Flight Planning

pilotenschule.ch

Date:	
Callsign:	HB-KMR
AC Type:	P2008 JC

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	

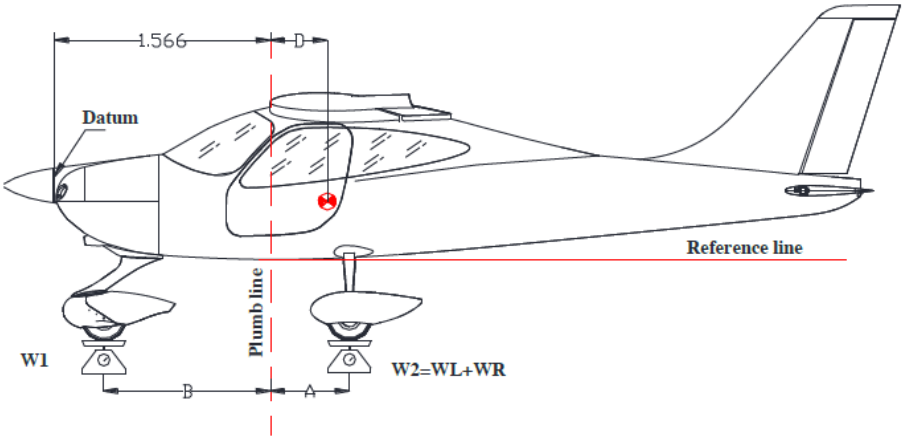
Flugbetriebliche Dokumente Flugvorbereitung		Check
NOTAMs / DABS für die geplante Flugroute	Papier	
Flugwetterberatung	Papier	
Flugplanung Route inkl. Karten, Anflugblätter usw.	Papier	
Flugplanung Alternate, Route inkl. Karten, Anflugbl.	Papier	
ATC-Flugplan (falls notwendig)	elektronisch	
Zollanmeldung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

Speeds

V_R	Rotate Speed	50 KIAS
V_X	Best Angle of Climb Speed	64 KIAS
V_Y	Best Rate of Climb Speed	68 KIAS
V_G	Best Glide Speed	72 KIAS
V_A	Manoeuvring Speed	98 KIAS
V_{OBS}	Flap Retraction Speed	61 KIAS @ Flaps T/O
V_{FE}	Max Flap Extended Speed	70 KIAS @ Flaps T/O 70 KIAS @ Flaps LDG
V_{REF}	Landing Reference Speed	Flaps LDG: 55 KIAS
V_{NO}	Max Struct. Cruising Speed	111 KIAS
V_{NE}	Never Exceed Speed	143 KIAS
V_{S1}	Stalling Speed Clean	49 KIAS @ 650kg
V_{S0}	Stalling Speed in LDG	40 KIAS @ 650kg

Notes

Masse & Schwerpunkt



!!! Dimensions in m !!! MOGAS @ 0.72kg/l

	Masse (kg)	Distanz (m)	Moment (kgm)
Empty Weight HB-KMR	**427**	**1.85**	**789.8**
Pilot + Passenger		**1.80**	
Baggage (max 20kg)		**2.417**	
Zero Fuel Mass / Moment			
Usable Fuel on Board TO		**2.209**	
Total TO Mass / Moment			

C.G.Range	Max FWD	Max AFT
Meters	1.841	1.978
Max Weight	**Pounds**	**Kilograms**
	1433.00	650.00

Weight * Arm = Moment

Pilot&Passenger	
Weight(kg)	Moment (kgm)
10	18
20	36
30	54
40	72
50	90
60	108
70	126
80	144
90	162
100	180
110	198
120	216
130	234
140	252
150	270
160	288
170	306
180	324
190	342
200	360
210	378
220	396
230	414

Fuel		
Liter	Weight (kg)	Moment (kgm)
10	7.2	15.91
20	14.4	31.82
30	21.6	47.74
40	28.8	63.65
50	36	79.56
60	43.2	95.47
70	50.4	111.38
80	57.6	127.30
90	64.8	143.21
100	72	159.12
110	79.2	174.95
120	86.4	190.86
124	89.3	197.26

Baggage	
Weight(kg)	Moment (kgm)
5	12.05
10	24.10
15	36.15
20	48.20

Performance

Take-off Distance

m

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

Weight = 650 kg Flaps: T/O Speed at Lift-Off = 50 KIAS Speed Over 50ft Obstacle = 61 KIAS Throttle Levers: Full Forward Runway: Grass		Corrections Headwind: - 5 m for each kt (16 ft/kt) Tailwind: + 15 m for each kt (49 ft/kt) Paved Runway: - 10% to Ground Roll Runway slope: + 7% to Ground Roll for each +1%				
Pressure Altitude		Distance [m]				
		Temperature [°C]				ISA
[ft]		-25	0	25	50	
S.L.	Ground Roll	149	187	231	280	213
	At 50 ft AGL	262	328	401	484	371
1000	Ground Roll	162	204	252	306	228
	At 50 ft AGL	285	356	437	526	397
2000	Ground Roll	177	223	275	334	245
	At 50 ft AGL	311	388	475	572	425
3000	Ground Roll	193	244	301	365	263
	At 50 ft AGL	338	422	517	623	455
4000	Ground Roll	211	266	328	398	283
	At 50 ft AGL	368	460	564	679	488
5000	Ground Roll	231	291	359	436	304
	At 50 ft AGL	402	502	614	740	524
6000	Ground Roll	253	319	393	477	327
	At 50 ft AGL	438	547	670	808	562
7000	Ground Roll	277	349	430	522	352
	At 50 ft AGL	478	597	732	882	603
8000	Ground Roll	304	382	472	572	379
	At 50 ft AGL	522	652	799	963	648
9000	Ground Roll	333	419	517	627	409
	At 50 ft AGL	571	713	874	1053	696
10000	Ground Roll	365	460	567	688	441
	At 50 ft AGL	624	780	956	1152	748

