

3. AIRSPEED INDICATOR SYSTEM CALIBRATION (Approved Data)

Graph shows calibrated airspeed V_{CAS} as a function of indicated airspeed V_{IAS} .

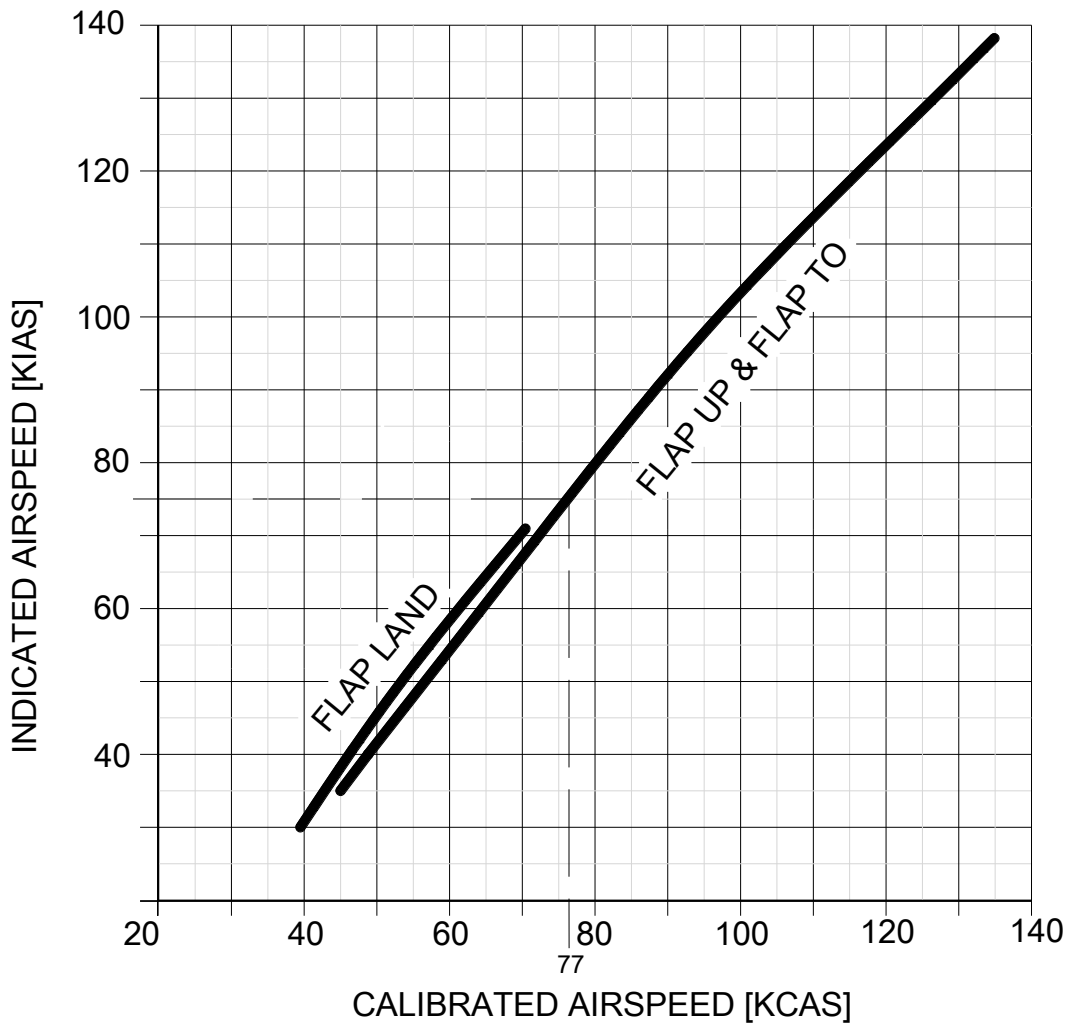


FIG. 5-1. CALIBRATED VS INDICATED AIRSPEED

Example:

<u>Given</u>	<u>Find</u>
KIAS 75	KCAS 74

NOTE

Indicated airspeed assumes 0 as an instrument error

5. STALL SPEED (*Approved Data*)

Weight: 580 kg Throttle Levers: IDLE CG: Most Forward (26%) No ground effect							
WEIGHT	BANK ANGLE	STALL SPEED					
		FLAPS 0°		FLAPS T/O		FLAPS FULL	
[kg]	[deg]	KIAS	KCAS	KIAS	KCAS	KIAS	KCAS
580 (FWD C.G.)	0	40	49	35	46	30	39
	15	41	50	36	47	31	40
	30	45	53	40	49	34	42
	45	53	58	47	54	41	47
	60	67	70	61	65	53	56

NOTE

Altitude loss during conventional stall recovery, as demonstrated during flight tests is approximately 150 ft with banking below 30°.

