Flight Test Performance Calculation Package – Tecnam P2006T

You must prepare a full set of planning documents for your flight test and can use this package for that purpose.

These flight planning documents must include:

- weight and balance
- flight plan
- performance predictions
  - Accelerate-Stop Distance Required
  - Take-Off Distance Required
  - Single Engine Service Ceiling
  - Etc.

Performance predictions should cover all phases of flight for which charts are available in the POH. We suggest that you prepare these in a package in advance of your flight test using an estimate of the examiner's weight, the forecast weather conditions applicable to the time of your flight test and of course the actual aerodrome data.

The charts and performance information provided in this package are based on a Tecnam P2006T with G1000 Avionics. You should check to confirm that the information given in this package is applicable for the year or model aircraft that you will use on your flight test. If the information differs then you should use the charts provided by your flight school or the actual POH information when preparing for your flight test, or any other flight.

Often the examiner will give you a questionnaire ahead of time so that you can have this information determined before the examiner arrives. You should of course be capable of explaining how you determined it during the pre-flight oral briefing.

Your documentation should be put together in a package or binder so that it is neat, clear and professional. This will make a good impression with the examiner and will set you up for success.

Using information for your specific aircraft, airfield and the latest weather information, fill in the information below for use in the weight & balance and performance calculations:

Aeroplane and loading information:

- **Aeroplane empty weight:** _____ lbs
- **Aeroplane empty moment:** _____ in-lbs
- **Pilot weight:** _____ lbs
- **Examiner weight:** _____ lbs
- **Baggage weight:** _____ lbs
  (Mostly flight bags, jackets and documentation, normally located in the aft baggage area)
- **Fuel quantity:** _____ USG, and **Fuel weight:** _____ lbs
  (Sufficient fuel for at least a two hour flight test plus day VFR reserves)

Aerodrome and Weather information:

- **Aerodrome elevation:** _____ feet
- **Altimeter setting:** _____" Hg
- **Runway in use:** _____, length of runway: _____ feet
- **OAT:** _____°C
- **Wind:** _____/___ by ATIS
- **Flight test altitude:** _____' (sufficient to allow recovery at least 2,000' AGL)
- **Temperature at flight-test altitude:** ___°C from FD

Most aeroplane charts require one to input the pressure altitude and the aeroplane weight so the first steps are to calculate these.

Use the information for the airfield where you will be conducting your flight test and the latest weather information information

Pressure Altitude at take-off = (airfield elevation) + ((altimeter setting) – 29.92) x 1,000'
= _____ ft

Select an altitude for the flight test that will allow at recovery at least 2,000' AGL.

Pressure Altitude at test altitude = (test altitude) + ((altimeter setting) – 29.92) x 1,000'
=_____ ft

The second step in pre-flight planning is to estimate the aeroplane weight at take-off. To do this we must estimate the weight of fuel that will be carried.

For a typical flight test, sufficient fuel must be carried for about 2 hours of flying plus VFR reserves which correspond to 30 minutes of fuel at normal cruise power. Of course there will have to be fuel for taxi, take-off, climb, descent and landing so we can estimate the fuel using a total flight time of 3 hours at normal cruise power. We can verify that this will be sufficient and then make any adjustments necessary at the end.

Refer to the "Fuel Flow (per engine)" chart you can find that the fuel flow is ___ GPH per engine or ___ GPH total

Estimated fuel required is 3 hours x _____ GPH = _____ USG = _____ lbs

Actual fuel on board = _____ USG = _____ lbs

Using this information, we can now calculate the weight and balance for the flight test

Use the weight and balance chart to determine your take-off and landing weights and center of gravity positions

Take-off weight: _____ lbs, **Center of Gravity:** Within Limits / Outside Limits

Landing weight: _____ lbs, **Center of Gravity:** Within Limits / Outside Limits

Take-off Distance Required (TODR)

The total take-off distance needed to clear a 50 ft tall obstacle. Where there are existing obstacles at your departure airport you should determine the distance required to clear these obstacles.

Refer to the "Take-off Distance Required" chart for the corresponding aircraft weight and the local aerodrome data

Take-off Distance Required: _____ ft

Take-off Distance Available: _____ ft

Climb Performance – Take-off Climb

This is the climb rate from a take-off climb, used to achieve the best rate of climb shortly after take-off for obstacle clearance

Refer to the "Take-Off Rate of Climb – All Engines Operating" chart

Rate of Climb (Take-Off Climb): _____ fpm

Climb Performance – Cruise Climb

This is the climb rate from a cruise climb, used to achieve the best combination of climb rate and forward speed. Note that the enroute rate of climb chart uses a fairly low airspeed (84 KIAS). Typical cruise climb speed will be higher than this (perhaps 100 KIAS) to provide a lower pitch attitude for better visibility improved passenger comfort and to reduce overall trip time by climbing at a faster speed. Bear in mind that if you choose a cruise climb speed faster than what is shown on the chart, you will not achieve the climb rate shown.

Refer to the "Enroute Rate of Climb – All Engines Operating" chart

Rate of Climb (Cruise Climb): _____ fpm

Time, Fuel and Distance to Climb

The Tecnam P2006T Aircraft Flight Manual doesn't provide a "Time, Fuel and Distance to Climb" chart, so you will have to use a rule of thumb to come up with this information.

Rule-Of-Thumb #1: Average climb rate is approximately the climb rate at 2/3 your desired altitude

Rule-Of-Thumb #2: Average TAS during climb is approximately the same as your TAS when at 2/3 your desired altitude

Rule-Of-Thumb #3: Average fuel flow will be the fuel flow at maximum continuous power

Example: Climbing from Sea Level to 10,000 ft so check climb rate and TAS at 7,000 ft. These values will be close to the average climb rate and average TAS for the climb.

