



**Weight and Balance**

**DA20-C1 Flight Manual**

Model: DA20-C1 Serial Number C0527 Registration F-HGEO

Data with reference to the Type Certificate Data Sheet and the Flight Manual

Reference Datum: Leading edge of wing at root rib.

Horizontal reference line: Wedge 1000:55.84, 2000mm (78.7 in) aft of the step in the fuselage at the canopy edge.

Equipment list - dated 19/12/2014 Cause for Weighing Calendar time limits 60 months

Weight and Balance Calculations

Weight Condition:

Include brake fluid, engine oil and Unusable fuel (Type 2 system, 2 liters unusable, 3.18 lbs/1.44 Kg)

Finding Empty Weight:

Finding Arm: (Measured)

Support	Gross ([kg]) (lbs)	Tare ([kg]) (lbs)	Net Weight ([kg]) (lbs)	Lever Arm ([m]) (in)
Front G <sub>1</sub>	<b>119 kg</b>	<b>0</b>	<b>119 Kg</b>	X <sup>1</sup> = <b>110,9 kg</b>
Rear G <sub>2LH</sub>	<b>216 kg</b>	<b>0</b>	<b>216 kg</b>	X <sub>2LH</sub> = <b>57,7 kg</b>
Rear G <sub>2RH</sub>	<b>219 kg</b>	<b>0</b>	<b>219 kg</b>	X <sub>2RH</sub> = <b>58,0 kg</b>
EMPTY WEIGHT (G)			<b>554 kg</b>	

Finding Empty - Center of Gravity (X<sub>CG</sub>)

Empty Weight CG Formula:

$$X_{CG} = \frac{(G_1 \times X_1) + (G_{2LH} \times X_{2LH}) + (G_{2RH} \times X_{2RH})}{G_1 + G_{2LH} + G_{2RH}} = 21,6$$

Finding Empty - Weight Moment

Empty-weight Moment: M = Empty Weight (G) x Empty-weight CG  
(Positive results indicate, that CG is located aft of RD)

11966,4 kg.m

Finding the Maximum Permitted Useful Load:

Maximum Weight [kg] (lbs)	800 kg/1764 lbs	
Empty Weight [kg] (lbs)	554 kg	
Maximum useful Load [kg] (lbs)	<del>246</del> 246 kg 246 kg	
Empty Weight (G): ([kg]) (lbs)	554 kg	Empty-weight Moment (M): ([kg.m]) (in.lbs)
Place/Date Avignon, le 19/12/2014	Authorizing Stamp 	Authorizing Signature 
		11966,4 kg.m

**Figure 6.3 - Weighing Report**



**Aircraft Specific Equipment Record**

Item No.	Equipment List Description	Part/Model No.	Serial No.	Installd	Rmvd	Weight		Arm	
						lbs	kg	in	m
<b>Avionics</b>									
23-001	GPS Antenna	Garmin GA56		X		0.4	0.1	+64.0	+1.63
	Marker Beacon Antenna	CI 102	247229	X		0.5	0.2	+13.6	+0.35
	CDI - Garmin	GI106A	E08-11267	X		1.4	0.63	-17.4	-0.44
	GPS Nav/Com	Garmin GNS 530				8.5	3.8	-20.5	-0.52
23-004	VHF Comm Antenna	Comant CI 122		X		0.5	0.2	+43.5	+1.11
25-001	Emergency Locator Transmitter	EBC 502				2.8	1.3	+44.8	+1.14
	Emergency Locator Transmitter	Artex ME406 455-6614	16149	X		3.7	1.68	+40.3	+1.02
34-010	Transponder Antenna	KA60		X		0.2	0.1	+54.1	+1.37
34-002	Encoder	SSD 120-30A	A72121	X		0.6	0.3	-22.5	-0.57
	Chronometer	Davtron M803	11909	X		0.3	0.1	-15.5	-0.39
	Comm	ICOM-A200-100				2.4	1.1	-20.5	-0.52
	Audio Panel	GMA 340	96285013	X		1.0	0.45	-20.5	-0.52
34-006	Digital Transponder	Garmin GTX 327				2.2	1.0	-20.5	-0.52
	Digital Transponder with TIS	Garmin GTX 330	84131623	X		4.2	1.9	-20.5	-0.52
	GPS Nav/Com	Garmin GNS 430	97142401	X		6.5	3.0	-20.5	-0.52
	GPS Com	GNC 420				5.8	2.64	-20.5	-0.52
	VHF Com	Garmin AT SL40	25808444	X		2.1	0.95	-20.5	-0.52
	Traffic Advisory System (TAS)	Avidyne/Ryan TAS600				6.8	3.1	+55.5	+1.41
34-008	GPS	Bendix/King KLN 35A				2.1	1.0	-20.5	-0.52
	Autopilot Turn Coordinator/Roll Comp	S-TEC 01260-30-14				2.2	1.0	-16.4	-0.42
	Autopilot Pitch Computer	S-TEC 01261-54-14				1.1	0.5	-27.4	-0.68
	Autopilot Roll Servo	S-TEC 0105-R9				2.9	1.3	+43.5	+1.11
	Autopilot Pitch Servo	S-TEC 0107-P-4				2.9	1.3	+43.5	+1.11

