Flight Planning

pilotenschule.ch

Date:	
Callsign:	HB-KMT
AC Type:	P2010

Time Referenz	
UTC=LT +/-	

Departure:	
OAT:	
Elevation:	
QNH hPa:	
Wind:	
RWY Length:	

EOBT:	
ETOT:	

Enroute	
OAT:	
Temp -> ISA:	
FL:	
Wind:	

ETE:	

Destination:	
OAT.:	
Elevation:	
QNH hPa:	
Wind:	
RWY Length:	

ETA:	

Flight Planning

Personenbezogene Dokumente		Check
Amtlicher Lichtbildausweis	persönlich	
Flugplatz Ausweis	persönlich	
Pilotenlizenz, gültiges Rating	persönlich	
Language Proficiency	persönlich	
Funkerzeugnis	persönlich	
Medizinisches Tauglichkeitszeugnis	persönlich	
Flugbuch – 90 Tage Regel beachten:	persönlich	

Luftfahrzeugbezogene Dokumente		Check
Eintragungsschein	Bordtasche	
Lufttüchtigkeitszeugnis	Bordtasche	
Nachprüfbescheinigung der Lufttüchtigkeit	Bordtasche	
Lärmschutzzeugnis	Bordtasche	
Versicherungsnachweis	Bordtasche	
Fernmeldebehördliche Bewilligung Funkstelle	Bordtasche	
Flughandbuch	Bordtasche	
Checklisten	griffbereit	
Bordbuch	Bordtasche	

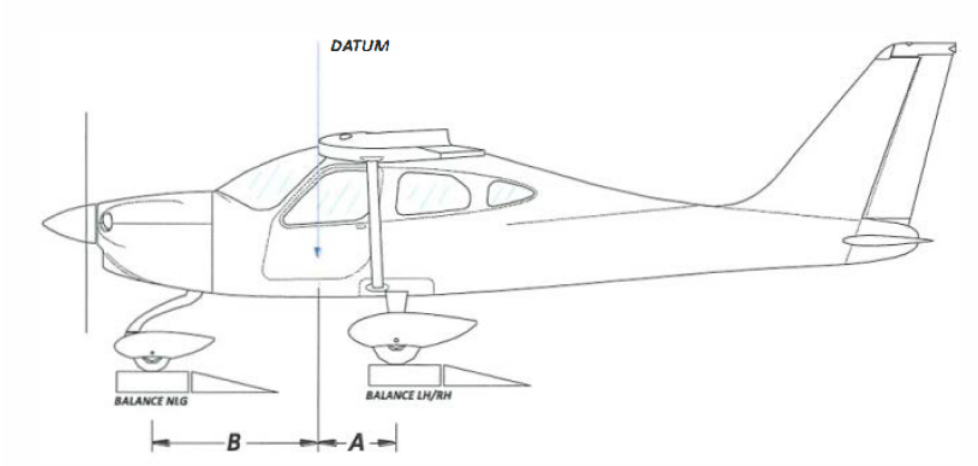
Flugbetriebliche Dokumente Flugvorbereitung		Check
NOTAMs / DABS für die geplante Flugroute	Papier	
Flugwetterberatung	Papier	
Flugplanung Route inkl. Karten, Anflugblätter usw.	Papier	
Flugplanung Alternate, Route inkl. Karten, Anflugbl.	Papier	
ATC-Flugplan (falls notwendig)	elektronisch	
Zollanmeldung (falls notwendig)	elektronisch	
Weight & Balance	Papier	
Performance	Papier	
Fuel Calculation	Papier	

Speeds

V_R	Rotate Speed	60 KIAS
V_X	Best Angle of Climb Speed	75 KIAS
V_Y	Best Rate of Climb Speed	82 KIAS
V_G	Best Glide Speed	84 KIAS
V_A	Manoeuvring Speed	120 KIAS
V_{FE}	Max Flap Extended Speed	91 KIAS @ Flaps T/O 91 KIAS @ Flaps LAND
V_{REF}	Landing Reference Speed	70 KIAS @ Flaps LAND 75 KIAS @ Flaps T/O 80 KIAS @ no Flaps
V_{NO}	Max Struct. Cruising Speed	132 KIAS
V_{NE}	Never Exceed Speed	166 KIAS
V_{S1}	Stalling Speed Clean	59 KIAS @ 1160kg
V_{S0}	Stalling Speed in LDG	50 KIAS @ 1160kg