6. CROSSWIND

Maximum demonstrated crosswind is 22 Kts

⇒ Example:

Given

Wind direction (with respect to aircraft longitudinal axis) = 30°

Wind speed = 20 Kts

Find

Headwind = 17.5 Kts

Crosswind = 10 Kts

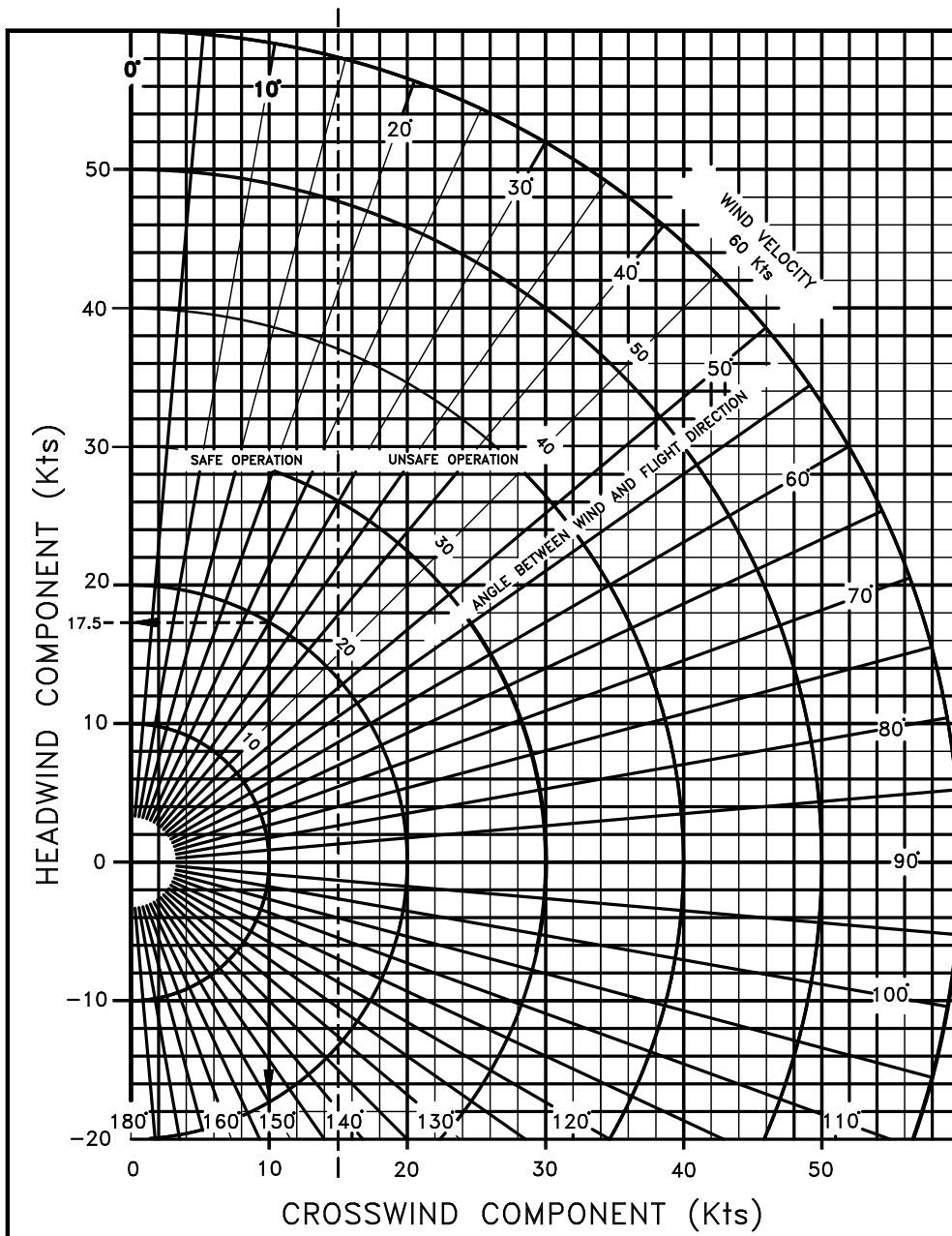


FIG. 5-3. CROSSWIND CHART

7. TAKE-OFF PERFORMANCES (*Approved Data*)

Weight = 580 kg		Corrections				
Flaps: T/O		Headwind: - 2.5m for each kt (8 ft/kt)				
Speed at Lift-Off = 42 KIAS		Tailwind: + 10m for each kt (33ft/kt)				
Speed Over 50ft Obstacle = 52 KIAS		Paved Runway: - 6% to Ground Roll				
Throttle Levers: Full Forward		Runway slope: + 5% to Ground Roll for each +1%				
Runway: Grass						
Pressure Altitude [ft]		Distance [m]				
		Temperature [°C]				ISA
		-25	0	25	50	
S.L.	Ground Roll	130	171	220	279	199
	At 50 ft AGL	212	281	365	465	330
1000	Ground Roll	142	187	242	306	214
	At 50 ft AGL	233	309	402	513	355
2000	Ground Roll	156	206	266	337	231
	At 50 ft AGL	257	340	443	565	383
3000	Ground Roll	172	226	292	371	249
	At 50 ft AGL	282	375	488	624	414
4000	Ground Roll	189	249	322	409	269
	At 50 ft AGL	311	414	539	690	447
5000	Ground Roll	208	275	355	452	290
	At 50 ft AGL	343	457	595	763	483
6000	Ground Roll	229	303	392	499	313
	At 50 ft AGL	379	505	659	845	522
7000	Ground Roll	252	334	433	552	338
	At 50 ft AGL	419	558	729	937	565
8000	Ground Roll	279	369	479	612	366
	At 50 ft AGL	463	618	809	1040	612
9000	Ground Roll	308	408	531	678	396
	At 50 ft AGL	513	685	898	1155	664
10000	Ground Roll	341	452	588	753	429
	At 50 ft AGL	568	761	998	1286	720

8. TAKE-OFF RATE OF CLIMB

Power Setting: Maximum Continuous Power Flaps: Take-Off (15°)							
Weight [kg]	Pressure Altitude [ft]	Climb Speed V _y [KIAS]	Rate of Climb [ft/min]				ISA
