

STALL SPEEDS

CONDITIONS:
Power Off
Gear Up or Down

NOTES:

1. Maximum altitude loss during a stall recovery may be as much as 230 feet.
2. KIAS values are approximate

MOST REARWARD CENTER OF GRAVITY

WEIGHT LBS	FLAP DEFLECTION	ANGLE OF BANK							
		0°		30°		45°		60°	
		KIAS	KCAS	KIAS	KCAS	KIAS	KCAS	KIAS	KCAS
2650	UP	46	54	49	58	55	64	65	76
	10°	42	52	45	56	50	62	59	74
	30°	39	50	42	54	47	59	56	71

MOST FORWARD CENTER OF GRAVITY

WEIGHT LBS	FLAP DEFLECTION	ANGLE OF BANK							
		0°		30°		45°		60°	
		KIAS	KCAS	KIAS	KCAS	KIAS	KCAS	KIAS	KCAS
2650	UP	51	57	55	61	61	68	72	81
	10°	46	54	49	58	55	64	65	76
	30°	42	51	45	55	50	61	59	72

Figure 5-3. Stall Speeds

TAKEOFF DISTANCE

MAXIMUM WEIGHT 2650 LBS

SHORT FIELD

CONDITIONS:

Flaps Up
2700 RPM and Full Throttle Prior to Brake Release
Cowl Flaps Open
Paved, Level Dry Runway
Zero Wind

NOTES:

1. Short field technique as specified in Section 4.
2. Prior to takeoff from fields above 3000 feet elevation, the mixture should be leaned to give maximum power in a full throttle, static runup.
3. Decrease distances 10% for each 9 knots headwind. For operation with tailwinds up to 10 knots, increase distances by 10% for each 2 knots.
4. 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	TOTAL TO CLEAR 50 FT OBS	GRND ROLL	TOTAL TO CLEAR 50 FT OBS	GRND ROLL	TOTAL TO CLEAR 50 FT OBS	GRND ROLL	TOTAL TO CLEAR 50 FT OBS	GRND ROLL	TOTAL TO CLEAR 50 FT OBS
2650	58	63	S.L.	955	1605	1025	1715	1100	1835	1175	1965	1260	2100
			1000	1040	1755	1120	1880	1200	2015	1285	2155	1375	2310
			2000	1140	1925	1225	2065	1315	2215	1410	2380	1510	2550
			3000	1250	2120	1340	2280	1440	2450	1545	2630	1655	2830
			4000	1370	2345	1475	2525	1585	2715	1700	2930	1820	3160
			5000	1505	2600	1620	2805	1740	3030	1870	3280	2005	3550
			6000	1660	2905	1785	3145	1920	3405	2065	3700	2215	4025
			7000	1830	3265	1970	3545	2120	3865	2280	4220	2450	4630
			8000	2025	3700	2180	4045	2350	4440	2530	4895	2720	5430

Figure 5-4. Takeoff Distance (Sheet 1 of 2)

TAKEOFF DISTANCE

2500 LBS AND 2300 LBS

SHORT FIELD

REFER TO SHEET 1 FOR APPROPRIATE CONDITIONS AND NOTES.

