

6.1 GENERAL

This section describes the procedure for establishing the basic weight and moment of the aircraft. Sample forms are provided for reference. Procedures for calculating the weight and moment for various operations are also provided. A comprehensive list of all equipment available for this aircraft is included. It is the responsibility of the pilot to ensure that the aircraft is loaded properly.

6.2 AIRCRAFT WEIGHING PROCEDURE

The aircraft weight is determined by weighing all three wheel loads simultaneously by three scales with the aircraft levelled.
(Upper fuselage reference line horizontal)

Datum line for weight arms x is the fire wall.

X_1 = distance: fire wall - main wheel

X_2 = distance: fire wall - tail wheel

X_N = distance: fire wall - item N

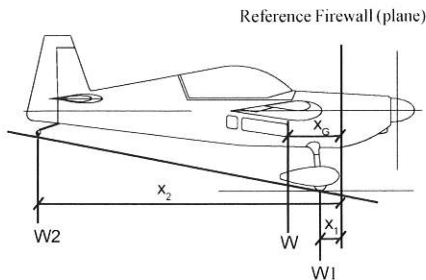
X_G = distance: fire wall - Center of Gravity

W_1 = Sum of weights indicated by the two scales below the main wheels

W_2 = Weight indicated by the scale below the tail wheel

W = Total weight = $W_1 + W_2$

$X_G = \frac{(W_1 \times X_1) + (W_2 \times X_2)}{W}$ = C.G. position



$$W = W_1 + W_2, \quad X_G = \frac{(W_1 \times X_1) + (W_2 \times X_2)}{W}$$

If a new weight is added to the known old weight and C.G. position the resulting new weight and C.G. can be obtained by a simple calculation:

Situation before adding item:

W_o, X_o = Airplane weight, C.G. position
W_n, X_n = Weight, distance from fire wall of item to add

New Weight of airplane and new C.G.:

$$W = W_o + W_n$$

$$XG = \frac{W_o \times X_o + W_n \times X_n}{W} : \text{C.G. position}$$

6.2.1 OWNERS WEIGHT AND BALANCE RECORD

Enter below all weight change data from aircraft log book.

EXTRA 200		SERIAL NUMBER: 004			REGISTRATION: AB-MAS	
Date	Description of modification	Weight change Added (+), Removed (-)			Running empty weight	
		Wt./kg [lbs]	Arm/cm [inch]	Moment/kg*cm [lbs*inch]	Wt./kg [lbs]	Moment/kg*cm [lbs*inch]
11/96	Empty weight as delivered	—	—	—	557	33541.5
01/22	PERIODIC CHECK + ANNUAL MAINT	-	-	-	584	43062.5

AELO WTS 21-230

HB-MAS - Avionic Modification - Equipment Changes List

Removed items:

Description	P/N	Weight (Kg)	Arm (m)	Moment (mKg)
Altitude Encoder AT3000	0900-4099-01	0.2	1.26	0.2520
ELT ACK	E-01	1.6	2.6	4.1600
VHF Radio Becker	AR4201	0.7	1.46	1.0220
Transponder Becker	ATC4401-1-175	0.75	1.45	1.0875
St-by Altimeter	LA-71-11	0.3	1.5	0.4500
Battery	BC100	11.29	-0.11	-1.2419
	Total (-)	14.8	0.39	5.7296

Installed items:

Description	P/N	Weight (Kg)	Arm (m)	Moment (mKg)
ELT ACK	E-04	0.7	2.6	1.8200
VHF Radio Becker	AR6201-(022)	0.7	1.46	1.0220
Transponder Becker	BXP6402	0.8	1.45	1.1600
Encoder	BE6400-01-(01)	0.1	1.3	0.1300
St-by Altimeter	5934PD-3A.130	0.4	1.5	0.6000
Battery	A512/25G	9.65	-0.11	-1.0615
	Total (+)	12.4	0.30	3.6705

Gordola, 01/02/2022



M.Saviani B1/B2 Lic.CH.66.002219

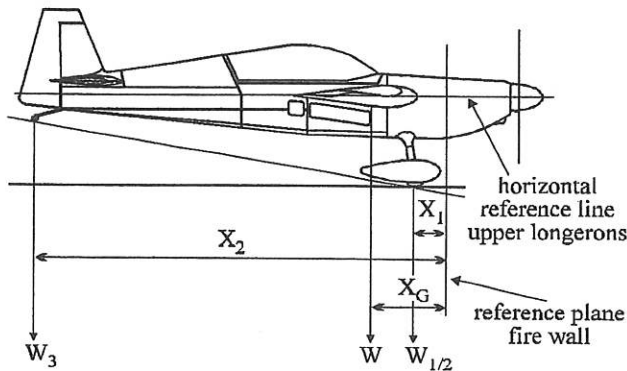
AeLo Maintenance CH.145.0394

Ref. WR 21-290

Empty Weight and Center of Gravity Position EXTRA 200

Data according to "TC Data-Sheet" and "Pilot's Operating Handbook and LBA approved Airplane Flight Manual" Doc.-No.: EA - 07701

Equipment according to Equipment List dated: 25.01.2022



Legend:

- X_1 = Arm: fire wall - main wheels
- X_2 = Arm: fire wall - tail wheel
- X_G = Arm: fire wall - Center of Gravity
- W_1 = Net weight main wheel LH
- W_2 = Net weight main wheel RH
- W_3 = Net weight tail wheel
- W = Empty weight

$$X_G = \frac{W_1 \cdot X_1 + W_2 \cdot X_1 + W_3 \cdot X_2}{W}$$

$$W = W_1 + W_2 + W_3$$

Item	Weight	Arm	Moment
Main wheel LH	(W_1) <u>2745</u> kg	(X_1) <u>40</u> cm	<u>10,980</u> kgcm
Main wheel RH	(W_2) <u>268,0</u> kg	(X_1) <u>40</u> cm	<u>10,720</u> kgcm
Tail wheel	(W_3) <u>42,5</u> kg	(X_2) <u>507,5</u> cm	<u>21,356,25</u> kgcm
Empty weight	(W) <u>584</u> kg	Total moment	<u>43056,25</u> kgcm

$\frac{\text{Total moment}}{\text{Empty weight}} = X_G$

Empty weight is (W) 584 kg*
 W_{\min} : 545kg
 W_{\max} : 606kg (acro II)
 W_{\max} : 591kg (acro I)
 W_{\max} : 646kg (Normal Cat.)

Center of Gravity is (X_G) 73,23 cm aft fire wall.

Weighing performed by: AEL MAINTENANCE SA CH. 145 2384

Aircraft Inspector: R. FOWETO Sign: 25.01.2022

* If value exceeds the given tolerances, contact the manufacturer.