Since you now have the altitude to climb, average climb rate, average TAS and fuel flow you can now calculate the time, fuel and distance needed for the climb

Time: _____ minutes

Fuel: _____ USG

Distance: _____ nm

Single Engine Climb Rate

The single engine rate of climb is usually determined for two situations – firstly following an engine failure after take-off and secondly at your cruising altitude.

Refer to the "One-Engine Rate of Climb" chart

After liftoff

Single engine rate of climb: _____ fpm (_____% gradient)

At flight test altitude

Single engine rate of climb: _____ fpm (_____% gradient)

Single Engine Cruise Performance

If you are above your single engine absolute ceiling when an engine fails then you will be unable to maintain altitude. You will gradually descend down to the single engine absolute ceiling even if you are at full power on the operating engine and are maintaining the best single engine rate of climb speed (blue line, V_{YSE}). You need to check that you still will be able to maintain an altitude above terrain. This is particularly important during instrument conditions when you can't see the terrain, so you should always check that your single engine absolute ceiling is above the Minimum Obstacle Clearance Altitude (MOCA) if you are flying IFR.

Refer to the "One-Engine Rate of Climb" chart

Single Engine Service Ceiling: _____ ft

Time, Fuel and Distance to Descend

The Tecnam P2006T Aircraft Flight Manual doesn't provide a "Time, Fuel and Distance to Descend" chart, so you will have to pick an airspeed and descent rate for the descent, and use a rule of thumb to come up with this information.

Descent Airspeed: A good airspeed to use for descent is the IAS used for cruise

Rate of Descent: Since the P2006T is not pressurized a descent rate of 500 fpm will allow you to descend relatively quickly without being uncomfortable for your passengers

Rule-Of-Thumb #1: Average TAS during descent is approximately the same as your TAS when at 2/3 of your cruising altitude

Rule-Of-Thumb #2: Average fuel flow will be approximately the fuel flow at 50% power

Example: Descending from 10,000 ft to Sea Level so check TAS at 7,000 ft. This value will be close to the average TAS for the descent.

Since you now have the altitude to descend, average descent rate, average TAS and fuel flow you can now calculate the time, fuel and distance needed for the descent

Time: _____ minutes

Fuel: _____ USG

Distance: _____ nm

Landing Distance Required

The total landing distance needed to clear a 50 ft tall obstacle situated at the threshold. Where there are existing obstacles at your arrival airport you should determine the distance required to clear these obstacles and land.

The landing distance required chart requires the landing weight, pressure altitude and temperature (to take into account the effects of density altitude), wind component, runway surface and runway slope to calculate landing distance.

Refer to the "Landing Distance Required" chart for the corresponding aircraft weight and the local aerodrome information

Landing Distance Required: _____ ft

Landing Distance Available: _____ ft

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PERFORMANCE CALCULATIONS SUMMARY

WEIGHT AND BALANCE

Estimated fuel required: _____ USG = _____ lbs

Actual fuel on board: _____ USG = _____ lbs

Take-off weight: _____ lbs, **Center of Gravity:** Within Limits / Outside Limits

Landing weight: _____ lbs, **Center of Gravity:** Within Limits / Outside Limits

TAKE OFF

Pressure Altitude: _____ ft **Take-off Decision Speed:** _____ KIAS

Take-off Distance Required: _____ ft, **Distance Available:** _____ ft

CLIMB

NORMAL

Airspeed: _____ KIAS

Time: _____ minutes

Fuel: _____ USG

Distance: _____ nm

ONE ENGINE INOPERATIVE

Airspeed: _____ KIAS

After Liftoff:
Single Engine Rate of Climb: _____ fpm
(_____% gradient)

At Flight Test Altitude:
Single Engine Rate of Climb: _____ fpm
(_____% gradient)

CRUISE

Pressure Altitude: _____ ft **Single Engine Service Ceiling:** _____ ft

Power Setting: _____ in. Hg, _____ RPM

Performance: _____ KIAS, _____ KTAS, _____ GPH per Engine

DESCENT

Airspeed: _____ KIAS **Time:** _____ minutes

Fuel: _____ USG **Distance:** _____ nm

LANDING

Approach Airspeed: _____ KIAS

Landing Distance Required: _____ ft, **Distance Available:** _____ ft

CRUISE PERFORMANCE

Weight: 1150 kg
Pressure Altitude: 0 ft

Prop RPM	Man. Press. (inHg)	ISA -30°C (-15°C)			ISA (15°C)			ISA +30°C (45°C)		
		Power %	KTAS	Fuel Flow (L/hr)*	Power %	KTAS	Fuel Flow (L/hr)*	Power %	KTAS	Fuel Flow (L/hr)*
2388	29.5	106 %	144	29.5	100 %	146	27.9	95 %	148	26.6
2250	29.5	103 %	143	28.6	97 %	145	27.1	92 %	146	25.8
2250	28	88 %	134	24.5	83 %	136	23.2	79 %	138	22.0
2250	26	69 %	122	19.2	65 %	124	18.2	62 %	125	17.3
2250	24	59 %	115	16.6	56 %	116	15.7	53 %	117	14.9
2250	22	46 %	103	12.8	43 %	103	12.1	41 %	103	11.5
2250	20	39 %	96	11.0	37 %	95	10.4	35 %	94	9.9