			Temperature [°C]				
			-25	0	25	50	
580	S.L.	66	1238	987	764	562	850
	2000	66	1047	801	581	383	701
	4000	66	858	615	399	204	552
	6000	66	668	430	218	27	403
	8000	65	480	246	37	-151	254
	10000	65	292	62	-143	-327	105
	12000	65	104	-121	-322	-503	-44
	14000	65	-82	-303	-501	-679	-193
550	S.L.	66	1339	1077	842	631	933
	2000	66	1140	882	651	443	777
	4000	66	941	687	460	256	621
	6000	65	742	493	271	70	464
	8000	65	545	300	81	-116	308
	10000	65	348	107	-107	-301	152
	12000	65	151	-85	-296	-486	-4
	14000	64	-44	-276	-483	-669	-161
500	S.L.	66	1532	1246	991	760	1089
	2000	66	1315	1033	782	556	919
	4000	65	1098	821	575	352	749
	6000	65	882	610	368	149	579
	8000	65	667	400	162	-53	409
	10000	64	452	190	-44	-255	239
	12000	64	238	-19	-249	-456	68
	14000	64	25	-227	-453	-656	-102

9. EN-ROUTE RATE OF CLIMB

Power Setting: Maximum Continuous Power Flaps: UP							
Weight [kg]	Pressure Altitude [ft]	Climb Speed V _y [KIAS]	Rate of Climb [ft/min]				
			Temperature [°C]				ISA
			-25	0	25	50	
580	S.L.	66	1362	1111	888	686	974
	1000	66	1171	925	705	507	825
	2000	66	982	739	523	328	676
	3000	66	792	554	342	151	527
	4000	65	604	370	161	-27	378
	5000	65	416	186	-19	-203	229
	6000	65	228	3	-198	-379	80
	7000	65	42	-179	-377	-555	-69
550	S.L.	66	1463	1201	966	755	1057
	1000	66	1264	1006	775	567	901
	2000	66	1065	811	584	380	745
	3000	65	866	617	395	194	588
	4000	65	669	424	205	8	432
	5000	65	472	231	17	-177	276
	6000	65	275	39	-172	-362	120
	7000	64	80	-152	-359	-545	-37
500	S.L.	66	1656	1370	1115	884	1213
	1000	66	1439	1157	906	680	1043
	2000	65	1222	945	699	476	873
	3000	65	1006	734	492	273	703
	4000	65	791	524	286	71	533
	5000	64	576	314	80	-131	363
	6000	64	362	105	-125	-332	192
	7000	64	149	-103	-329	-532	22

