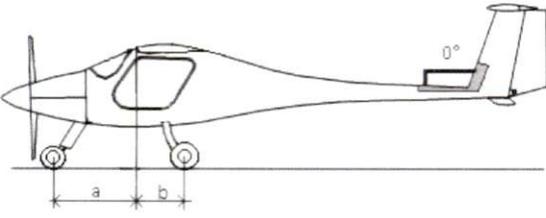


 DOA No.: EASA.21J.524P	Alpha Trainer 161-N - Weight & Balance Aircraft dimensions Controls deflections	Document-No: WBR-161-08-10-001 Issue: A03 Page 1 of 2
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Aircraft Information	
Serial N. <i>1125 AT 512</i>	Customer: <i>Flight Team UG</i>

Weight & Balance												
	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) <u>Remove the tail tool</u> and read the scales											
	<table border="1"> <tr> <td>a =</td> <td><i>1031</i> mm</td> <td>Leading Edge – Nose Wheel</td> </tr> <tr> <td>b_L =</td> <td><i>484</i> mm</td> <td>Leading Edge – Left Wheel</td> </tr> <tr> <td>b_R =</td> <td><i>487</i> mm</td> <td>Leading Edge – Right Wheel</td> </tr> <tr> <td>b =</td> <td><i>485,5</i> mm</td> <td>b = (b_L + b_R) / 2</td> </tr> </table>	a =	<i>1031</i> mm	Leading Edge – Nose Wheel	b _L =	<i>484</i> mm	Leading Edge – Left Wheel	b _R =	<i>487</i> mm	Leading Edge – Right Wheel	b =	<i>485,5</i> mm
a =	<i>1031</i> mm	Leading Edge – Nose Wheel										
b _L =	<i>484</i> mm	Leading Edge – Left Wheel										
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b =	<i>485,5</i> mm	b = (b _L + b _R) / 2										

G _L =	<i>124,5</i> Kg	Left Wheel	(G ₁ + G ₂) = G _{TOT} = <i>300,3</i> 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.
G _R =	<i>131,1</i> Kg	Right Wheel	
G ₁ =	<i>255,6</i> Kg	Main Gear (G _L + G _R)	
G ₂ =	<i>44,7</i> Kg	Front Wheel	

Summary (Weights)

Max Take off Weight MTOW	= 472,5 Kg	
Aircraft Empty Weight G _{TOT}	= <i>300,3</i> Kg	
Full fuel weight G _F	= 38 Kg	50lt
Max payload with full fuel G_{PL}	= <i>134,2</i> 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
$CG_{mm} = \frac{G_1 * b - G_2 * a}{G_{TOT}} = \frac{(255,6) * (485,5) - (44,7) * (1031)}{(300,3)} = 259,8 \text{ mm}$		
$CG_{\%MAC} = \frac{CG_{mm} - R_{mm}}{MAC_{mm}} = \frac{259,8 - 40}{900} * 100 = 24,4 \text{ \% MAC}$		

Prepared: P.Romagnoli	Verified: T.Tomazic	Approved: V. Plevnik	Date of Issue: 08/01/14	Replaces issue: A02
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