* Fuel Flow for each engine

Weight: 1150 kg
Pressure Altitude: 3000 ft

Prop RPM	Man. Press. (inHg)	ISA -30°C (-21°C)			ISA (9°C)			ISA +30°C (39°C)		
		Power %	KTAS	Fuel Flow (L/hr)*	Power %	KTAS	Fuel Flow (L/hr)*	Power %	KTAS	Fuel Flow (L/hr)*
2388	26.4	92 %	141	25.7	87 %	143	24.3	83 %	144	23.1
2250	26.4	89 %	139	25.0	85 %	141	23.6	80 %	143	22.4
2250	26	85 %	137	23.9	81 %	138	22.6	77 %	140	21.5
2250	25	72 %	128	20.0	68 %	129	18.9	64 %	130	18.0
2250	22	57 %	116	16.0	54 %	117	15.1	51 %	118	14.3
2250	20	48 %	108	13.4	45 %	108	12.7	43 %	108	12.1

* Fuel Flow for each engine

Weight: 1150 kg
Pressure Altitude: 6000 ft

Prop RPM	Man. Press. (inHg)	ISA -30°C (-27°C)			ISA (3°C)			ISA +30°C (33°C)		
		Power %	KTAS	Fuel Flow (L/hr)*	Power %	KTAS	Fuel Flow (L/hr)*	Power %	KTAS	Fuel Flow (L/hr)*
2388	23.6	83 %	139	23.3	79 %	141	22.0	75 %	142	20.9
2250	23.6	81 %	138	22.6	76 %	139	21.4	73 %	141	20.3
2250	22	68 %	129	19.1	65 %	130	18.1	61 %	131	17.2
2250	20	57 %	119	15.8	54 %	120	14.9	51 %	120	14.2
2250	18	46 %	108	12.9	44 %	108	12.2	41 %	107	11.6

* Fuel Flow for each engine

NOTE:

Mark up these charts in red so that it is easy for the examiner to see how you came up with your performance figures

CRUISE PERFORMANCE

Weight: 1150 kg
Pressure Altitude: 9000 ft

Prop RPM	Man. Press. (inHg)	ISA -30°C (-33°C) Power %	KTAS	Fuel Flow (L/hr)*	ISA (-3°C) Power %	KTAS	Fuel Flow (L/hr)*	ISA +30°C (27°C) Power %	KTAS	Fuel Flow (L/hr)*
2388	21.1	75 %	137	20.9	71 %	139	19.7	67 %	140	18.7
2250	21.1	73 %	136	20.3	69 %	137	19.2	65 %	138	18.2
2250	20	65 %	130	18.3	62 %	131	17.2	58 %	131	16.3
2250	18	53 %	118	14.9	50 %	119	14.0	48 %	118	13.3

* Fuel Flow for each engine

Weight: 1150 kg
Pressure Altitude: 12000 ft

Prop RPM	Man. Press. (inHg)	ISA -30°C (-39°C) Power %	KTAS	Fuel Flow (L/hr)*	ISA (-9°C) Power %	KTAS	Fuel Flow (L/hr)*	ISA +30°C (21°C) Power %	KTAS	Fuel Flow (L/hr)*
2388	18.8	67 %	135	18.8	63 %	136	17.7	60 %	136	16.7
2250	18.8	65 %	133	18.2	61 %	134	17.2	58 %	134	16.3
2250	18	60 %	129	16.8	57 %	129	15.9	54 %	129	15.0

* Fuel Flow for each engine

NOTE:

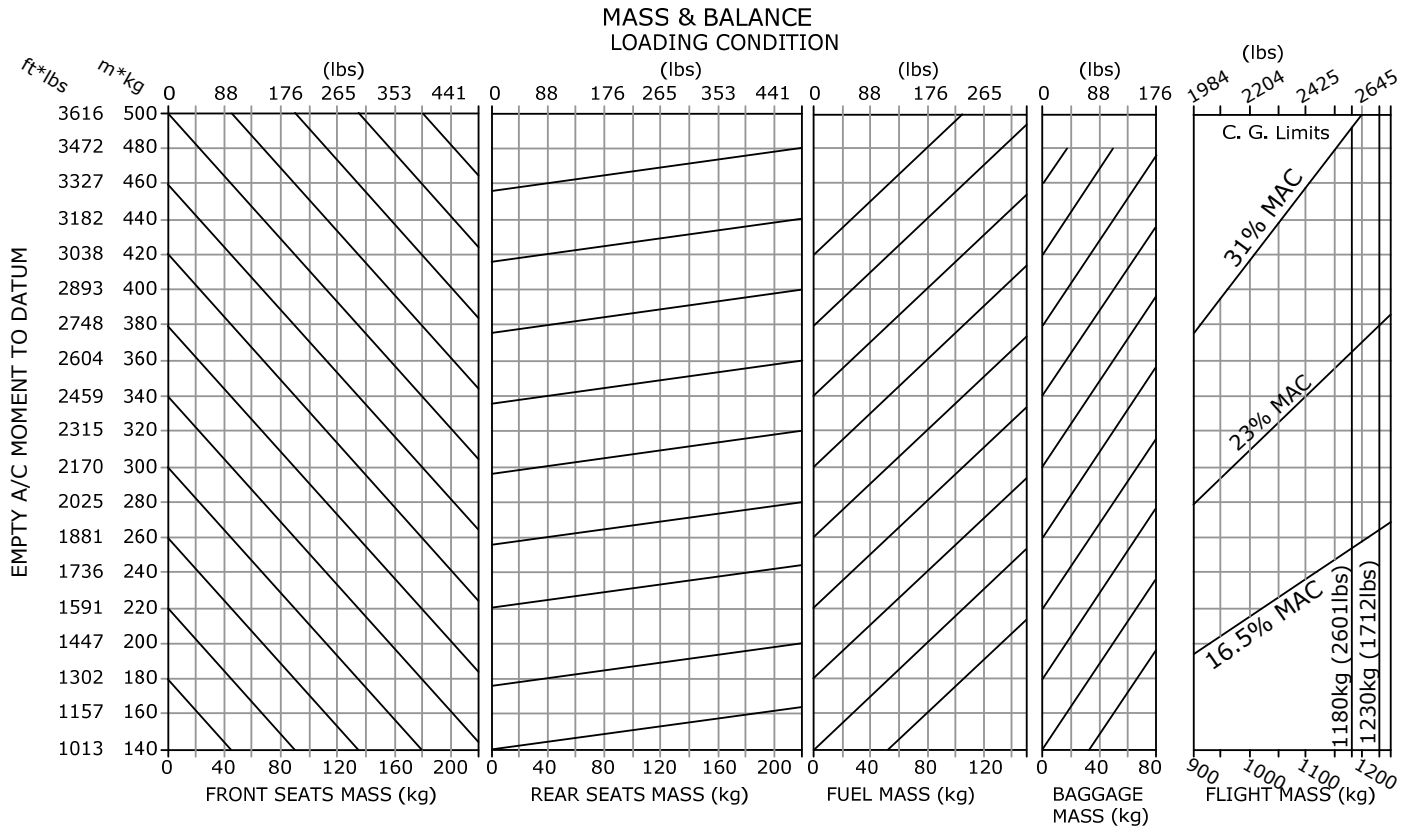
Mark up these charts in red so that it is easy for the examiner to see how you came up with your performance figures

