



Pipistrel ALPHA Trainer

Weight & Balance - control deflections & aircraft measurements

Serial No. 479 AT 912 Customer. _____ Date. 11.7.2012

Weight & Balance Information	
	G2 = nose wheel
	GL = left wheel
	GR = right wheel
	G1 (main gear) GL + GR
	G total = G front (G2) + G back (GL + GR)
	a = distance from nose wheel axis to wing's leading edge = 1020mm
	b = dis. from main wheel axis to wing's leading edge = 505mm
	c = {a+b} sum up both distances above = 1525 mm
	X = distance from wing's leading edge to CG
	Front CG position: 235 mm measured from wing's leading edge, equals 20% MAC
Back CG position: 382 mm measured from wing's leading edge, equals 38% MAC	
wing's initial chord = 950 mm	
R = 43 mm = difference between wing's leading edge and MAC	
MAC = 897 mm	

GL = Left Wheel Weight	<u>115</u>	Kg	G1 <u>240,2</u> Kg	G Total Aircraft Empty Weight <u>286,2</u> Kg
GR = Right Wheel Weight	<u>125,2</u>	Kg		
G2 = Front Wheel Weight	<u>46</u>	Kg	/	


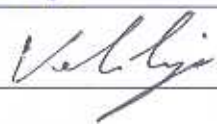
$$X = \frac{G1 \text{ back} \cdot c}{G \text{ total}} - a \quad X = \frac{240,2 \cdot 1525}{286,2} - 1020 = \underline{260} \text{ mm}$$

$$\% \text{ MAC} = \frac{X - R}{\text{MAC}} \cdot 100 = \frac{(260 - 43 \text{ mm})}{897 \text{ mm}} \cdot 100 = \underline{24} \%$$

Aircraft Measurements				
		Design		Measured
	Length of aircraft d=	650	cm	<u>641</u>
	Height of aircraft v=	185	cm	<u>207</u>
	Diameter of propeller=	160	cm	<u>166</u>
	Prop axis to ground dist v1=	102	cm	<u>104</u>
	Dist between front & back wheel axis=	152,5	cm	<u>152</u>
	Outer wheel span distance=	168	cm	<u>158</u>
	Wingtip to ground clearance=	right	cm	<u>168</u>
		Design		Measured
	Wingspan a=	1050	cm	<u>1050</u>
	b1=	380	cm	<u>420</u>
	b2=	380	cm	<u>380</u>
	c1=	622	cm	<u>623</u>
	c2=	622	cm	<u>623,380</u>

Control Deflections (mm)				
	Up		Down	
	Design	Actual	Design	Actual
Aileron left (at flaps 0°)	36,5-47,6 mm	45	22,5-33,7 mm	31
Aileron right (at flaps 0°)	36,5-47,6 mm	45	22,5-33,7 mm	33,7
Right Flaps stage 1 (15°)	/	/	36,5-47,6 mm	42
Left Flaps stage 1 (15°)	/	/	36,5-47,6 mm	42
Right Flaps stage 2 (25°)	/	/	66,9-72,4 mm	70
Left Flaps stage 2 (25°)	/	/	66,9-72,4 mm	70
Elevator	92-102 mm	97	54-64 mm	59
Rudder	Left		Right	
	198-218 mm	210	198-218 mm	210

I certify the information on this document to be correct.

Measured by	Fras	Signature	
Production Manager		Date	12.7.2012

