

Cessna 172 Performance Charts

The charts on the following two pages supplement the C-172P POH. The following charts are provided:

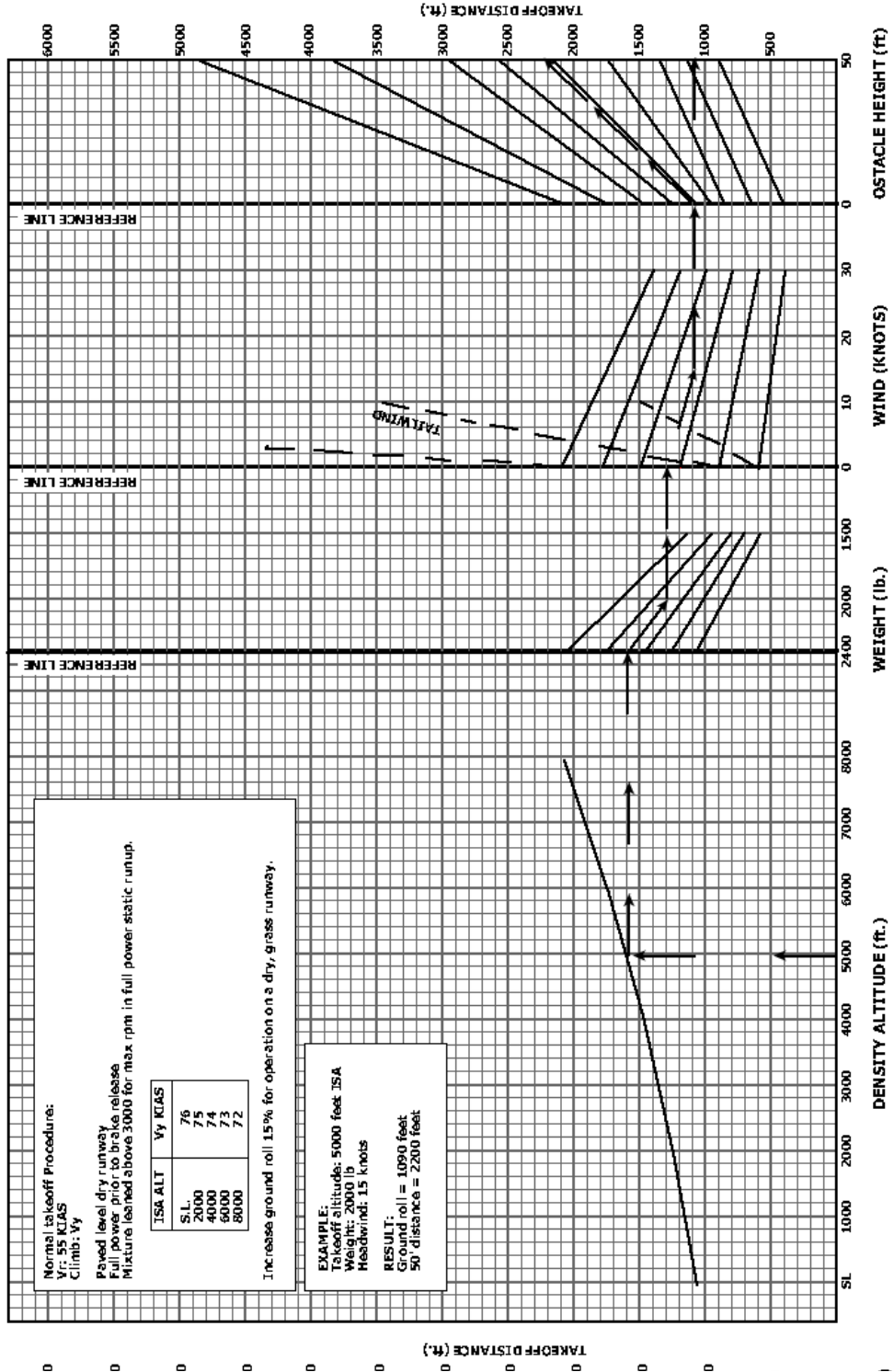
- Normal Takeoff Distance
- Accelerate Stop Distance
- Time fuel and distance to climb