Tecnam P2006T Weight and Balance Diagram

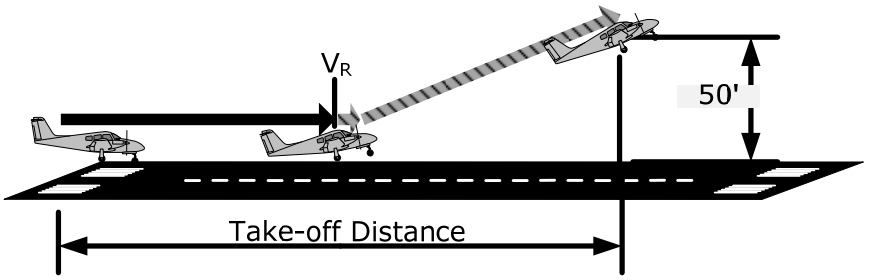
	Weight (lbs)	Arm (ft)	Moment (ft-lbs)
Basic Empty Weight			
Pilot & Co-Pilot		-2.973	
Rear Passengers		0.345	
Cockpit Baggage (Max 176 lb)		3.895	
Zero Fuel Total (Max 2524 lb)			
Fuel, Main Tanks (6 lb/USG)		2.450	
Take-Off Weight (Max 2601 lb)			
Trip Fuel, Main Tanks (6 lb/USG)		2.450	
Landing Weight (Max 2601 lb)			

NOTE:
Weight and CG location must be within limitations at all times during the flight. It is not sufficient to simply calculate the weight and balance at take-off

Center of Gravity Range:
Forward Limit: 0.725 ft (16.5% MAC) aft of datum, all weights
Aft Limit: 1.361 ft (31% MAC) aft of datum, all weights



TAKE-OFF DISTANCE REQUIRED
HEAVY WEIGHT (1180 kg [2601 lb])



Flaps: Take-Off
Speed at Lift-Off: 65 KIAS
Speed Over 50 ft Obstacle: 70 KIAS
Throttle Levers: Full Forward
Runway: Grass

Corrections

Headwind: - 2.5 m (- 8 ft) for each knot
Tailwind: + 10 m (+ 33 ft) for each knot
Paved Runway: - 6% to Ground Roll
Runway Slope: + 5% to Ground Roll for each + 1%

Pressure Altitude (ft)		Distance (m)				
		Temperature (°C)				ISA
		-25	0	25	50	
S.L.	Ground Roll	208	258	313	374	**290**
	At 50 ft AGL	266	331	404	485	**373**
1000	Ground Roll	230	284	346	413	**315**
	At 50 ft AGL	294	366	447	537	**407**
2000	Ground Roll	254	315	382	457	**343**
	At 50 ft AGL	326	406	495	595	**444**
3000	Ground Roll	281	348	423	505	**374**
	At 50 ft AGL	401	499	610	733	**529**
4000	Ground Roll	311	385	468	560	**408**
	At 50 ft AGL	401	499	610	733	**529**
5000	Ground Roll	345	427	519	620	**445**
	At 50 ft AGL	445	555	677	814	**579**
6000	Ground Roll	383	474	575	688	**486**
	At 50 ft AGL	495	617	753	906	**633**
7000	Ground Roll	425	526	639	764	**531**
	At 50 ft AGL	551	686	839	1008	**693**
8000	Ground Roll	472	585	710	849	**581**
	At 50 ft AGL	614	765	934	1123	**759**
9000	Ground Roll	525	650	790	945	**635**
	At 50 ft AGL	685	853	1042	1253	**833**
10000	Ground Roll	585	724	879	1052	**696**
	At 50 ft AGL	764	952	1163	1399	**914**

NOTE:
These distances are given in meters, just as they are in the aircraft flight manual (AFM). Be careful! Runway length in Canada is given in feet, so make sure you convert the performance distances from meters to feet before comparing with the runway length available. Always remember to check that you are using the correct units in your calculations!

