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Subject: WPR24FA195 - Airplane Performance

The following density altitude, pressure altitude, and performance information were calculated using information from the pilots operating manual for the Luscombe 8A, full gross weight, and reported weather conditions at an airport located about 6.3 miles northwest of the accident site.

Temperature: 84.2° F / 29° C
Station Elevation: 6,257 ft mean sea level (msl)
Accident Site Elevation: ~8,000 ft msl
Calculated Pressure Altitude: 7,788 ft msl
Calculated Density Altitude: 11,329 ft msl

Reported Climb Performance (Pilot Operating Handbook, figure 1): 800 feet per minute at 72 miles per hour at gross weight, at sea level

KOCH Chart Calculation Rate of Climb Reduction Percentage (figure 3): 80%

Estimated Rate of Climb at the Accident Site: 150 feet per minute

PERFORMANCE INFORMATION:

NOTE: True Indicated Airspeeds — Gross weight — sea level conditions are given.

1. Stalling Speed — 45 mph.
2. Take-Off Distance — 625 feet on a hard turf surface.
3. Landing Ground Roll — 500 feet hard turf surface.
4. Rate of Climb — 800 feet per minute at 72 miles per hour.
5. Due to reduced air density at higher altitudes wing lift and engine power are reduced with resulting performance reduction. Take-off and landing distances are increased and rate of climb reduced. For each 1,000 feet of increased altitude above sea level add 3% of Take-Off and Landing run.

Examples:

1. At 10,000 feet altitude add 3 x 10 or 30% to the sea level performance. Take-Off run, 30% x 625 = 107.5, 625 plus 107.5 = 812.5. Landing distance, 30% x 500 = 150, plus 500 = 650 feet.
2. At 5,000 feet altitude add 15% to the sea level performance. Take-Off run — 15% x 625 = 93.7, 625 plus 93.7 = 718.7 distance — 15% x 500 = 75, 500 plus 75 = 575.

The above figures are arbitrary for normal conditions.

Figure 1: Pilot Operating Handbook Performance Information

Temperature Celsius:	29
Field Elevation:	8000
Altimeter Setting:	30.15
Density Altitude:	11329
Pressure Altitude:	7788

Figure 2: Pressure Altitude and Density Altitude Calculation

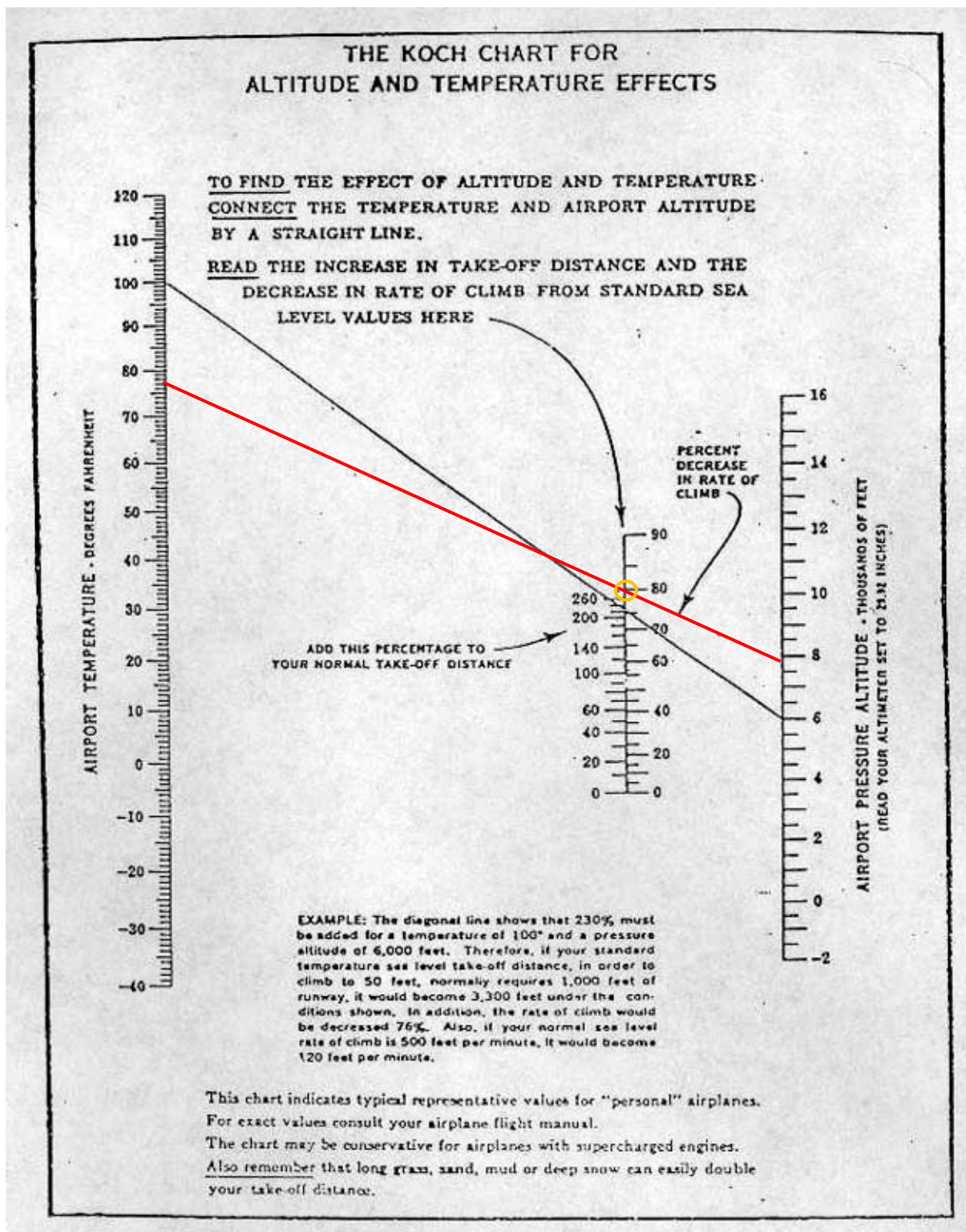


Figure 3: KOCH Chart Calculation