

Model 180_1955_OM_1955 P132-13

LANDPLANE TAKE-OFF DATA

TAKE OFF DISTANCE WITH 20° FLAPS FROM FIRM SOD-TURF RUNWAY

GROSS WEIGHT LBS.	HEAD WIND MPH	AT SEA LEVEL & 59°F.		AT 2500 FT. & 50°F.		AT 5000 FT. & 41°F.		AT 7500 FT. & 32°F.	
		GROUND RUN	TO CLEAR 50' OBSTACLE	GROUND RUN	TO CLEAR 50' OBSTACLE	GROUND RUN	TO CLEAR 50' OBSTACLE	GROUND RUN	TO CLEAR 50' OBSTACLE
1950	0	202	637	257	752	307	854	379	999
	15	108	430	144	514	176	580	221	696
	30	42	250	61	307	79	361	104	434
2250	0	282	799	359	961	431	1105	536	1312
	15	160	552	210	671	256	777	326	933
	30	71	337	98	418	125	494	167	605
2550	0	382	995	488	1217	591	1421	734	1706
	15	227	700	296	864	366	1019	464	1269
	30	110	443	148	555	192	669	251	849

NOTE: INCREASE DISTANCES 10% FOR EACH 25 DEGREES F. ABOVE STANDARD TEMPERATURE FOR PARTICULAR ALTITUDE

LANDPLANE CLIMB DATA

GROSS WEIGHT LBS.	AT SEA LEVEL & 59°F			AT 5000 FT. & 41°F			AT 10000 FT. & 23°F			AT 15000 FT. & 5°F			AT 20000 FT. & -12°F		
	BEST CLIMB IAS MPH	RATE OF CLIMB FT/MIN	GAL. OF FUEL USED	BEST CLIMB IAS MPH	RATE OF CLIMB FT/MIN	From SL FUEL USED	BEST CLIMB IAS MPH	RATE OF CLIMB FT/MIN	From SL FUEL USED	BEST CLIMB IAS MPH	RATE OF CLIMB FT/MIN	From SL FUEL USED	BEST CLIMB IAS MPH	RATE OF CLIMB FT/MIN	From SL FUEL USED
1950	87	1690	1.5	83	1390	2.5	80	1090	3.6	74	790	4.9	66	490	6.7
2250	88	1390	1.5	85	1120	2.7	82	845	4.1	77	575	5.9	71	305	8.6
2550	90	1150	1.5	87	900	3.0	84	650	4.8	80	400	7.2	76	150	11.7

NOTE: FLAPS UP, FULL THROTTLE, 2550 RPM, & RICH MIXTURE. FUEL USED INCLUDES WARM-UP & TAKE-OFF ALLOWANCE

Figure 14. Take-Off & Climb Chart (Landplane)

Hi Brian,

Yes. You will add startup, taxi, and climb altogether. Here is what I received from our test flight pilot. That performed a quick number crunch using the 1955 Operating Manual for the Cessna 180 to calculate fuel flows. Engine fuel burn would be approximately 16.5 (16.1 to 16.7) during the climb from MSL to 5,000 feet pressure altitude at ISA conditions as

Weight	2550				
		Gal Used	Ave ROC	Time to Alt	GPH
MSL	Start Up	1.5	1150	-	-
5000	Climb	3	900	05:33	16.2
Weight	2250				
		Gal Used	Ave ROC	Time to Alt	GPH
MSL	Start Up	1.5	1150	-	-
5000	Climb	2.7	1120	04:28	16.128
Weight	1950				
		Gal Used	Ave ROC	Time to Alt	GPH
MSL	Start Up	1.5	1150	-	-
5000	Climb	2.5	1390	03:36	16.68

Kind regards,

Ernest Hall

Sr. Air Safety Investigator

Textron Fuel Consumption Estimates

Every chart is based on certain conditions and contains notes on how to adapt the information for flight conditions. It is important to read every chart and understand how to use it. Read the instructions provided by the manufacturer. For an explanation on how to use the charts, refer to the example provided by the manufacturer for that specific chart. *[Figure 11-20]*

The information manufacturers furnish is not standardized. Information may be contained in a table format and other information may be contained in a graph format. Sometimes combined graphs incorporate two or more graphs into one chart to compensate for multiple conditions of flight. Combined graphs allow the pilot to predict aircraft performance for variations in density altitude, weight, and winds all on one chart. Because of the vast amount of information that can be extracted from this type of chart, it is important to be very accurate in reading the chart. A small error in the beginning can lead to a large error at the end.

§ 91.151 Fuel requirements for flight in VFR conditions.

(a) No person may begin a flight in an airplane under VFR conditions unless (considering wind and forecast weather conditions) there is enough fuel to fly to the first point of intended landing and, assuming normal cruising speed—

(1) During the day, to fly after that for at least 30 minutes; or

(2) At night, to fly after that for at least 45 minutes.

(b) No person may begin a flight in a rotorcraft under VFR conditions unless (considering wind and forecast weather conditions) there is enough fuel to fly to the first point of intended landing and, assuming normal cruising speed, to fly after that for at least 20 minutes.