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	TOTAL TO CLEAR 50 FT OBS	GRND ROLL	TOTAL TO CLEAR 50 FT OBS	GRND ROLL	TOTAL TO CLEAR 50 FT OBS	GRND ROLL	TOTAL TO CLEAR 50 FT OBS	GRND ROLL	TOTAL TO CLEAR 50 FT OBS
2500	56	61	S.L.	835	1400	895	1495	960	1595	1025	1705	1100	1820
			1000	910	1525	975	1635	1045	1745	1120	1865	1200	1995
			2000	995	1670	1070	1790	1145	1915	1225	2050	1315	2195
			3000	1090	1835	1170	1965	1255	2105	1345	2260	1440	2420
			4000	1195	2015	1280	2165	1375	2325	1475	2500	1580	2685
			5000	1310	2230	1410	2400	1515	2580	1625	2780	1740	2990
			6000	1440	2470	1550	2665	1665	2875	1790	3105	1920	3355
			7000	1585	2760	1710	2980	1840	3230	1975	3500	2120	3800
			8000	1755	3095	1890	3360	2035	3655	2185	3980	2350	4350
2300	54	59	S.L.	690	1160	740	1240	790	1320	845	1405	905	1500
			1000	750	1265	805	1350	860	1440	920	1535	985	1635
			2000	820	1380	880	1475	940	1575	1010	1680	1080	1795
			3000	895	1505	960	1610	1030	1725	1105	1845	1180	1970
			4000	980	1650	1050	1770	1130	1895	1210	2025	1295	2170
			5000	1075	1815	1155	1950	1240	2090	1325	2240	1420	2400
			6000	1180	2005	1265	2150	1360	2310	1460	2485	1565	2670
			7000	1295	2220	1395	2385	1500	2570	1610	2765	1725	2980
			8000	1430	2465	1540	2660	1655	2875	1775	3105	1905	3355

Figure 5-4. Takeoff Distance (Sheet 2 of 2)

MAXIMUM RATE OF CLIMB

CONDITIONS:

Flaps Up
Gear Up
2700 RPM
Full Throttle
Mixture Leaned above 3000 Feet
Cowl Flaps Open

WEIGHT LBS	PRESS ALT FT	CLIMB SPEED KIAS	RATE OF CLIMB - FPM			
			-20°C	0°C	20°C	40°C
2650	S.L.	84	925	855	780	710
	2000	83	825	755	685	620
	4000	81	720	655	590	525
	6000	80	620	560	495	435
	8000	78	525	465	405	340
	10,000	77	430	370	310	---
	12,000	75	330	275	220	---

Figure 5-5. Maximum Rate of Climb

TIME, FUEL, AND DISTANCE TO CLIMB

MAXIMUM RATE OF CLIMB

CONDITIONS:

Flaps Up
Gear Up
2700 RPM
Full Throttle
Mixture Leaned above 3000 Feet
Cowl Flaps Open
Standard Temperature

NOTES:

1. Add 1.4 gallons of fuel for engine start, taxi, and takeoff allowance.
2. Increase time, fuel and distance by 10% for each 10°C above standard temperature.
3. 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
2650	S.L.	15	84	800	0	0.0	0
	1000	13	83	760	1	0.4	2
	2000	11	83	715	3	0.8	4
	3000	9	82	675	4	1.1	6
	4000	7	81	635	6	1.6	8
	5000	5	81	590	7	2.0	10
	6000	3	80	550	9	2.4	13
	7000	1	79	510	11	2.9	16
	8000	-1	78	465	13	3.3	19
	9000	-3	78	425	15	3.8	22
	10,000	-5	77	385	18	4.3	26
	11,000	-7	76	340	21	4.9	30
	12,000	-9	75	300	24	5.5	35

Figure 5-6. Time, Fuel, and Distance to Climb (Sheet 1 of 2)

TIME, FUEL, AND DISTANCE TO CLIMB

NORMAL CLIMB - 90 KIAS

CONDITIONS:

Flaps Up
Gear Up
2500 RPM
25 Inches Hg or Full Throttle
Mixture Leaned above 3000 Feet
Cowl Flaps Open
Standard Temperature

NOTES:

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

WEIGHT LBS	PRESSURE ALTITUDE FT	TEMP °C	RATE OF CLIMB FPM	FROM SEA LEVEL		
				TIME MIN	FUEL USED GALLONS	DISTANCE NM
2650	S.L.	15	530	0	0.0	0
	1000	13	530	2	0.4	3
	2000	11	530	4	0.7	6
	3000	9	530	6	1.1	9
	4000	7	530	8	1.4	12
	5000	5	520	9	1.8	15
	6000	3	475	11	2.2	18
	7000	1	430	14	2.6	22
	8000	-1	385	16	3.1	26

Figure 5-6. Time, Fuel, and Distance to Climb (Sheet 2 of 2)