Notes

Masse & Schwerpunkt



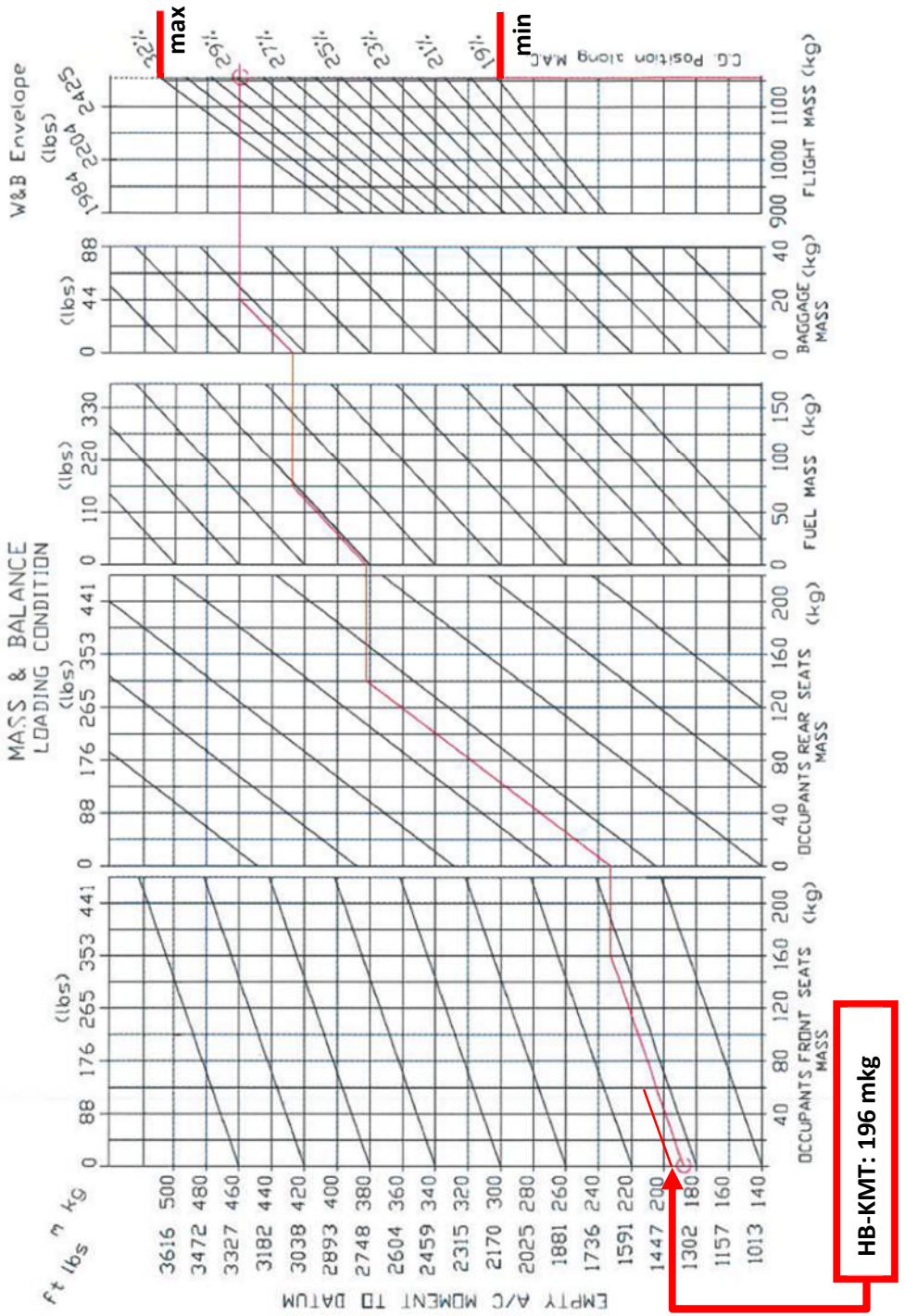
!!! Dimensions in mm !!!

