

Airplane Operating Manual

Section 5 PERFORMANCE

SECTION 5 PERFORMANCE

GENERAL

PERFORMANCE, 2300 LBS	
Cruise, 75% @ 8000 DA	170 KTAS 22.0" 2400RPM 11.5 GPH
Cruise, 55% @ 8000 DA	160 KTAS 18.0" 2200RPM 9.5 GPH
Stall Speed @ SL	V _{SO} 54 KIAS V _S 62 KIAS
Takeoff Distance @ SL	500 feet
Landing Distance @ SL	1500 feet
Rate of Climb (Sea Level)	1200+ Feet/Minute
PERFORMANCE, 2700 LBS	
Cruise, 75% @ 8000 DA	165 KTAS 22.0" 2400RPM 11.5 GPH
Cruise, 55% @ 8000 DA	155 KTAS 18.0" 2200RPM 9.5 GPH
Stall Speed @ SL	V _{SO} 56 KIAS V _S 64 KIAS
Takeoff Distance @ SL	800 feet
Landing Distance @ SL	1700 feet
Rate of Climb (Sea Level)	1000 Feet/Minute

Take-off Performance

Safe takeoff has been demonstrated at 10,000 foot density altitude (DA) conditions. At a takeoff weight of 2600 pounds, the aircraft was 100 feet AGL after 4000 feet of runway. There was no headwind.

The aircraft was run up and leaned for best performance before starting the ground roll. Flaps were set at 1/3.

Typical sea level takeoff generally requires less than 1000 feet.

A chart for determining approximate density altitude is included in this section.

Climb Performance

Sea level climbs in excess of 1000 FPM are typical. 1000 FPM can be maintained through 8000 feet DA. 500 FPM climbs have been demonstrated at gross weight above 12000 ft DA. Reduce climb rate as necessary to maintain acceptable cylinder head and oil temperatures.

Cruise Performance

For flight planning purposes at altitudes between 8000 and 12000 feet, use 160 KTAS for cruise.

To achieve this performance, use full throttle and RPM between 2100 and 2300.

Plan for fuel flow of 11 GPH, however, monitor fuel flow and fuel remaining.

Best cruise and gliding range is accomplished by flying at L/D_{MAX} , which is approximately shown on the Angle of Attack indicator as:



In this configuration, a descent rate of less than 500 feet per minute has been demonstrated with the propeller control in full low RPM.

At high RPM, the descent rate increases approximately 200 feet per minute.

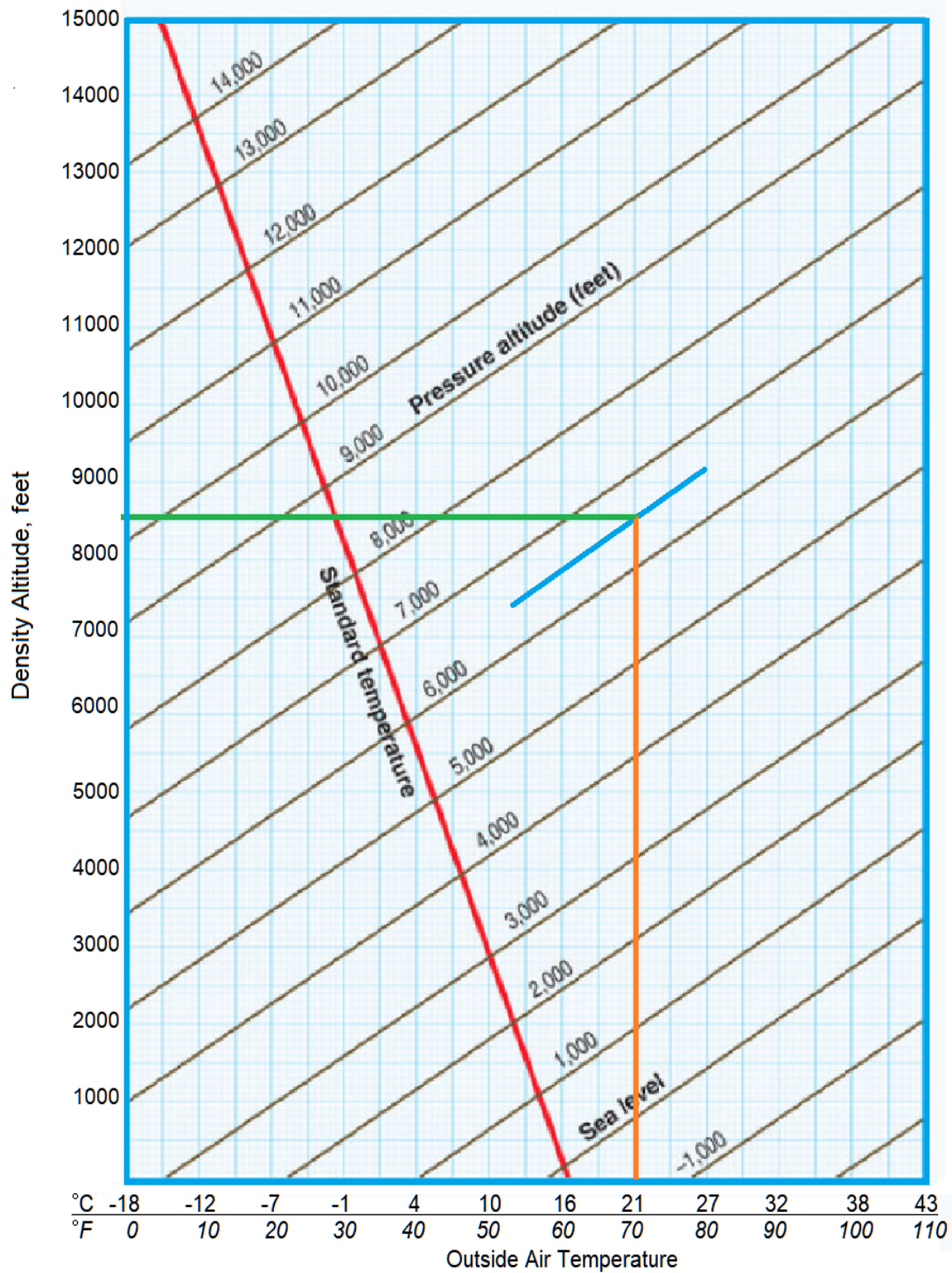
By approximating L/D_{max} , at 95 KIAS, gliding range is estimated at 3 nautical miles per 1000 feet of altitude with the propeller control in full low RPM.

