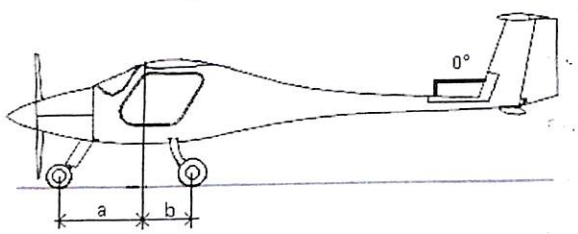
PIPISTREL DOA No.: EASA.21J.524P	**Alpha LSA 162-N** - **Weight & Balance** **Aircraft dimensions** **Controls deflections**	Document-No: **WBR-162-08-10-001** Issue: **A03** Page 1 of 2

Aircraft Information	
Serial N. 929 AT 912 LSA	Customer:

Weight & Balance



a =	1000	mm	Leading Edge – Nose Wheel
b_L =	482	mm	Leading Edge – Left Wheel
b_R =	488	mm	Leading Edge – Right Wheel
b =	485	mm	b = (b_L + b_R) / 2

Procedure:

1) Check: tires pressure, doors closed, flaps 0°.

2) Turn on the scales and tare

3) Position the aircraft on the scales and level it → tail tool at 0°

4) Measure:
   Distance between Nose wheel and leading edge= **a**
   Distance between Left wheel and leading edge = b_L
   Distance between Right wheel and leading edge= b_R

5) Compute average main undercarriage distance **b = (b_L+b_R) / 2**

6) Remove the tail tool and read the scales

G_L=	128,8	Kg	Left Wheel
G_R=	132,3	Kg	Right Wheel
G1=	261,1	Kg	Main Gear (G_L + G_R)
G2=	51,0	Kg	Front Wheel

(G1 + G2) = G_{TOT} = 312,1 Kg
Total Aircraft Empty Weight Kg

Includes the weight of the airframe, powerplant, required equipment, optional or special equipment if listed, fixed ballast, hydraulic fluid, coolant, engine oil and unusable fuel.

Summary (Weights)

Max Take ff Weight MTOW	= 550 Kg	
Aircraft Empty Weight G_{TOT}	= 312,1 Kg	
Full fuel weight G_F	= 38 Kg	100lt = 75 Kg ; 60lt = 45 Kg ; 50lt = 38 Kg
Max payload with full fuel G_{PL}	= 199,9 Kg	G_{PL} = MTOW – G_{TOT} – G_F

Balance

MAC=	900 mm	Mean Aerodynamic Chord
R=	40 mm	Wing Root Leading Edge to MAC Leading Edge distance

$$CG_{mm} = \frac{G1*b - G2*a}{G_{TOT}} = \frac{(261,1)*(485) - (51,0)*(1000)}{(312,1)} = 242mm$$

$$CG_{\%MAC} = \frac{CG_{mm} - R_{mm}}{MAC_{mm}} = \frac{242-40}{900} * 100 = 22,4\% MAC$$

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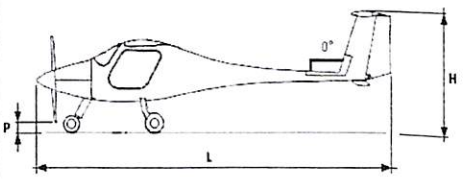
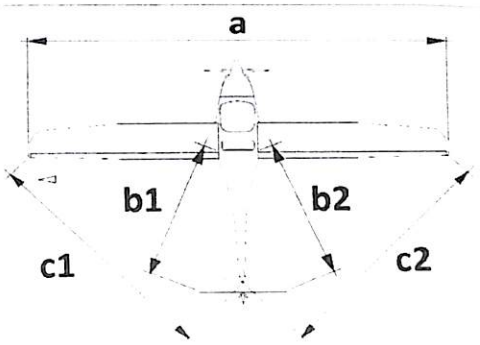
Aircraft Measurements

	Measured		Design	
Length of aircraft **L** (*depends of the propeller type)	= 640	cm	640-646	cm
Height of aircraft **H**	= 204	cm	204-206	cm
Diameter of propeller	= 1660	mm	*Depend of the propeller type	
Prop clearance **P**	= 210	mm		
Outer wheel span distance	= 159	cm	158-159	cm
Wingtip to ground clearance R	= 169	cm		
Wingtip to ground clearance L	= 168	cm		



Procedure:
1) Meausure distance between L wingtip and R wingtip **a**
2) Meausure distance between stab. tip and L wing root trailing edge **b1**
3) Meausure distance between stab. tip and R wing root trailing edge **b2**
4) Compute the difference **b1-b2**
5) Meausure distances between L wingtip and stabilizer ref.point **c1**
6) Meausure distances between R wingtip and stabilizer ref.point **c2**
7) Compute the difference **c1-c2**



	Measured		Design	
Wingspan a	= 10500	mm	10500	mm
Difference (B1 - B2)	= 11	mm	Max 20	mm
Difference (C1 - C2)	= 12	mm	Max 20	mm

Control Deflections (mm)

	Up		Down	
	Measured	**Design**	**Measured**	**Design**
Aileron left (at flaps 0°)	37	36.5-47.6 mm	31	22.5-33.7 mm
Aileron right (at flaps 0°)	37	36.5-47.6 mm	30	22.5-33.7 mm
Right Flaps stage 1 (15°)	/	/	43	36.5-47.6 mm
Left Flaps stage 1 (15°)	/	/	43	36.5-47.6 mm
Right Flaps stage 2 (25°)	/	/	72	66.9-72.4 mm
Left Flaps stage 2 (25°)	/	/	72	66.9-72.4 mm
Elevator	97,4	92-102 mm	58,7	54-64 mm
Rudder	**Left**		**Right**	
	209,6	198-218 mm	209,6	198-218 mm

I declare the information on this document to be correct

Measured by	Elis Filipič	Date	18. October 2018
Production Manager	Peter Boscarol	Signature	Boscarol

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