AVGAS @ 0.75kg/l
MOGAS @ 0.72kg/l

	Masse (kg)	Distanz (m)	Moment (kg*m)
Empty Weight HB-KMT	**770**	**0.254**	**196**
Pilot + Front Passenger		**0.280**	
Rear Passenger		**1.057**	
Baggage (max 40kg)		**1.599**	
Zero Fuel Mass / Moment			
Usable Fuel on Board TO		**0.612**	
Total TO Mass / Moment			

Masse * Distanz = Moment

C.G. Range	Max FWD	Max AFT	In Limit
m	0.262 (19%)	0.440 (32%)	☐ **YES**
Weight	Max Weight		
kg	1160		☐ **YES**


MASS & BALANCE
LOADING CONDITION
W&B Envelope
max
min
CG Position along M.A.C
FLIGHT MASS (kg)
BAGGAGE MASS (kg)
FUEL MASS (kg)
OCCUPANTS REAR SEATS MASS (kg)
OCCUPANTS FRONT SEATS MASS (kg)
EMPTY A/C MOMENT TO DATUM
HB-KMT: 196 mkg

Performance

Take-off Distance

m

Note: To account for likely in service performance variations apply a factored to distances of 1.10

Weight = 1160 kg (2557 lb)

Flaps: T/O
Speed at Lift-Off = 60 KIAS
Speed Over 50ft Obstacle = 65 KIAS
Throttle and Propeller Lever: Full Forward
Runway: Paved

Corrections
Headwind: -10 m for each kn
Tailwind: +20 m for each kn
Grass Runway: +10% to Ground Roll
Runway slope: +10% to Ground Roll for each +1%

Pressure Altitude [ft]		Distance [m] (Distance [ft]) Temperature [°C] -25	0	25	50	ISA
S.L.	Ground Roll	234 (768)	295 (968)	364 (1194)	442 (1450)	**336 (1102)**
	At 50 ft AGL	421 (1381)	526 (1726)	644 (2113)	776 (2546)	**595 (1952)**
1000	Ground Roll	256 (840)	322 (1056)	397 (1302)	482 (1581)	**360 (1181)**
	At 50 ft AGL	458 (1503)	572 (1877)	701 (2300)	844 (2769)	**637 (2090)**
2000	Ground Roll	279 (915)	352 (1155)	434 (1424)	526 (1726)	**387 (1270)**
	At 50 ft AGL	499 (1637)	622 (2041)	762 (2500)	918 (3012)	**682 (2238)**
3000	Ground Roll	305 (1001)	384 (1260)	474 (1555)	575 (1886)	**415 (1362)**
	At 50 ft AGL	543 (1781)	678 (2224)	830 (2723)	1000 (3281)	**731 (2398)**
4000	Ground Roll	333 (1093)	420 (1378)	518 (1699)	628 (2060)	**446 (1463)**
	At 50 ft AGL	591 (1939)	738 (2421)	904 (2966)	1089 (3573)	**783 (2569)**
5000	Ground Roll	364 (1194)	459 (1506)	566 (1857)	687 (2254)	**480 (1575)**
	At 50 ft AGL	645 (2116)	805 (2641)	986 (3235)	1188 (3898)	**840 (2756)**
6000	Ground Roll	399 (1309)	502 (1647)	620 (2034)	752 (2467)	**516 (1693)**
	At 50 ft AGL	703 (2306)	878 (2881)	1075 (3527)	1296 (4252)	**901 (2956)**

Climb Performance – Take off Climb

ft/min

Note: To account for likely in service performance variations apply a factored to rate of climb of 0.90

