

Fuel and Power Chart
Continental IO-520B
TOHP 285 NRP 285
K-factor 1523

		ECONOMY CRUISE				PERFORMANCE CRUISE				MAX. PERFORM. (Climb)					
		2200 RPM		2300 RPM		2400 RPM		2400 RPM		2500 RPM		2700 RPM			
		55% NRP 157 HP .433 SFC 109 BMEP		60% NRP 170 HP .435 SFC 113 BMEP		65% NRP 185 HP .432 SFC 117 BMEP		70% NRP 200 HP .432 SFC 130 BMEP		75% NRP 214 HP .43 SFC 130 BMEP		*100% NRP 285 HP .51 SFC 161 BMEP			
Note:		°F	°C	MP	FC	MP	FC	MP	FC	MP	FC	MP	FC		
HP and FC may vary (+) or (-) 3% due to engine condition or error in instrument. Add or Subtract .17" Hg. for ea. 10 F or 6 C fr. TL.	Press Alt. 1000 feet	59	15	22.1	11.3	22.4	12.3	22.8	13.3	24.3	14.4	24.6	15.4	285	24.2
	2.0	52	11	21.7	11.3	21.9	12.3	22.3	13.3	23.8	14.4	24.1	15.4	268	22.8
	3.5	48	8	21.3	11.3	21.6	12.3	22.0	13.3	23.5	14.4	23.7	15.4	253	21.5
	4.5	44	6	21.0	11.3	21.4	12.3	21.8	13.3	23.2	14.4	23.5	15.4	245	20.8
	5.5	40	5	20.8	11.3	21.2	12.3	21.6	13.3	23.0	14.4	23.3	15.4	237	20.1
	6.5	36	3	20.5	11.3	21.0	12.3	21.4	13.3	22.7	14.4	23.0	15.4	229	19.5
	7.5	33	1	20.3	11.3	20.8	12.3	21.1	13.3	*198	14.3	*208	14.9	221	18.8
	8.5	29	-1	20.0	11.3	20.6	12.3	20.9	13.3	190	13.8	200	14.3	214	18.2
	9.5	25	-3	19.8	11.3	20.4	12.3	20.7	13.3	182	13.2	192	13.8	206	17.5
	10.5	21	-5	19.6	11.3	*166	12.0	*175	12.6	175	12.7	184	13.2	198	16.8
	11.5	17	-6	*153	11.0	162	11.7	169	12.2	169	12.3	179	12.8	190	16.2
	12.5	15	-8	148	10.7	156	11.3	163	11.7	163	11.8	172	12.3	182	15.5

Aviation Fuel Grade (Minimum) 100/130
Compression Ratio 8.5 : 1
Spark Occurs (BTC) 20°
Firing Order 1-6-3-2-5-4
Total Displacement 520 cubic inches
Nor. Rated Power (Max/cont.) 285 at 2700

Oil Aviation Grade below 40°F SAE 30
above 40°F SAE 50
Oil Pressure Cruising (Lbs. sq./in.) 20-60
Oil Temperature (°F) Max 240°
Cylinder Head Temperature (°F) Max 460°
"K" Factor to compute BMEP 1523

FORMULAS

BMEP (Brake Mean Effective Pressure) is obtained by computer as follows: Place BHP (Brake Horse Power) on the outer scale over the RPM on the inner scale. Read BMEP on the outer scale over the "K" factor on the inner scale. It is recommended to compare BMEP against those on the chart, checking not to exceed 65%, when using RPM settings lower than on the Power Chart.

SFC (Specific Fuel Consumption): To convert SFC to GPH (Gallons per Hour): Multiply SFC by HP and divide this by 6. This gives you FC in GPH. Example: Engine has SFC of .49 lbs/hr/hp at 157 HP with 2300 RPM. What is GPH?
 $.49 \times 157 \div 6 = 12.82$ GPH

AIRSPEED at a given HP, if TAS at another HP is known. Change in velocity with change in power at constant air density (read: same altitude). Example: Aircraft has TAS 172.24 at maximum power at 1000 feet MSL. What is TAS at 70% NRP under the conditions?

$$V_2 = V_1 \times \sqrt[3]{\frac{HP_2}{HP_1}}$$

NRP is 225 HP. 70% power is 157 HP. Substituting HP₂ (157) ÷ HP₁ (225) — 70
The cube root of .70 is approximately .889
V₂ (172.24 x .889 = 153.12 MPH TAS.