Cessna did not choose to provide a normal takeoff distance chart; therefore we have created one so that you can plan your takeoffs. The chart was created by increasing the distance from Cessna's short field takeoff chart based on extensive experience Selkirk College has gained operating these airplanes for more than 20 years. The chart provides a conservative estimate of the distance required provided that the airplane is operating normally and the pilot climbs at the specified V_y speed.

Cessna does not provide an Accelerate Stop Distance (ASD) chart for the C-172. Therefore we have constructed one for your use. The chart was constructed by taking the normal takeoff distance and adding to that a 300-foot allowance for reaction time in the event of an abnormality, followed by a distance equal to the short field landing distance adjusted for weight. The chart provides a reasonable estimation of the **minimum** distance that would be required to accelerate to 55 KIAS then stop in an emergency. A rejected takeoff is however a very difficult maneuver for pilots to complete within specified distances. Accident statistics show that pilots often take longer to react in an emergency than ASD charts allow for and then often do NOT apply maximum braking initially. It is critical that you realize that in the event of an abnormality, if you reject the takeoff, you will only achieve the distance specified in the ASD chart if you PROMPTLY reduce power and apply MAXIMUM braking.

C-172P Normal Takeoff Distance

Use 'Normal Takeoff' procedure in POH
 Vr: 55 KIAS, Climb at Vy

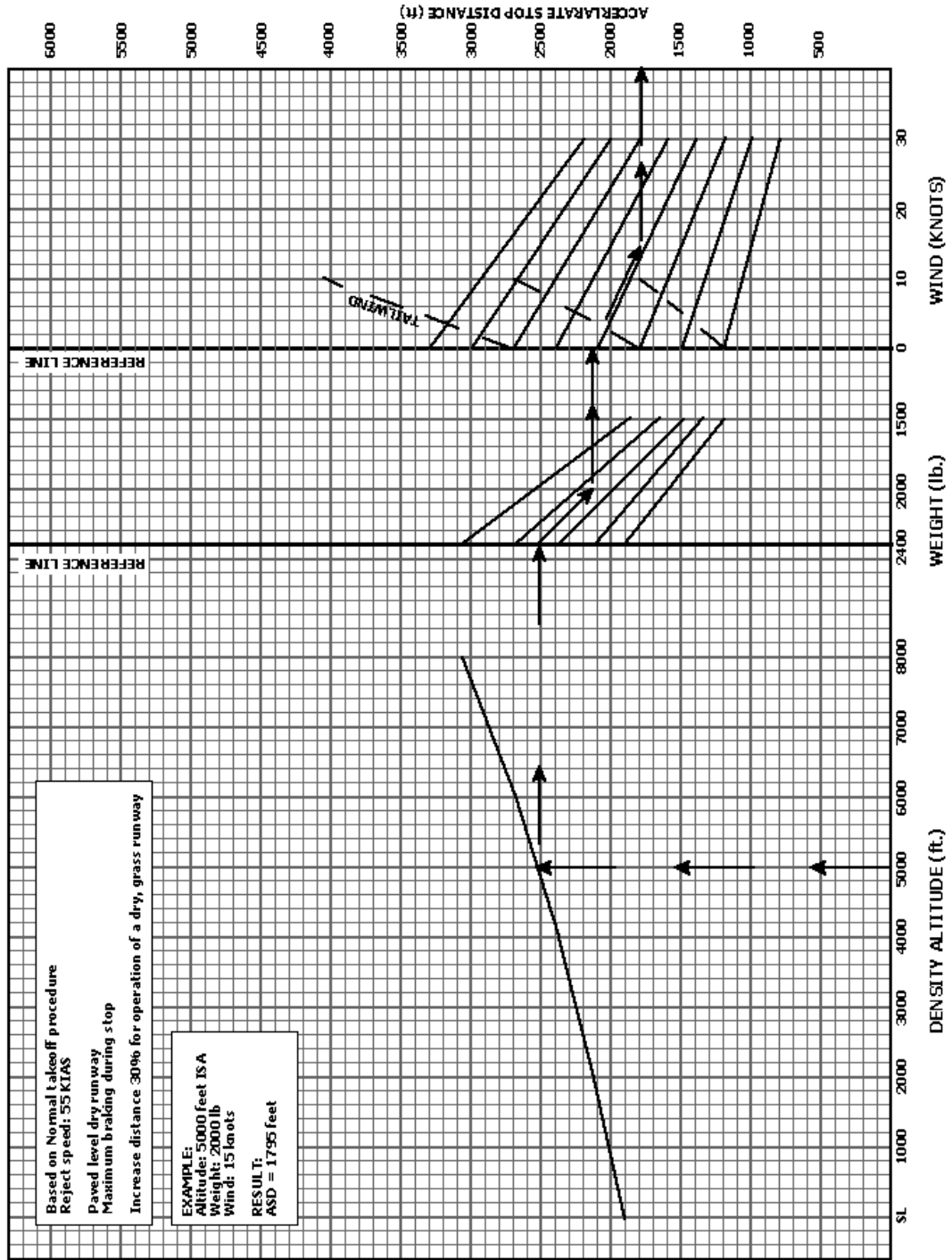


Produced by Selkirk College based on approved POH.
 For use by Selkirk College Professional Aviation students and instructors only.

Note that distances computed are estimates calculated by adding 5% for each knot above short field liftoff speed, to the POH figures for short field takeoff distance (page 5-12 and 5-13 in the 1981 C-172P Pilot Information Manual.)

