AIR PLAINS

Cessna 172
180 HP
Performance Data

Performance data information on the following pages are presented so that you may know what to expect from the airplane under various conditions.

The data tables provided here are NOT FAA APPROVED and shall be used as a reference only information to facilitate the planning of flights with reasonable accuracy.

TAKEOFF DISTANCE

MAXIMUM WEIGHT 2550 LBS

SHORT FIELD

1. Prior to takeoff from fields above 3000 feet elevation, the mixture should be leaned to give maximum RPM in a full throttle, static run-up.
2. Decrease distances 10% for each 9 knots headwind. For operation with tailwinds up to 10 knots, increase distances by 10% for each 2 knots.
3. For operation on a dry, grass runway, increase distances by 15% of the "ground roll" figure.

WEIGHT LBS	TAKEOFF SPEED KIAS		PRESS ALT FT	0°C		10°C		20°C		30°C		40°C	
	LIFT OFF	AT 50 FT		GRND ROLL FT	TOTAL FT TO CLEAR 50 FT OBS	GRND ROLL FT	TOTAL FT TO CLEAR 50 FT OBS	GRND ROLL FT	TOTAL FT TO CLEAR 50 FT OBS	GRND ROLL FT	TOTAL FT TO CLEAR 50 FT OBS	GRND ROLL FT	TOTAL FT TO CLEAR 50 FT OBS
2550	48	57	S.L.	860	1520	925	1630	995	1750	1070	1880	1150	2015
			1000	940	1665	1015	1790	1090	1925	1175	2070	1260	2225
			2000	1030	1830	1110	1970	1195	2125	1290	2285	1385	2460
			3000	1130	2015	1220	2175	1315	2350	1415	2535	1520	2740
			4000	1245	2230	1345	2415	1450	2615	1560	2830	1675	3060
			5000	1370	2480	1480	2690	1595	2920	1720	3170	1850	3450
			6000	1510	2770	1635	3015	1765	3290	1900	3585	2050	3925
			7000	1670	3120	1805	3410	1950	3735	2105	4100	2270	4520
			8000	1850	3535	2000	3890	2165	4295	2340	4760	2525	5315

Figure 1 - Takeoff Distance 2550

MAXIMUM WEIGHT 2400 AND 2200 LBS

SHORT FIELD

WEIGHT LBS	TAKEOFF SPEED KIAS		PRESS ALT FT	0°C		10°C		20°C		30°C		40°C	
	LIFT OFF	AT 50 FT		GRND ROLL FT	TOTAL FT TO CLEAR 50 FT OBS	GRND ROLL FT	TOTAL FT TO CLEAR 50 FT OBS	GRND ROLL FT	TOTAL FT TO CLEAR 50 FT OBS	GRND ROLL FT	TOTAL FT TO CLEAR 50 FT OBS	GRND ROLL FT	TOTAL FT TO CLEAR 50 FT OBS
2400	47	55	S.L.	745	1320	805	1415	865	1520	925	1625	995	1745
			1000	815	1445	880	1550	945	1665	1015	1785	1090	1915
			2000	895	1585	965	1705	1035	1830	1115	1965	1195	2110
			3000	980	1740	1055	1875	1135	2020	1225	2170	1315	2335
			4000	1075	1920	1160	2070	1250	2235	1345	2405	1445	2595
			5000	1185	2125	1275	2295	1375	2480	1485	2680	1595	2900
			6000	1305	2360	1410	2555	1520	2770	1635	3005	1760	3260
			7000	1440	2635	1555	2860	1680	3115	1810	3390	1950	3700
			8000	1590	2960	1720	3230	1860	3530	2005	3865	2165	4245
2200	45	53	S.L.	610	1090	660	1165	705	1245	760	1335	815	1425
			1000	670	1190	720	1270	775	1360	830	1460	890	1560
			2000	730	1295	785	1390	845	1490	910	1600	975	1710
			3000	800	1420	860	1525	930	1635	995	1755	1070	1885
			4000	875	1560	945	1675	1020	1800	1095	1935	1175	2080
			5000	965	1715	1040	1850	1120	1990	1205	2140	1295	2305
			6000	1060	1895	1145	2045	1235	2205	1325	2380	1425	2565
			7000	1170	2100	1260	2270	1360	2455	1465	2655	1575	2870
			8000	1290	2335	1395	2535	1505	2745	1620	2980	1745	3235

Figure 2 - Takeoff Distance 2400 and 2200

MAXIMUM RATE OF CLIMB

CONDITION:
Flaps up
Full Throttle
Mixture leaned above 3000 feet for maximum performance

WEIGHT LBS	PRESS ALT FT	CLIMB SPEED KIAS	RATE OF CLIMB - FPM			
			-20°C	0°C	20°C	40°C
2550	S.L.	73	795	730	665	600
	2000	73	705	645	585	525
	4000	73	625	565	510	450
	6000	72	540	485	430	370
	8000	72	460	405	350	295
	10,000	72	380	325	275	- - -
	12,000	72	300	250	- - -	- - -

TIME, FUEL, AND DISTANCE TO CLIMB

CONDITION:
Flaps up
Full Throttle
Standard Temperature
NOTES:

1. Add 1.4 gallons of fuel for engine start, taxi and takeoff allowance.
2. Mixture leaned above 3000 feet for maximum RPM.
3. Increase time, fuel and distance by 10% for each 10°C above standard temperature.
4. Distances shown are based on zero wind.