Throttle Lever: Full Forward
Propeller: 2600 RPM
Flaps: Take-Off

Weight [kg] ([lb])	Pressure Altitude [ft]	Climb Speed V_y [KIAS]	Rate of Climb [ft/min] Temperature [°C] -25	0	25	50	ISA
1160 (2557)	S.L.	72	974	808	659	525	717
	2000	71	848	684	538	406	617
	4000	70	721	560	417	287	518
	6000	69	596	437	296	169	419
	8000	68	470	315	176	51	320
	10000	67	345	193	56	-67	221
	12000	67	221	71	-63	-184	122
	14000	66	96	-51	-182	-300	23
1060 (2337)	S.L.	70	1118	943	787	647	848
	2000	69	985	813	660	522	744
	4000	69	853	684	533	397	640
	6000	68	721	555	406	273	536
	8000	68	589	426	280	149	431
	10000	67	458	298	155	26	327
	12000	66	327	170	29	-97	223
	14000	66	197	43	-95	-220	119
960 (2116)	S.L.	69	1288	1103	937	787	1001
	2000	69	1147	964	801	654	890
	4000	68	1006	827	666	522	780
	6000	68	866	689	532	390	669
	8000	67	726	553	398	258	558
	10000	66	586	416	264	127	448
	12000	66	447	280	131	-3	337
	14000	65	309	145	-2	-134	226

Cruise Performance

KTAS	ltr/hr

Weight: 1160 kg
Mixture: FULL RICH
Pressure Altitude 3000 ft

Corrections
Best Power: -10% to Full Rich F.
Best Economy: -20% to Full Rich F.C.

EGT 1450°F

RPM	MAP [inHg]	ISA – 30°C (-21°C) PWR [%MCP]	TAS [kn]	F.C. [gal/h] ([L/h])	ISA (9°C) PWR [%MCP]	TAS [kn]	F.C. [gal/h] ([L/h])	ISA + 30°C (39°C) PWR [%MCP]	TAS [kn]	F.C. [gal/h] ([L/h])
2450	26.8	94	132	16.6 (62.8)	89	132	15.9 (60.2)	84	133	15.3 (57.9)
2450	26	90	129	16.1 (60.9)	85	129	15.4 (58.3)	81	130	14.8 (56)
2450	24	80	123	14.7 (55.6)	75	123	14.2 (53.8)	72	124	13.7 (51.9)
2450	22	70	116	13.5 (51.1)	66	116	12.9 (48.8)	63	117	12.5 (47.3)
2450	20	60	108	12.1 (45.8)	57	108	11.6 (43.9)	54	107	11.3 (42.8)
2450	18	50	97	10.7 (40.5)	47	97	10.4 (39.4)	45	95	10.1 (38.2)
2350	26.8	90	130	16.1 (60.9)	85	131	15.5 (58.7)	81	131	14.9 (56.4)
2350	26	86	127	15.6 (59.1)	81	128	15 (56.8)	77	129	14.4 (54.5)
2350	24	77	121	14.3 (54.1)	72	122	13.8 (52.2)	69	122	13.3 (50.3)
2350	22	67	114	13.1 (49.6)	64	114	12.6 (47.7)	60	114	12.2 (46.2)
2350	20	57	105	11.7 (44.3)	54	105	11.3 (42.8)	51	103	11 (41.6)
2350	18.5	50	98	10.7 (40.5)	47	95	10.4 (39.4)	45	92	10.1 (38.2)

Weight: 1160 kg
Mixture: FULL RICH
Pressure Altitude 6000 ft

Corrections
Best Power: -10% to Full Rich F.C
Best Economy: -20% to Full Rich F.C.

EGT 1450°F

RPM	MAP [inHg]	ISA – 30°C (-27°C) PWR [%MCP]	TAS [kn]	F.C. [gal/h] ([L/h])	ISA (3°C) PWR [%MCP]	TAS [kn]	F.C. [gal/h] ([L/h])	ISA + 30°C (33°C) PWR [%MCP]	TAS [kn]	F.C. [gal/h] ([L/h])
2450	23.9	85	129	15.4 (58.3)	80	130	14.8 (56)	76	131	14.2 (53.8)
2450	23	80	126	14.8 (56)	75	127	14.2 (53.8)	72	127	13.7 (51.9)
2450	22	75	123	14.1 (53.4)	71	123	13.6 (51.5)	67	123	13.1 (49.6)
2450	20	64	114	12.7 (48.1)	61	114	12.2 (46.2)	58	113	11.8 (44.7)
2450	19	59	110	12 (45.4)	56	109	11.6 (43.9)	53	107	11.2 (42.4)
2450	18	54	104	11.3 (42.8)	51	102	10.9 (41.3)	49	99	10.6 (40.1)
2350	23.9	81	127	15 (56.8)	77	128	14.4 (54.5)	73	128	13.8 (52.2)
2350	23	77	124	14.3 (54.1)	73	124	13.8 (52.2)	69	124	13.3 (50.3)
2350	22	72	121	13.7 (51.9)	68	121	13.2 (50)	65	120	12.7 (48.1)
2350	20	62	112	12.3 (46.6)	58	111	11.9 (45)	55	110	11.5 (43.5)
2350	19	57	107	11.7 (44.3)	54	106	11.2 (42.4)	51	103	10.9 (41.3)
2350	18.5	54	104	11.3 (42.8)	51	102	10.9 (41.3)	49	99	10.6 (40.1)