Landing Performance

Under optimum conditions at low weight, this aircraft has been demonstrated to land and stop in 600 feet.

At gross weight, under typical conditions, this aircraft can land and stop in 1700 feet.

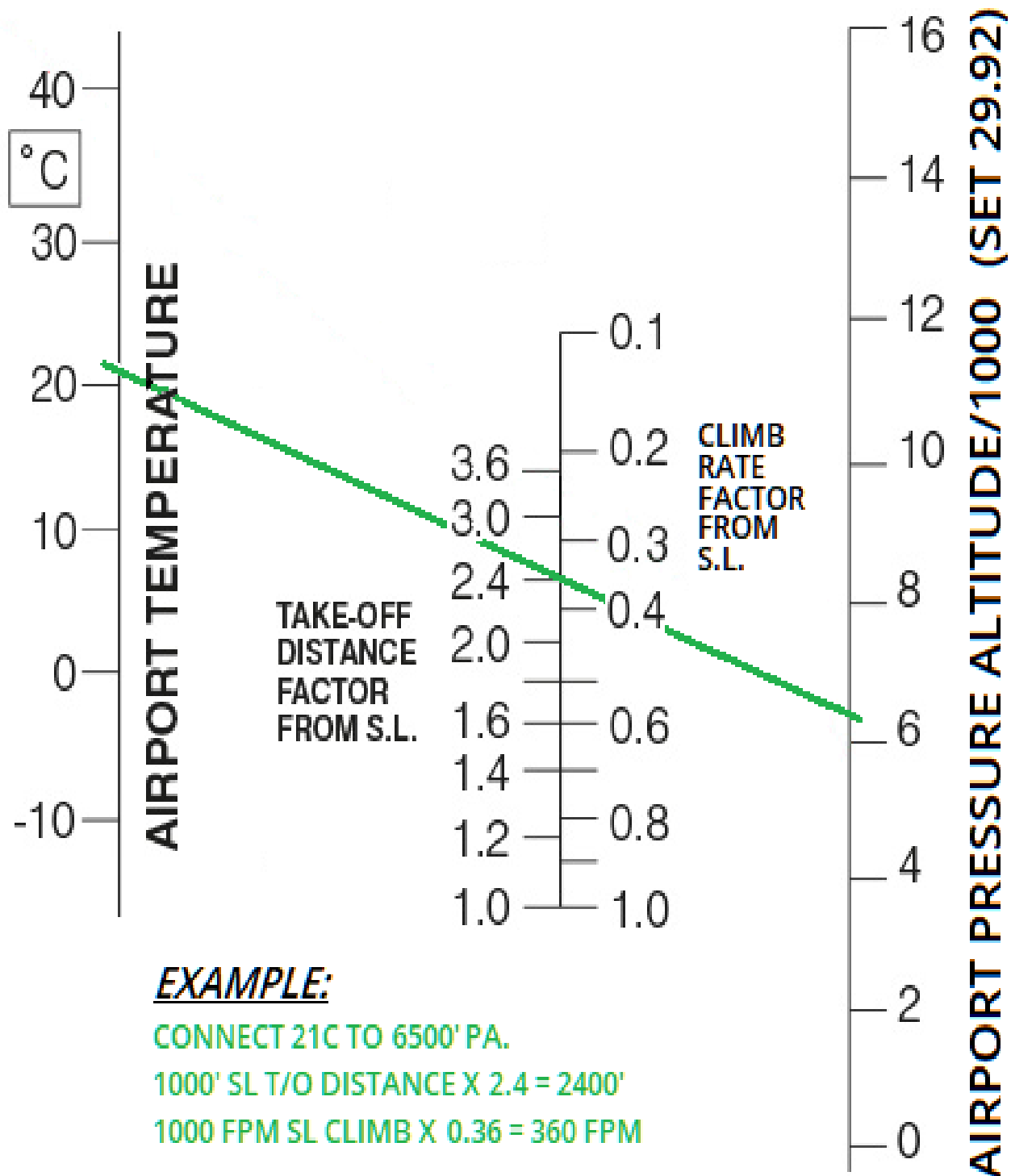
DENSITY ALTITUDE CHART

EXAMPLE:

OAT is 21C or 70F

Pressure Altitude (29.92) is 6500

Density Altitude is ~8600



END OF SECTION