**Instruments**

34-011	Altimeter	United 5934PD3	470503	X		0.9	0.4	-16.4	-0.42
34-012	Compass	Airpath C2300L4		X		0.8	0.3	-15.0	-0.38
34-013	Turn Coordinator	EGC 1394T100-7Z	G08-11797	X		1.4	0.6	-16.4	-0.42
24-001	Ammeter	VDO 190-031SB		X		0.2	0.1	-16.4	-0.42
78-001	EGT Indicator	22-7720-00-02		X		0.3	0.1	-15.5	-0.39
73-001	Fuel Pressure Indicator	22-7330-02-00		X		0.3	0.1	-15.5	-0.39
77-001	Cylinder Head Temp. Indicator	22-7720-02-00		X		0.3	0.1	-16.4	-0.42
28-001	Fuel Quantity Indicator	22-2840-00-00		X		0.2	0.1	-16.4	-0.42
79-001	Oil Pressure Indicator	22-7930-00-03		X		0.3	0.1	-16.4	-0.42
79-002	Oil Temperature Indicator	22-7930-00-01		X		0.3	0.1	-16.4	-0.42
34-014	Airspeed Indicator	United 8000B80014-21	201466	X		0.7	0.3	-16.4	-0.42
34-015	Vertical Speed Indicator	United 7000	322600	X		0.8	0.4	-16.4	-0.42
	RPM Lit Indicator - Recording	SL 1010-5503-13-H05	0705	X		0.7	0.3	-16.4	-0.42
31-001	Hour Meter	Hobbs 85000		X		0.5	0.2	-15.5	-0.39
34-016	Artificial Horizon, Sigma Tek	23-501-06-16	T95047N	X		2.0	0.9	-16.4	-0.42
34-018	Directional Gyro, Sigma Tek	1U262-001-39	T75962Q	X		2.6	1.2	-16.4	-0.42
34-020	Vacuum Gauge	Varga 5001		X		0.3	0.1	-16.4	-0.42

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Original

**Aircraft Specific Equipment Record**

**Optional**

32-001	Wheel Fairing, Main Gear	RH 22-3210-06-00		X		2.7	1.2	+27.6	+0.70
		LH 22-3210-05-00		X		2.7	1.2	+27.6	+0.70
	Wheel Fairing, Nose Gear	20-3220-13-00		X		2.7	1.2	-44.8	-1.14
25-002	Seat Cushion, Sheepskin, 2 pieces	Sheepskin				5.6	2.6	+12.0	+0.31
25-002	Seat Cushion, Leather, 2 pieces	Leather		X		5.6	2.6	+12.0	+0.31
25-004	Fire Extinguisher	AMEREX A620		X		2.3	1.0	+32.3	+0.90
61-002	Propeller and Spinner, Sensenich	W69EK7-63				12.7	5.8	-60.8	-1.54
61-002	Propeller and Spinner, Sensenich	W69EK7-63G				12.7	5.8	-60.8	-1.54
61-002	Propeller and Spinner, Sensenich	W69EK7-63GT				12.7	5.8	-60.8	-1.54
24-002	EPU Kit, Diamond	1100500-WIP		X		2.6	1.2	-23.60	-61.36
	Cooling Fan 14 Volt	Cyclone-21		X		0.8	0.36	-23.62	-17.72
	Battery B & C	SB # DAC1-24-05				24.0	10.9	+56.0	+1.42
24-004	Battery, standard	Yuasa Y50N18L-A-CX		X		15.3	6.9	-35.0	-0.89
	Battery	Yuasa YTX24HL-BS				17.0	7.71	-34.3	-0.87
	Starter Vibrating Battery	LCR 12V 1.3P		X		1.3	0.60	-39.38	-1.0
71-001	Tanis Heater	TAS100-29				1.1	0.5	-45.5	-1.16
	Starter	BC 320-1		X		10.5	4.76	-32.0	-0.8
	Upper Glare Shield	20-3910-09-01		X		2.3	1.04	-20.5	-0.52
	Inertia Reels	504858-403-2251		X		4.5	2.0	+23.6	+0.60
	EFD1000 PFD STC No.SA10822SC	Aspen A-05-110-00				2.9	1.31	-16.14	-0.41
	Config Module STC No.SA10822SC	Aspen A-05-118-00				-	-	-16.14	-0.41
	RSM STC No. SA10822SC	Aspen A-05-111-00				0.2	0.09	+74.8	+1.9
61-00	Propeller and Spinner	HT 175 R 150-2a	11078	X					
<b>Place:</b>		<b>Date:</b>		<b>Authorizing Stamp</b>		<b>Authorizing Signature</b>			
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