

C-7A OPERATING LIMITATIONS

ENGINE AND PROPELLER LIMITATIONS

1. Cylinder head temperatures:

- a. 80 °C minimum for operation above 1200 rpm.
- b. 150 °C to 217 °C auto lean permitted.
- c. 217 °C to 245 °C auto rich is required.
- d. 80 °C to 180 °C prior to initiating a take-off.
- e. 180 °C maximum for engine shutdown.

2. Oil Pressure

- a. 45 to 90 psi normal range (15 psi minimum at idle).
- b. 45 psi minimum (at 1400 RPM).
- c. 110 psi maximum (at take-off).

OIL TEMPERATURE

- a. 60 °C to 75 °C normal range.
- b. 40 °C minimum
- c. 93 °C maximum (at take-off or during climb).

CARBURETOR AIR TEMPERATURE

- a. -10 °C to +15 °C undesirable conditions may exist, depending on atmospheric conditions.
- b. -30 °C to +38 °C best operating conditions depending on atmospheric conditions. (Maximum 38°C when using carburetor heat)

FUEL PRESSURE

- a. 16 to 18 psi normal range.
- b. 16 psi minimum
- c. 18 psi maximum

¹⁵WARNING LIGHT
¹⁰⁰LOW FUEL LIGHT
FUEL TANK BOOST PUMP STATIC (NO FLOW) PRESSURE

- a. Normal 11 to 17 psi.
- b. High 21 to 27.5 psi.

FUEL GRADE 115/1A5

ENGINE OVERSPEED

When engine speed exceeds 3100 rpm the engine should be inspected. Removal of the engine is mandatory when rpm exceeds 3300 .

RPM RESTRICTION

2310 to 2510 rpm should be avoided.

STARTER LIMITATIONS

First attempted start, 30 seconds ON, 60 seconds cooling.

Second attempted start, 30 seconds ON, 5 minutes cooling.

Third attempted start, 30 seconds ON, 30 minutes cooling.

OVERBOOST

Any overboost should be written up, noting duration and amount of overboost.

REVERSE LIMITATIONS

Do not exceed 2700 rpm while operating in reverse.

ALTERNATE GRADE FUEL

The recommended alternate fuel is grade 100 / 130 .

AIRSPEED LIMITATIONS

Instrument limit markings show indicated airspeed values.

FLAP LOWERING SPEED LIMITATIONS

Flap Setting	Max IAS-knots
0-15°	<u>105</u>
20°	<u>95</u>
30°	<u>85</u>
40°	<u>80</u>

MANEUVERING AIRSPEED

Maneuvers which involve full application of rudder or aileron must be confined to speeds below 119 knots IAS.

Maximum airspeed for penetration of turbulence is 119 IAS.

Normal operating airspeed below 10,000 is 165, above 10,000 feet subtract 3 kts for each 1000 feet increase in altitude.

Maximum airspeed below 10,000 feet is 208, above 10,000 feet this must be decreased by 1 knot for each 1,000 feet increase in altitude.

Maximum airspeed for extending retracting or flying with the landing gear down is 120 knots IAS.

RAMP AND CARGO DOCR LIMITATIONS.

Door open 120 knots IAS.

Ramp down 15° 120 knots IAS.

PROHIBITED MANEUVERS

All aerobatic maneuvers are prohibited. Other prohibited maneuvers are:

1. Steep turns above 60° bank.
2. Stall turns.
3. Stalls - Except under certain conditions (refer to section VI)
4. Abrupt maneuvers involving full control deflection above 119 knots IAS.

MAXIMUM ALLOWABLE SINK RATE ON LANDING

Up to 26000 lbs, gross wt. 14 feet per second - 840 feet per minute.

26000 to 28500 lbs gross wt. 13 feet per second - 780 feet per minute.

28500 to 31,300 lbs. 10 feet per second - 600 feet per minute.

31,300 to 34,00 lbs. 6 feet per second - 360 feet per minute.

RAMP LOADING LIMITATIONS

The ramp will not be operated while supporting any load. The total weight bearing capacity of the ramp in any stationary position is as follows:

Ultimate load - 8000 lbs.

Load per axle - 4000 lbs.

Distributed load - 6000 lbs.

For weights exceeding 3500 lbs. The steady strut will be used.

GROSS WEIGHT

Maximum gross weight - 28,500 lbs.

Maximum zero fuel weight 28,000 lbs.

Maximum landing weight 28,500 lbs.

CENTER OF GRAVITY LIMITATIONS

Forward CG varies with aircraft gross weight from 26% at 2100 lbs.
to 31 % at 28500 lbs.

Aft CG is 39 % at all gross weights.