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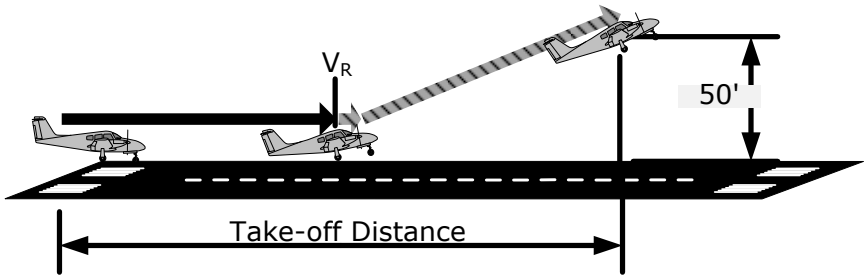
TAKE-OFF DISTANCE REQUIRED
MID-WEIGHT (1080 kg [2381 lb])



Flaps: Take-Off
Speed at Lift-Off: 65 KIAS
Speed Over 50 ft Obstacle: 70 KIAS
Throttle Levers: Full Forward
Runway: Grass

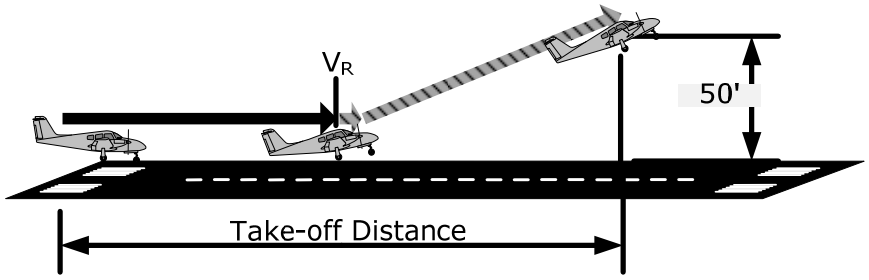
Corrections

Headwind: - 2.5 m (- 8 ft) for each knot
Tailwind: + 10 m (+ 33 ft) for each knot
Paved Runway: - 6% to Ground Roll
Runway Slope: + 5% to Ground Roll for each + 1%

Pressure Altitude (ft)		Distance (m)				
		Temperature (°C)				ISA
		-25	0	25	50	
S.L.	Ground Roll	148	188	234	286	**215**
	At 50 ft AGL	193	246	306	374	**281**
1000	Ground Roll	165	210	261	319	**235**
	At 50 ft AGL	216	274	341	418	**308**
2000	Ground Roll	184	234	291	356	**258**
	At 50 ft AGL	241	306	381	466	**338**
3000	Ground Roll	206	262	326	398	**284**
	At 50 ft AGL	301	383	477	583	**409**
4000	Ground Roll	230	293	364	446	**312**
	At 50 ft AGL	301	383	477	583	**409**
5000	Ground Roll	258	328	408	499	**343**
	At 50 ft AGL	338	429	534	653	**449**
6000	Ground Roll	289	368	457	559	**378**
	At 50 ft AGL	378	481	599	732	**495**
7000	Ground Roll	324	412	513	628	**417**
	At 50 ft AGL	425	540	672	822	**545**
8000	Ground Roll	364	463	577	705	**460**
	At 50 ft AGL	477	606	755	923	**602**
9000	Ground Roll	410	521	648	793	**508**
	At 50 ft AGL	536	682	849	1038	**664**
10000	Ground Roll	461	586	730	893	**561**
	At 50 ft AGL	604	767	955	1168	**734**

NOTE:
These distances are given in meters, just as they are in the aircraft flight manual (AFM). Be careful! Runway length in Canada is given in feet, so make sure you convert the performance distances from meters to feet before comparing with the runway length available. Always remember to check that you are using the correct units in your calculations!

TAKE-OFF DISTANCE REQUIRED
LIGHT WEIGHT (930 kg [2050 lb])



Flaps: Take-Off
Speed at Lift-Off: 65 KIAS
Speed Over 50 ft Obstacle: 70 KIAS
Throttle Levers: Full Forward
Runway: Grass

Corrections

Headwind: - 2.5 m (- 8 ft) for each knot
Tailwind: + 10 m (+ 33 ft) for each knot
Paved Runway: - 6% to Ground Roll
Runway Slope: + 5% to Ground Roll for each + 1%

Pressure Altitude (ft)		Distance (m)				
		Temperature (°C)				ISA
		-25	0	25	50	
S.L.	Ground Roll	100	127	158	194	**146**
	At 50 ft AGL	131	167	207	254	**190**
1000	Ground Roll	112	142	177	216	**160**
	At 50 ft AGL	146	186	231	283	**209**
2000	Ground Roll	125	159	197	242	**175**
	At 50 ft AGL	163	208	258	316	**229**
3000	Ground Roll	140	177	221	271	**192**
	At 50 ft AGL	204	260	323	395	**277**
4000	Ground Roll	156	198	247	302	**212**
	At 50 ft AGL	204	260	323	395	**277**
5000	Ground Roll	175	222	277	338	**233**
	At 50 ft AGL	229	291	362	443	**305**
6000	Ground Roll	196	249	310	379	**256**
	At 50 ft AGL	257	326	406	496	**335**
7000	Ground Roll	220	280	348	426	**282**
	At 50 ft AGL	288	366	455	557	**370**
8000	Ground Roll	247	314	391	478	**312**
	At 50 ft AGL	323	411	512	626	**408**
9000	Ground Roll	278	353	440	538	**344**
	At 50 ft AGL	364	462	575	704	**450**
10000	Ground Roll	313	397	495	605	**380**
	At 50 ft AGL	409	520	648	792	**498**

NOTE:
These distances are given in meters, just as they are in the aircraft flight manual (AFM). Be careful! Runway length in Canada is given in feet, so make sure you convert the performance distances from meters to feet before comparing with the runway length available. Always remember to check that you are using the correct units in your calculations!

