail. Some aircraft types are not supported.

In order to set up Weight and Balance for an aircraft, contact us via [Customer Portal](#), letting us know the details or sending us the documents containing them, as follows:

1. Aircraft type
2. Aircraft registration
3. Aircraft S/N
4. Units of measurement to be used
5. CG envelope geometry (CG limitations)
6. Aircraft configuration (an arm of each station of the aircraft)
7. Maximum and default weights for each station
8. Position of the CG depending on the weight of the fuel on board
9. Actual and up-to-date basic empty weight and moment (or weight and arm) - aeroplane weighing form

It is recommended to provide:

1. Aircraft operating manual - chapter 'Weight and Balance'
2. Aircraft operating manual - chapter 'Limitations'

3. Aircraft Weight and Balance manual
4. The most recent aeroplane weighing form

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