Landing Distance

m

Note: To account for likely in service performance variations apply a factored to distances of 1.67

Weight = 1160 kg (2557 lb)

Flaps: LAND
Short Final Approach Speed = 66 KIAS
Throttle Lever: Idle
Runway: Paved

Corrections

Headwind: -4 m for each kn
Tailwind: +13 m for each kn
Grass Runway: +10% to Ground Roll
Runway slope: -3% to Ground Roll for each +1%

Pressure Altitude [ft]		Distance [m] (Distance [ft])				
		Temperature [°C]				ISA
		-25	0	25	50	
S.L.	Ground Roll	204 (669)	225 (738)	245 (804)	266 (873)	**237 (778)**
	At 50 ft AGL	488 (1601)	509 (1670)	529 (1736)	550 (1804)	**521 (1709)**
1000	Ground Roll	212 (696)	233 (764)	254 (833)	276 (906)	**244 (801)**
	At 50 ft AGL	496 (1627)	517 (1696)	538 (1765)	560 (1837)	**528 (1732)**
2000	Ground Roll	220 (722)	242 (794)	264 (866)	286 (938)	**251 (823)**
	At 50 ft AGL	504 (1654)	526 (1726)	548 (1798)	570 (1870)	**535 (1755)**
3000	Ground Roll	228 (748)	251 (823)	274 (899)	297 (974)	**259 (850)**
	At 50 ft AGL	512 (1680)	535 (1755)	558 (1831)	581 (1906)	**543 (1781)**
4000	Ground Roll	236 (774)	260 (853)	284 (932)	308 (1010)	**267 (876)**
	At 50 ft AGL	520 (1706)	544 (1785)	568 (1864)	592 (1942)	**551 (1808)**
5000	Ground Roll	245 (804)	270 (886)	295 (968)	320 (1050)	**275 (902)**
	At 50 ft AGL	529 (1736)	554 (1818)	579 (1900)	604 (1982)	**559 (1834)**
6000	Ground Roll	255 (837)	280 (919)	306 (1004)	332 (1089)	**284 (932)**
	At 50 ft AGL	539 (1768)	564 (1850)	590 (1936)	616 (2021)	**568 (1864)**

Fuel Calculation

Taxi Fuel				**6 ltr**
Trip Fuel	2)	**h**	**ltr /h**	**ltr**
Contingency 10%	2)	**h**	**ltr /h**	**ltr**
Alternate Fuel	2)	**h**	**ltr /h**	**ltr**
45 min Reserve Fuel	2)	**h**	**ltr /h**	**ltr**
Minimum Block Fuel				**ltr**
Additional Fuel	2)	**h**	**ltr /h**	**ltr**
Total				**ltr**
Usable Fuel On-Board	3)			**ltr**

1) Use 2700 RPM for Initial Climb Calculation 70 ltr/h
2) Use “Cruise Performance” Calculation
3) max. 231 ltr

Notes

Document Info

Fliegerschule St. Gallen – Altenrhein AG, Version 2.0, 22.03.2020
Print as Booklet
No responsibility is taken for the correctness of this information. The Airplane Flight Manual is reference for flight planning and airplane operation.

NAV Flightplan

Checkpoint	ALT	MC	DIST	EET	ETO	ATO	Remark

ENR Notes