

### INTRODUCTION

Section 2 includes operating limitations, instrument markings, and basic placards necessary for the safe operation of the airplane, its engines, standard systems and standard equipment. The limitations included in this section have been approved by the Federal Aviation Administration. When applicable, limitations associated with optional systems or equipment are included in Section 9.

#### NOTE

The airspeeds listed in the Airspeed Limitations chart (figure 2-1) and the Airspeed Indicator Markings chart (figure 2-2) are based on Airspeed Calibration data shown in Section 5 with the normal static source. If the alternate static source is being used, ample margins should be observed to allow for the airspeed calibration variations between the normal and alternate static sources as shown in Section 5.

### AIRSPEED LIMITATIONS

Airspeed limitations and their operational significance are shown in figure 2-1.

	SPEED	KCAS	KIAS	REMARKS
V <sub>NE</sub>	Never Exceed Speed	200	205	Do not exceed this speed in any operation.
V <sub>NO</sub>	Maximum Structural Cruising Speed	165	169	Do not exceed this speed except in smooth air, and then only with caution.
V <sub>A</sub>	Maneuvering Speed:			
	4700 Pounds	135	139	Do not make full or abrupt control movements above this speed.
	4050 Pounds	125	128	
3400 Pounds	114	117		
V <sub>FE</sub>	Maximum Flap Extended			
	Speed: To 1/3 Flaps	161	165	Do not exceed these speeds with the given flap settings.
	1/3 - 2/3 Flaps	131	135	
2/3 - Full Flaps	107	110		
V <sub>LO</sub>	Maximum Landing Gear Operating Speed	136	140	Do not extend or retract landing gear above this speed.
V <sub>LE</sub>	Maximum Landing Gear Extended Speed	200	205	Do not exceed this speed with landing gear extended.

**Figure 2-1. Airspeed Limitations**

### AIRSPEED INDICATOR MARKINGS

Airspeed indicator markings and their color code significance are shown in figure 2-2.

MARKING	KIAS VALUE	SIGNIFICANCE	
	OR RANGE		
White Arc	60 - 110	Full Flap Operating Range. Lower	limit is maximum weight $V_{S_0}$ in landing configuration. Upper limit is maximum speed permissible with flaps extended.
Green Arc	65 - 169	Normal Operating Range. Lower limit	is maximum weight $V_s$ at most forward C.G. with flaps retracted. Upper limit is maximum structural cruising speed.
Blue Line	89	Single Engine Best Rate of Climb Speed at Maximum Weight and 5000 Feet.	
Yellow Arc	169 - 205	Operations must be conducted with caution and only in smooth air.	
Red Line	205	Maximum speed for all operations.	

Figure 2-2. Airspeed Indicator Markings

### POWER PLANT LIMITATIONS (H Model)

Number of Engines: 2.

Engine Manufacturer: Teledyne Continental. Engine Model Number: TSIO-360-C.

Engine Operating Limits for Takeoff and Continuous Operations:

Maximum Power: 225 BHP.

Maximum Engine Speed: 2800 RPM.

Maximum Manifold Pressure: 37 inches Hg. Maximum Cylinder Head Temperature: 238°C (460°F). Maximum Oil Temperature: 116°C (240°F).

Oil Pressure, Minimum: 10 psi.

Maximum: 100 psi.

Fuel Pressure, Minimum: 3.0 psi.

Maximum: 18.5 psi (142.5 lbs/hr).

### POWER PLANT INSTRUMENT MARKINGS

Power plant instrument markings and their color code significance are shown in figure 2-3.

	RED LINE	GREEN ARC	WHITE ARC	RED LINE
INSTRUMENT	MINIMUM	NORMAL	NORMAL	MAXIMUM
			CLIMB	
	LIMIT	OPERATING	RANGE	LIMIT
Tachometer	---	2200 - 2450 R P M (outer arc)	---	2800 RPM
(Above 10,000 Ft.- Hot Day)		2200 - 2600 RPM (inner arc)		
Manifold Pressure	---	17 - 33 in. Hg	---	37 in. Hg
Oil Temperature	---	75° - 240°F	---	240°F
Cylinder Head Temperature	---	200° - 460°F	---	460°F
Fuel Flow (Pressure)	(3.0 psi)	30 - 90 lbs/hr	90 - 140 lbs/hr	142.5 lbs/hr (18.5 psi)
Oil Pressure	10 psi	30 - 60 psi	---	100 psi

Figure 2-3. Power Plant Instrument Markings

### WEIGHT LIMITS

Maximum Takeoff Weight: 4700 lbs. Maximum Landing Weight: 4465 lbs.  
 Weight in Baggage Compartment (standard 4-place seating), Station 146 to 183:  
 160 lbs. secured by baggage net; 365 lbs. secured by cargo tiedown attachments.

#### NOTE

Refer to Section 6 of this handbook for loading arrangement options and for baggage tie-down requirements.

### CENTER OF GRAVITY LIMITS

Center of Gravity Range with Landing Gear Extended:



## CESSNA SKYMASTER 337

### Limitations

Forward: 134.5 inches aft of datum at 3837 lbs. or less, with straight line variation to 137.7 inches aft of datum at 4700 lbs.

Aft: 142.0 inches aft of datum at all weights.

Moment Change Due To Retracting Landing Gear: +3318 lb. -ins. Reference Datum: 65.0 inches forward of front face of front firewall.

### MANEUVER LIMITS

This airplane is certificated in the normal category. The normal category is applicable to aircraft intended for non-aerobatic operations. These include any maneuvers incidental to normal flying, stalls (except whip stalls), lazy eights, chandelles, and turns in which the angle of bank is not more than 60°.

Aerobatic maneuvers, including spins, are not approved.

### FLIGHT LOAD FACTOR LIMITS

Flight Load Factors: \*Flaps Up: +3.8g, -1.52g \*Flaps Down: +2.0g

\*The design load factors are 150% of the above, and in all cases, the structure meets or exceeds design loads.

### KINDS OF OPERATION LIMITS

The airplane is equipped for day VFR and may be equipped for night VFR and/ or IFR operations. FAR Part 91 establishes the minimum required instrumentation and equipment for these operations. The reference to types of flight operations on the operating limitations placard reflects equipment installed at the time of Airworthiness Certificate issuance.

Flight into known icing conditions is prohibited.

### FUEL LIMITATIONS

2 Standard Tanks: 75.3 U. S. gallons each.

Total Fuel: 150.6 U. S. gallons.

Usable Fuel (all flight conditions): 148 U.S. gallons. Unusable Fuel: 2.6 U. S. gallons.

#### NOTE

To ensure complete filling of the interconnected tanks in each wing, fill the tanks slowly and re-top after filling.

Approved Fuel Grades (and Colors): 100LL Grade Aviation Fuel (Blue).

100 (Formerly 100/130) Grade Aviation Fuel (Green).

Fuel Cross-feeding: Cross-feeding is limited to level flight only. If operating both engines from a single tank, cease cross-feed when level is within 50 lbs. of empty in tank in use, or 50 lbs. of full in tank not in use.

### MAXIMUM OPERATING ALTITUDE LIMIT

Certificated Maximum Operating Altitude: 20,000 Feet.



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### **Limitations**

#### **CABIN PRESSURIZATION LIMITS**

Normal Cabin Operating Differential Pressure: 0 to 3.35 psi. Maximum Cabin Operating Differential Pressure: 3.35 psi. Landing with cabin pressurized is prohibited.