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TAKE-OFF RATE OF CLIMB
ALL ENGINES OPERATING

Power Setting: Maximum Continuous Power
Flaps: Take-Off
Landing Gear: Up

Weight (kg)	Pressure Altitude (ft)	Best Rate of Climb Speed Vy (KIAS)	Rate of Climb (fpm)				
			Temperature (°C)				ISA
			-25	0	25	50	
1180	**S.L.**	85	1347	1154	982	826	**1048**
	2000	82	1200	1010	841	688	**933**
	4000	79	1054	867	701	551	**818**
	6000	76	908	725	561	413	**704**
	8000	73	763	583	422	277	**589**
	10000	70	618	441	283	141	**474**
	12000	97	473	300	145	5	**359**
	14000	94	330	159	7	-130	**244**
1080	**S.L.**	85	1507	1302	1119	954	**1190**
	2000	82	1351	1150	970	808	**1068**
	4000	79	1196	998	822	622	**946**
	6000	76	1041	847	674	517	**825**
	8000	73	887	696	526	372	**703**
	10000	69	734	546	379	228	**581**
	12000	66	581	397	232	84	**459**
	14000	63	428	248	86	-59	**338**
930	**S.L.**	85	1803	1575	1372	1189	**1451**
	2000	82	1630	1406	1206	1026	**1315**
	4000	79	1457	1238	1041	864	**1180**
	6000	75	1286	1070	877	703	**1045**
	8000	72	1114	902	713	542	**909**
	10000	69	944	735	549	382	**774**
	12000	65	774	569	387	222	**639**
	14000	62	604	404	224	63	**503**

TAKE-OFF RATE OF CLIMB at Vx
ALL ENGINES OPERATING

Power Setting: Maximum Continuous Power
Flaps: Take-Off
Landing Gear: Up

Weight (kg)	Pressure Altitude (ft)	Best Angle of Climb Speed Vx (KIAS)	Rate of Climb (fpm)				
			Temperature (°C)				ISA
			-25	0	25	50	
1180	**S.L.**	78	1283	1102	940	794	**1002**
	1000	76	1214	1034	874	729	**949**
	2000	75	1145	967	808	664	**895**
	3000	74	1076	900	742	600	**841**
	4000	73	1008	833	676	535	**787**
	5000	72	939	766	611	471	**733**
	6000	71	871	699	545	407	**679**
	7000	70	803	632	480	342	**625**
1080	**S.L.**	78	1283	1102	940	794	**1002**
	1000	76	1214	1034	874	729	**949**
	2000	75	1145	967	808	664	**895**
	3000	74	1076	900	742	600	**841**
	4000	73	1008	833	676	535	**787**
	5000	72	939	766	611	471	**733**
	6000	71	871	699	545	407	**679**
	7000	70	803	632	480	342	**625**
930	**S.L.**	78	1435	1243	1072	918	**1138**
	1000	76	1362	1172	1002	849	**1081**
	2000	75	1289	1101	932	780	**1024**
	3000	74	1216	1030	863	712	**967**
	4000	73	1144	958	793	644	**910**
	5000	72	1071	888	724	576	**853**
	6000	71	999	817	654	508	**796**
	7000	69	927	746	585	440	**739**

ENROUTE RATE OF CLIMB
ALL ENGINES OPERATING

Power Setting: Maximum Continuous Power
Flaps: Up
Landing Gear: Up

Weight (kg)	Pressure Altitude (ft)	Best Rate of Climb Speed Vy (KIAS)	Rate of Climb (fpm)				
			Temperature (°C)				ISA
			-25	0	25	50	
1180	**S.L.**	84	1392	1205	1038	887	**1102**
	2000	83	1249	1066	901	753	**991**
	4000	81	1108	927	766	620	**880**
	6000	79	966	789	630	487	**768**
	8000	77	826	651	495	355	**657**
	10000	75	685	514	361	223	**546**
	12000	73	545	377	227	92	**434**
	14000	71	406	241	93	-39	**323**
1080	**S.L.**	83	1560	1360	1182	1022	**1251**
	2000	82	1408	1212	1037	879	**1132**
	4000	80	1257	1064	892	737	**1014**
	6000	78	1106	917	748	595	**895**
	8000	76	956	770	604	454	**776**
	10000	74	807	624	461	314	**658**
	12000	72	657	478	318	173	**539**
	14000	70	509	333	175	34	**420**
930	**S.L.**	82	1853	1649	1449	1269	**1527**
	2000	81	1703	1483	1286	1109	**1393**
	4000	79	1533	1317	1124	950	**1260**
	6000	77	1364	1141	962	791	**1127**
	8000	75	1196	987	800	632	**994**
	10000	73	1028	823	639	474	**861**
	12000	71	860	659	479	317	**727**
	14000	69	693	496	319	160	**594**

ENROUTE RATE OF CLIMB at Vx
ALL ENGINES OPERATING

Power Setting: Maximum Continuous Power
Flaps: Up
Landing Gear: Up

Weight (kg)	Pressure Altitude (ft)	Best Rate of Climb Speed Vx (KIAS)	Rate of Climb (fpm)				
			Temperature (°C)				ISA
			-25	0	25	50	
1180	S.L.	72	1315	1142	987	848	**1047**
	1000	72	1249	1077	924	786	**996**
	2000	72	1183	1013	861	724	**944**
	3000	72	1118	949	799	663	**893**
	4000	72	1052	885	736	601	**841**
	5000	71	987	821	673	540	**790**
	6000	71	922	757	611	479	**738**
	7000	71	856	694	548	417	**687**
1080	S.L.	72	1480	1295	1130	981	**1194**
	1000	72	1410	1226	1062	915	**1139**
	2000	72	1340	1158	955	848	**1084**
	3000	72	1269	1089	928	782	**1029**
	4000	71	1199	1020	861	717	**973**
	5000	71	1129	952	794	651	**918**
	6000	71	1059	884	727	585	**863**
	7000	71	990	815	660	520	**808**
930	S.L.	72	1787	1578	1391	1223	**1463**
	1000	72	1707	1500	1315	1148	**1401**
	2000	71	1628	1422	1239	1074	**1339**
	3000	71	1549	1345	1163	999	**1277**
	4000	71	1470	1268	1087	925	**1215**
	5000	71	1391	1190	1012	851	**1153**
	6000	71	1312	1113	936	777	**1090**
	7000	70	1233	1036	861	703	**1028**