10. CRUISE PERFORMANCES

Weight: 580 kg Pressure Altitude: 0 ft									
RPM [*]	ISA – 30°C (-15°C)			ISA (15°C)			ISA + 30°C (45°C)		
	PWR	KTAS	F.C.** [lt/hr]	PWR	KTAS	F.C.** [lt/hr]	PWR	KTAS	F.C.** [lt/hr]
2361	120%	110	32.2	100%	106	26.8	84%	103	22.6
2318	113%	108	30.5	94%	104	25.3	79%	100	21.2
2272	107%	106	28.8	88%	101	23.8	74%	97	19.8
2221	100%	103	26.9	82%	99	22.1	68%	94	18.3
2165	93%	100	25	76%	95	20.4	62%	90	16.8
2103	85%	97	22.9	69%	92	18.6	56%	86	15.1
2033	77%	93	20.8	62%	88	16.7	50%	81	13.4

^{*} Propeller RPM
^{**} Fuel Consumption

Weight: 580 kg Pressure Altitude: 2000 ft									
RPM [*]	ISA – 30°C (-15°C)			ISA (15°C)			ISA + 30°C (45°C)		
	PWR	KTAS	F.C.** [lt/hr]	PWR	KTAS	F.C.** [lt/hr]	PWR	KTAS	F.C.** [lt/hr]
2355	112%	109	30.2	93%	106	25.1	78%	101	21
2312	106%	107	28.6	88%	103	23.6	73%	99	19.7
2265	100%	105	27	82%	100	22.2	68%	96	18.4
2214	94%	102	25.2	76%	98	20.6	63%	92	17
2157	87%	99	23.4	70%	94	19	58%	88	15.5
2094	80%	96	21.4	64%	90	17.3	52%	84	13.9
2023	72%	92	19.4	57%	86	15.5	46%	77	12.3

^{*} Propeller RPM
^{**} Fuel Consumption

Weight: 580 kg Pressure Altitude: 4000 ft									
RPM [*]	ISA – 30°C (-15°C)			ISA (15°C)			ISA + 30°C (45°C)		
	PWR	KTAS	F.C.** [lt/hr]	PWR	KTAS	F.C.** [lt/hr]	PWR	KTAS	F.C.** [lt/hr]
2348	105%	109	28.3	87%	105	23.4	72%	100	19.5
2305	100%	107	26.8	82%	102	22	68%	97	18.3
2257	94%	104	25.2	77%	99	20.6	63%	94	17
2206	88%	101	23.6	71%	96	19.2	58%	90	15.7
2148	81%	98	21.9	65%	93	17.6	53%	86	14.3
2084	74%	95	20	59%	89	16	47%	80	12.8

^{*} Propeller RPM
^{**} Fuel Consumption

11. LANDING PERFORMANCES (*Approved Data*)

Pressure Altitude [ft]		Distance [m]					ISA
		Temperature [°C]					
		-25	0	25	50		
S.L.	Ground Roll	124	136	149	161	144	
	At 50 ft AGL	243	267	292	316	282	
1000	Ground Roll	128	141	154	167	148	
	At 50 ft AGL	252	277	302	328	290	
2000	Ground Roll	133	146	160	173	152	
	At 50 ft AGL	261	287	314	340	299	
3000	Ground Roll	138	152	166	180	157	
	At 50 ft AGL	271	298	325	353	308	
4000	Ground Roll	143	158	172	186	162	
	At 50 ft AGL	281	309	338	366	317	
5000	Ground Roll	149	164	178	193	167	
	At 50 ft AGL	292	321	350	380	327	
6000	Ground Roll	154	170	185	201	172	
	At 50 ft AGL	303	333	364	394	337	
7000	Ground Roll	160	176	192	209	177	
	At 50 ft AGL	314	346	378	410	348	
8000	Ground Roll	166	183	200	217	183	
	At 50 ft AGL	327	360	393	425	359	
9000	Ground Roll	173	190	208	225	188	
	At 50 ft AGL	339	374	408	442	370	
10000	Ground Roll	180	198	216	234	194	
	At 50 ft AGL	353	388	424	460	382	

Weight = 580 kg

Corrections

Flaps: *LAND*

Headwind: - 5m for each kt (16 ft/kt)

Short Final Approach Speed = 51 KIAS

Tailwind: + 11m for each kt (36ft/kt)

Throttle Levers: *Idle*

Paved Runway: - 2% to Ground Roll

Runway: *Grass*

Runway slope: - 2.5% to Ground Roll for each +1%