WEIGHT LBS	PRESSURE ALTITUDE FT	TEMP °C	CLIMB SPEED KIAS	RATE OF CLIMB FPM	FROM SEA LEVEL		
					TIME MIN	FUEL USED GALLONS	DISTANCE NM
2550	S.L.	15	73	680	0	0.0	0
	1000	13	73	645	2	0.4	2
	2000	11	73	615	3	0.8	4
	3000	9	73	580	5	1.3	6
	4000	7	73	545	7	1.7	8
	5000	5	73	510	9	2.2	11
	6000	3	72	475	11	2.7	14
	7000	1	72	440	13	3.1	17
	8000	-1	72	410	15	3.6	20
	9000	-3	72	375	18	4.2	24
	10,000	-5	72	340	21	4.7	28
	11,000	-7	72	305	24	5.3	32
	12,000	-9	72	270	27	5.9	37

CRUISE PERFORMANCE

CONDITION:
2550 LBS

PRESSURE ALTITUDE FT	RPM	20°C BELOW STANDARD TEMP			STANDARD TEMPERATURE			20°C ABOVE STANDARD TEMP		
		% BHP	KTAS	GPH	% BHP	KTAS	GPH	% BHP	KTAS	GPH
2000	2550	- - -	- - -	- - -	76	116	10.2	72	115	9.6
	2500	77	114	10.3	72	113	9.6	68	113	9.1
	2400	69	109	9.2	64	108	8.7	61	107	8.3
	2300	61	103	8.3	58	103	7.9	55	102	7.6
	2200	55	98	7.5	52	97	7.2	49	96	6.9
	2100	49	92	6.8	46	91	6.6	43	89	6.3
4000	2600	- - -	- - -	- - -	76	118	10.2	72	117	9.6
	2500	73	113	9.7	68	113	9.2	65	112	8.7
	2400	65	108	8.8	62	107	8.3	58	107	8.0
	2300	58	103	8.0	55	102	7.6	52	101	7.3
	2200	52	97	7.3	49	96	6.9	47	94	6.6
	2100	46	91	6.6	44	89	6.3	41	87	6.1
6000	2650	- - -	- - -	- - -	76	120	10.1	72	119	9.6
	2600	77	118	10.3	72	117	9.6	68	117	9.1
	2500	69	113	9.3	65	112	8.8	62	111	8.4
	2400	62	108	8.4	59	107	8.0	56	106	7.6
	2300	56	102	7.7	53	101	7.3	50	99	7.0
	2200	50	96	7.0	47	95	6.7	44	93	6.4
8000	2700	- - -	- - -	- - -	76	122	10.1	71	121	9.5
	2600	73	117	9.8	69	117	9.2	65	116	8.7
	2500	66	112	8.8	62	111	8.4	59	110	8.0
	2400	59	107	8.1	56	106	7.7	53	104	7.3
	2300	53	101	7.4	50	100	7.0	47	98	6.7
	2200	47	95	6.7	45	93	6.4	42	90	6.1
10,000	2700	77	122	10.2	72	121	9.6	68	121	9.1
	2600	69	117	9.3	65	116	8.8	62	115	8.4
	2500	63	112	8.5	59	110	8.1	56	109	7.7
	2400	57	106	7.8	53	104	7.4	50	103	7.0
	2300	51	100	7.1	48	98	6.8	45	96	6.5
12,000	2650	69	119	9.3	65	118	8.8	62	117	8.4
	2600	66	116	8.9	62	115	8.4	59	114	8.0
	2500	60	111	8.2	56	109	7.7	53	107	7.4
	2400	54	105	7.5	51	103	7.1	48	100	6.7
	2300	48	98	6.8	45	96	6.5	42	93	6.2

LANDING DISTANCE

SHORT FIELD

CONDITIONS:
Flaps 30°
Power Off
Maximum Braking
Paved, Level, Dry Runway
Zero Wind

1. Decrease distances 10% for each 9 knots headwind. For operation with tailwinds up to 10 knots, increase distances by 10% for each 2 knots.
2. For operation on a dry, grass runway, increase distances by 45% of the "ground roll" figure.
3. If a landing with flaps up is necessary, increase the approach speed by 9 KIAS and allow for 35% longer distances.

WEIGHT LBS	SPEED AT 50 FT KIAS	PRESS ALT FT	0°C		10°C		20°C		30°C		40°C	
			GRND ROLL FT	TOTAL FT TO CLEAR 50 FT OBS	GRND ROLL FT	TOTAL FT TO CLEAR 50 FT OBS	GRND ROLL FT	TOTAL FT TO CLEAR 50 FT OBS	GRND ROLL FT	TOTAL FT TO CLEAR 50 FT OBS	GRND ROLL FT	TOTAL FT TO CLEAR 50 FT OBS
2550	62	S.L.	545	1290	565	1320	585	1350	605	1380	625	1415
		1000	565	1320	585	1350	605	1385	625	1420	650	1450
		2000	585	1355	610	1385	630	1420	650	1455	670	1490
		3000	610	1385	630	1425	655	1460	675	1495	695	1530
		4000	630	1425	655	1460	675	1495	700	1535	725	1570
		5000	655	1460	680	1500	705	1535	725	1575	750	1615
		6000	680	1500	705	1540	730	1580	755	1620	780	1660
		7000	705	1545	730	1585	760	1625	785	1665	810	1705
		8000	735	1585	760	1630	790	1670	815	1715	840	1755