ONE-ENGINE RATE OF CLIMB

Power Setting: Maximum Continuous Power (operating engine)
Propeller Feathered (inoperative engine)
Flaps: Up
Landing Gear: Up

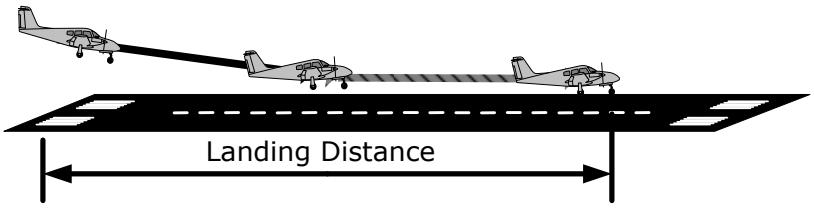
Weight (kg)	Pressure Altitude (ft)	Best Rate of Climb Speed Vyse (KIAS)	Rate of Climb (fpm)				
			Temperature (°C)				ISA
			-25	0	25	50	
1180	**S.L.**	80	362	261	171	89	**206**
	1000	80	324	224	134	53	**176**
	2000	80	285	186	97	17	**146**
	3000	79	247	148	60	-19	**116**
	4000	79	209	111	24	-55	**85**
	5000	79	171	74	-13	-91	**55**
	6000	79	132	36	-49	-127	**25**
	7000	78	94	-1	-86	-163	**-5**
1080	**S.L.**	80	436	330	235	149	**271**
	1000	80	396	290	196	111	**240**
	2000	79	355	251	157	73	**208**
	3000	79	315	211	118	35	**176**
	4000	79	275	172	80	-3	**145**
	5000	79	234	132	41	-41	**113**
	6000	78	194	93	3	-78	**81**
	7000	78	154	54	-35	-116	**50**
930	**S.L.**	79	574	455	349	253	**390**
	1000	79	529	411	305	211	**355**
	2000	79	483	367	262	168	**319**
	3000	78	438	322	219	126	**284**
	4000	78	393	278	176	83	**248**
	5000	78	348	235	133	41	**213**
	6000	78	304	191	90	-1	**178**
	7000	77	259	147	47	-43	**142**

ONE-ENGINE RATE OF CLIMB AT Vxse

Power Setting: Maximum Continuous Power (operating engine)
Propeller Feathered (inoperative engine)
Flaps: Up
Landing Gear: Up

Weight (kg)	Pressure Altitude (ft)	Best Rate of Climb Speed Vxse (KIAS)	Rate of Climb (fpm)				
			Temperature (°C)				ISA
			-25	0	25	50	
1180	**S.L.**	79	356	257	168	88	**203**
	1000	79	319	220	132	53	**173**
	2000	79	281	183	96	17	**144**
	3000	79	243	146	60	-18	**114**
	4000	78	206	110	24	-53	**84**
	5000	78	168	73	-12	-89	**55**
	6000	78	131	36	-48	-124	**25**
	7000	78	93	0	-84	-159	**-4**
1080	**S.L.**	79	424	321	229	147	**265**
	1000	79	385	283	192	110	**234**
	2000	79	346	245	155	73	**204**
	3000	79	307	207	117	37	**173**
	4000	79	268	169	80	0	**143**
	5000	78	229	131	43	-36	**112**
	6000	78	190	93	6	-73	**81**
	7000	78	152	55	-31	-109	**51**
930	**S.L.**	78	556	442	341	249	**380**
	1000	78	513	400	299	209	**346**
	2000	78	469	358	258	168	**312**
	3000	78	426	316	217	128	**279**
	4000	78	383	274	176	87	**245**
	5000	78	340	232	134	47	**211**
	6000	77	298	190	93	7	**177**
	7000	77	255	148	52	-34	**143**

LANDING DISTANCE REQUIRED
HEAVY WEIGHT (1180 kg [2601 lb])



Flaps: LAND
Short Final Approach Speed: 70 KIAS
Throttle Levers: Idle
Runway: Grass

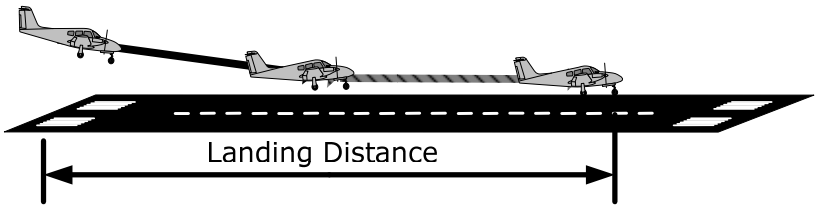
Corrections

Headwind: - 5 m (- 16 ft) for each knot
Tailwind: + 11 m (+ 36 ft) for each knot
Paved Runway: - 2% to Ground Roll
Runway Slope: - 2.5% to Ground Roll for each + 1%