C-172P Accelerate Stop Distance

Based on Normal takeoff procedure to 55 KIAS
 Takeoff immediately rejected at 55 KIAS
 Maximum braking until stopped



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Note that distances calculated with this chart are estimates based on the calculated takeoff ground roll plus a three second reaction time and an assumed stopping distance equal to the landing ground roll. Reference pages in the 1981 C172P Pilot Information Manual are 5-12, 5-13, and 5-23. See also the C-172 Normal Takeoff Distance chart on page Appendix 14-2.

TIME, FUEL, AND DISTANCE TO CLIMB

The following chart is for a C-172P weighting 2000 lb climbing at 85 KIAS initially and gradually reducing speed as shown in column 5. The vertical speed, time, and distance columns are based on actual Selkirk College experience operating the airplane. They may not be exactly accurate however. Still, this chart is useful for planning cross-country trips when you intend to climb at the SOP cruise climb speed of $V_y + 10$.

When using the chart below increase time, fuel, and distance to climb by 5% for every 100 pounds above 2000.

NOTES:

1. Add 1.1 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 10% for each 10°C above standard temperature
4. Distance shown are based on zero wind

NOTE. 85 KIAS climb speed may NOT be practical at weights greater than 2200 lb.

Weight Lb	Pressure Altitude Ft.	Temp °C	Climb Speed KIAS	Rate of Climb Fpm	From Sea Level		
					Time Min	Fuel Used Gallons	Distance NM.
2000	S.L,	15	85	700	0	0.0	0
	1000	13	85	655	1	0.3	2
	2000	11	85	610	3	0.6	4
	3000	9	85	560	5	1.0	7
	4000	7	84	515	7	1.4	10
	5000	5	84	470	9	1.7	13
	6000	3	83	425	11	2.2	16
	7000	1	82	375	14	2.6	19
	8000	-1	82	330	17	3.1	24
	9000	-3	81	285	20	3.6	28
	10,000	-5	81	240	24	4.2	34
	11,000	-7	80	190	29	4.9	41
12,000	-9	80	145	35	5.8	50	