

COMANCHE

PA-24-180 PA-24-250

Owner's Handbook



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U. S. A.**

Use of the mixture control in cruising flight reduces fuel consumption significantly, especially at higher altitudes. The mixture should always be leaned during cruising operation over 5000 feet altitude, and normally also at lower altitudes at the pilot's discretion.

The continuous use of carburetor heat during cruising flight increases fuel consumption and reduces power and performance. Unless icing conditions in the carburetor are severe, do not cruise with the heat on. Apply full heat only for a few seconds at intervals determined by icing severity.

In order to keep the airplane in best lateral trim during cruising, the fuel should be used alternately from each tank. On the 180 Comanche, it is recommended that one tank be used for one hour after take off, then the opposite tank used for two hours, and then the first tank until the fuel runs completely out. This will take approximately two hours if the tanks were full, including the reserve quantity, at take off, and will leave about one more hour's fuel left in the second tank. On the 250, a similar procedure should be used keeping the fuel load in an approximate balance to avoid wing heaviness.

VI. Approach and Landing:

During the approach, the landing gear can be lowered at speeds under 150 MPH, preferably on the downwind leg. The flaps can be lowered at speeds of up to 125 MPH, if desired. For final approach, trim the aircraft to approximately 85 MPH (PA-24-180), 90 MPH (PA-24-250) with full flaps, or approximately 90 MPH (PA-24-180), 95 MPH (PA-24-250) with no flaps. The propeller should be set at high RPM to facilitate an emergency go-around if needed. Carburetor heat generally is not applied during landing unless icing conditions are suspected. If a landing is aborted move the carburetor heat to the off position immediately if full power is desired.

The amount of flap used during landings and the speed of the aircraft at contact should be varied according to the wind, the landing surface, and other factors. It is always best to contact the ground at the minimum practicable speed consistent with landing conditions.

Normally, the best technique for short and slow landings is to use full flap and a small amount of power, holding the nose up as long as possible before and after ground contact. In high wind conditions, particularly in strong crosswinds, it may be desirable to approach the ground at higher than normal speeds, with partial or no flap.

Maximum braking effect during short landings can be obtained by holding full back on the control wheel with flaps up while applying brakes. This forces the tail down and puts more load on the main wheels, resulting in better traction.

Landing Check List:

- (1) Mixtures rich.
- (2) Propeller set.
- (3) Carburetor heat off (unless icing conditions exist).
- (4) Electric fuel pump on.
- (5) Fuel selector on proper tank.
- (6) Landing gear down (under 150 MPH, check green light on, warning horn off, gear emergency handle in forward position).
- (7) Flaps down (under 125 MPH).

VII. Emergency Procedures:

Emergency landing gear extension is accomplished with the telescoping manual extension lever. This control can be used only to extend the gear if the electrical actuating system has failed, and not to retract the gear manually without the use of the electric motor. With the electric motor disengaged from the gear torque tube, as required in extending the gear manually, there is no mechanism for holding the gear in the up position, so that the gear will not stay up if retracted manually.

To extend the gear, remove the cover over the emergency disengage control, located between the two front seats, and follow the instruction on the back of this cover, as follows:

- (1) Airspeed not over 100 MPH.
- (2) Landing gear switch in center "off" position.
- (3) Disengage electric motor by pushing motor release arm forward through full travel.
- (4) Pull out emergency extension handle to full length.
- (5) Push handle forward full travel to extend landing gear.

If it should become necessary to extend the gear manually, at the completion of the flight the trouble should be determined with the airplane on jacks. Then to return to normal electrical gear operation, re-engaging the electric motor to the landing gear extension torque tube should be done as follows:

- (1) Landing gear switch in center "off" position.

Engine Failure:

The most common cause of engine failure is mismanagement or malfunction of the fuel system. Therefore, the first step to take after engine failure is to move the fuel selector valve to the tank not being used. This will often keep the engine running even if there is no apparent reason for the engine to stop on the tank being used.

If changing to the opposite fuel tank does not restore the engine:

- (1) Check fuel pressure and turn on electric fuel pump, if off.
- (2) Push mixture control to full rich.
- (3) Apply carburetor heat.
- (4) Check ignition switch.

VIII. Mooring:

The Comanche should be moved on the ground with the aid of the nose wheel-tow-bar provided with each plane and installed in the baggage compartment on the bottom of the hat shelf.

Tie-down ropes for mooring the airplane can be fastened to the wing tie-down rings and the tail skid.

The aileron and elevator controls should be secured by means of the safety belt to prevent control surface damage. The rudder is