Pressure Altitude (ft)		Distance (m)				
		Temperature (°C)				ISA
		-25	0	25	50	
S.L.	Ground Roll	183	202	220	238	**213**
	At 50 ft AGL	288	312	335	358	**326**
1000	Ground Roll	190	209	228	247	**219**
	At 50 ft AGL	297	321	345	369	**334**
2000	Ground Roll	197	217	237	256	**226**
	At 50 ft AGL	306	331	356	381	**342**
3000	Ground Roll	204	225	245	266	**232**
	At 50 ft AGL	325	352	379	405	**360**
4000	Ground Roll	212	233	255	276	**239**
	At 50 ft AGL	325	352	379	405	**360**
5000	Ground Roll	220	242	264	287	**247**
	At 50 ft AGL	335	363	391	418	**369**
6000	Ground Roll	228	251	275	298	**254**
	At 50 ft AGL	346	375	403	431	**378**
7000	Ground Roll	237	261	285	309	**262**
	At 50 ft AGL	357	387	416	445	**388**
8000	Ground Roll	246	271	296	321	**270**
	At 50 ft AGL	368	399	430	460	**398**
9000	Ground Roll	256	282	308	334	**279**
	At 50 ft AGL	380	412	444	475	**409**
10000	Ground Roll	266	293	320	347	**288**
	At 50 ft AGL	393	426	459	491	**420**

NOTE:
These distances are given in meters, just as they are in the aircraft flight manual (AFM). Be careful! Runway length in Canada is given in feet, so make sure you convert the performance distances from meters to feet before comparing with the runway length available. Always remember to check that you are using the correct units in your calculations!

LANDING DISTANCE REQUIRED
MID WEIGHT (1080 kg [2381 lb])



Flaps: LAND
Short Final Approach Speed: 70 KIAS
Throttle Levers: Idle
Runway: Grass

Corrections

Headwind: - 5 m (- 16 ft) for each knot
Tailwind: + 11 m (+ 36 ft) for each knot
Paved Runway: - 2% to Ground Roll
Runway Slope: - 2.5% to Ground Roll for each + 1%

Pressure Altitude (ft)		Distance (m)				
		Temperature (°C)				ISA
		-25	0	25	50	
S.L.	Ground Roll	175	192	210	227	**203**
	At 50 ft AGL	271	293	315	337	**306**
1000	Ground Roll	181	199	218	236	**209**
	At 50 ft AGL	279	302	325	348	**314**
2000	Ground Roll	188	207	226	245	**215**
	At 50 ft AGL	288	311	335	358	**322**
3000	Ground Roll	195	215	234	254	**222**
	At 50 ft AGL	306	331	356	381	**338**
4000	Ground Roll	202	223	243	263	**228**
	At 50 ft AGL	306	331	356	381	**338**
5000	Ground Roll	210	231	252	273	**235**
	At 50 ft AGL	315	352	368	394	**347**
6000	Ground Roll	218	240	262	284	**243**
	At 50 ft AGL	325	353	380	406	**356**
7000	Ground Roll	226	249	272	295	**250**
	At 50 ft AGL	336	364	392	420	**365**
8000	Ground Roll	235	259	283	306	**258**
	At 50 ft AGL	347	376	405	434	**375**
9000	Ground Roll	244	269	294	318	**266**
	At 50 ft AGL	358	388	418	448	**385**
10000	Ground Roll	254	280	305	331	**275**
	At 50 ft AGL	370	401	432	463	**395**

NOTE:
These distances are given in meters, just as they are in the aircraft flight manual (AFM). Be careful! Runway length in Canada is given in feet, so make sure you convert the performance distances from meters to feet before comparing with the runway length available. Always remember to check that you are using the correct units in your calculations!

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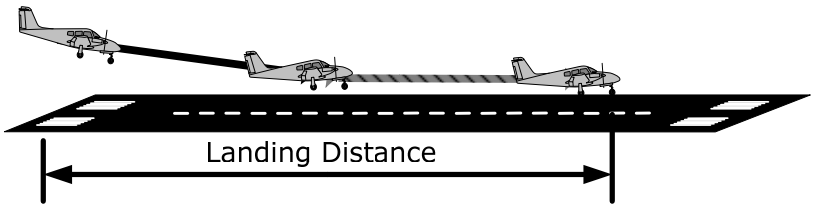
LANDING DISTANCE REQUIRED
LIGHT WEIGHT (930 kg [2050 lb])



Flaps: LAND
Short Final Approach Speed: 70 KIAS
Throttle Levers: Idle
Runway: Grass

Corrections

Headwind: - 5 m (- 16 ft) for each knot
Tailwind: + 11 m (+ 36 ft) for each knot
Paved Runway: - 2% to Ground Roll
Runway Slope: - 2.5% to Ground Roll for each + 1%

Pressure Altitude (ft)		Distance (m)				
		Temperature (°C)				ISA
		-25	0	25	50	
S.L.	Ground Roll	150	166	181	196	**175**
	At 50 ft AGL	233	252	271	290	**264**
1000	Ground Roll	156	172	187	203	**180**
	At 50 ft AGL	240	260	280	299	**270**
2000	Ground Roll	162	178	194	211	**185**
	At 50 ft AGL	248	268	288	309	**277**
3000	Ground Roll	168	185	202	219	**191**
	At 50 ft AGL	263	285	307	328	**291**
4000	Ground Roll	174	192	209	227	**197**
	At 50 ft AGL	263	285	307	328	**291**
5000	Ground Roll	181	199	217	235	**203**
	At 50 ft AGL	272	294	317	339	**299**
6000	Ground Roll	188	207	226	244	**209**
	At 50 ft AGL	280	304	327	350	**307**
7000	Ground Roll	195	215	234	254	**215**
	At 50 ft AGL	289	313	338	361	**315**
8000	Ground Roll	203	223	243	264	**222**
	At 50 ft AGL	299	324	349	373	**323**
9000	Ground Roll	210	232	253	274	**229**
	At 50 ft AGL	308	334	360	386	**331**
10000	Ground Roll	219	241	263	285	**237**
	At 50 ft AGL	319	346	372	399	**340**

NOTE:
These distances are given in meters, just as they are in the aircraft flight manual (AFM). Be careful! Runway length in Canada is given in feet, so make sure you convert the performance distances from meters to feet before comparing with the runway length available. Always remember to check that you are using the correct units in your calculations!