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 Levers: Full Forward
Flaps: Take Off (15°)

Weight	Pressure Altitude	Climb Speed V_Y	Rate of Climb [ft/min]				
			Temperature [°C]				ISA
[kg]	[ft]	[KIAS]	-25	0	25	50	
650	S.L.	65	897	756	629	516	678
	2000	64	790	651	527	415	594
	4000	64	682	546	424	314	510
	6000	64	576	442	322	214	426
	8000	64	469	338	220	114	342
	10000	64	363	234	118	14	258
	12000	64	258	131	17	-85	174
	14000	64	152	28	-84	-184	90
600	S.L.	64	1014	864	731	610	782
	2000	64	900	753	622	504	693
	4000	64	787	642	513	397	605
	6000	63	674	532	405	291	516
	8000	63	561	422	297	185	427
	10000	63	449	312	190	80	338
	12000	63	337	203	83	-25	249
	14000	63	226	94	-24	-130	160
550	S.L.	64	1148	989	846	718	901
	2000	63	1027	870	730	604	807
	4000	63	906	752	615	491	712
	6000	62	786	635	500	378	617
	8000	62	666	517	385	265	522
	10000	61	547	401	270	153	428
	12000	61	427	284	156	41	333
	14000	60	309	168	43	-70	238

Cruise Performance

KTAS	ltr/hr

Weight = 650 kg							
CORRECTIONS							
			KTAS	Fuel Consumption	Endurance	Range	Specific Range
For each +15°C of OAT			-2%	-2.5%	+2%	+1%	+1%
For each -15°C of OAT			+1%	+3%	-4%	-2%	-1%
For -100kg of weight			+3.3%	-	-	+3%	+4%
CRUISE PERFORMANCE							
Pressure Altitude [ft]	OAT ISA *[deg C]*	Propeller RPM	KTAS	Fuel Consumption *[lt/hr]*	Endurance *[hr:mm]*	Range *[nm]*	Specific Range *[nm/lt]*
4000	7	2250	106	23.9	5:01	532	4.4
		2100	98	20	6:00	588	4.9
		2000	92	18.1	6:38	610	5.1
		1900	86	16.5	7:16	626	5.2
		1800	79	15.2	7:54	624	5.2
6000	3	2250	105	22.7	5:17	555	4.6
		2100	97	19.2	6:15	606	5.1
		2000	91	17.5	6:51	624	5.2
		1900	85	16.1	7:27	634	5.3
		1800	78	14.9	8:03	628	5.2
8000	-1	2250	104	21.5	5:35	581	4.8
		2100	96	18.5	6:29	623	5.2
		2000	90	17	7:04	635	5.3
		1900	84	15.7	7:39	642	5.4
10000	-5	2250	103	20.5	5:51	603	5.0
		2100	95	17.9	6:42	637	5.3
		2000	89	16.6	7:14	643	5.4
		1900	82	15.5	7:45	635	5.3

Landing Distance

m

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

Weight = 650 kg

Flaps: *LAND*
Short Final Approach Speed = 54 KIAS
Throttle Levers: *Idle*
Runway: *Grass*

Corrections
Headwind: -4m for each kt (*13 ft/kt*)
Tailwind: +13m for each kt (*43 ft/kt*)
Paved Runway: -*10%* to Ground Roll
Runway slope: -3% to Ground Roll for each +1%

Pressure Altitude [ft]		Distance [m]				
		Temperature [°C]				ISA
		-25	0	25	50	
S.L.	Ground Roll	149	164	179	194	**173**
	At 50 ft AGL	358	373	388	403	**382**
1000	Ground Roll	154	170	186	201	**178**
	At 50 ft AGL	363	379	395	410	**387**
2000	Ground Roll	160	176	192	209	**183**
	At 50 ft AGL	369	385	401	418	**392**
3000	Ground Roll	166	183	200	216	**189**
	At 50 ft AGL	375	392	409	425	**398**
4000	Ground Roll	172	190	207	225	**195**
	At 50 ft AGL	381	399	416	434	**404**
5000	Ground Roll	179	197	215	233	**201**
	At 50 ft AGL	388	406	424	442	**410**
6000	Ground Roll	186	205	223	242	**207**
	At 50 ft AGL	395	414	432	451	**416**
7000	Ground Roll	193	212	232	251	**213**
	At 50 ft AGL	402	421	441	460	**422**
8000	Ground Roll	200	221	241	261	**220**
	At 50 ft AGL	410	430	450	470	**429**
9000	Ground Roll	208	229	250	271	**227**
	At 50 ft AGL	417	438	459	480	**436**
10000	Ground Roll	217	238	260	282	**234**
	At 50 ft AGL	426	447	469	491	**443**

Fuel Calculation

Taxi Fuel				**5 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 2388 RPM for Initial Climb Calculation 26 ltr/h
2) Use 2100 RPM for Cruise Calculation 20 ltr/h
3) max. 120 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