



**By the Numbers:  
Power, Attitude, Configuration (PAC) Chart  
O-470/IO-470**

CONDITION	MP	RPM	ATTITUDE	GEAR	FLAPS	KIAS	VSI	TRIM
Initial climb	FT	MAX	+10°	UP upon positive rate	UP	Per POH	↑XXX	Per POH
Cruise climb	FT	2500	+5°	UP	UP	110-120	↑XXX	As req'd
Cruise	As desired	As desired	Level	UP	UP	XXX	0	0 to 2 down
En route descent	As desired	As desired	-2°	UP	UP	Green arc	As desired	As needed
Approach (level)	15° 17°	2300- 2500	+0° +2°	UP	UP 10°	105	0	+3° to +5°
Precision descent	15° 17°	2300- 2500	+0° +2°	DOWN	UP 10°	105	↓500 - 600 fpm	+0° to -3°
Non-precision descent	13° 15°	2300- 2500	+0° +2°	DOWN	UP 10°	105	↓800 - 1000 fpm	+3° to +5°
MDA level	20° 22°	2300- 2500	+0° +2°	DOWN	UP 10°	105	0	+3° to +5°
Missed approach	FT	2500	+7°	UP	UP	105	↑XXX	+3° to +5°

Reducing manifold pressure by one inch results in a roughly 100-fpm descent.  
A 5-inch reduction in MP results in a 500 fpm descent.

The "By the Numbers" technique has been taught since World War II to provide a simple, consistent way to conduct flight, especially instrument flight, yet it is not widely taught to pilots of personal airplanes like the Bonanza and Debonair. For attitude reference, adjust the airplane bar to the horizon during level cruise flight and do not adjust further. Power settings and airplane configurations will result in the approximate performance tabulated. Adjust these numbers as necessary for your airplane under current conditions.