



PHOTO OF THE MONTH

Twin Comanche PA-30 and PA-39

The Twin Comanche first flew in 1963. It was and is a fantastic aircraft able to fly at 160 knots below 10,000 feet, burning just 9 gallons a side on a combined total of 320 hp. Turbo Twin Comanches are particularly fast at altitude, typically cruising at 195 knots or 225 mph at 20,000 feet. With speed mods to the wings, fillets (i.e., fairings) and engine nacelles, this figure climbs—speeds of 200 knots-plus on Twin Comanches are easily doable.

When a flood destroyed the Lock Haven factory in 1972, the company possibly used the excuse to stop production when just over 2,000 Twin Comanches had been built. The counter-rotating PA-39 was just getting started, with not even 200 leaving the production line.



After the recession in the 1980s/1990s, Piper looked at its existing stable of twins and considered restarting twin production. But it was determined that the labor-intensive construction of the Twin Comanche would result in a cost of at least \$1 million per aircraft in build cost alone. The much cheaper but less capable Seminole was brought back into production as a result.

Currently, PA-30s and particularly the small handful of PA-39s (counter rotating props and/or turbo-charged) have a strong following and owners' groups.

The PA-40 Arapaho, successor to the Twin Comanche, a prototype, was developed, but never put into production.

DID YOU KNOW?

Center of Gravity Location and Effect on Stability Taxiing the Aircraft

The Center of Lift (CL) is the point on an aircraft where the total upward force generated by the wings acts, while the Center of Gravity (CG) is the point where the entire weight of the aircraft is concentrated. Aircraft designers place the Center of Gravity forward of the Center of Lift, but another force is needed to counteract the pitch down of the nose.

The horizontal stabilizer is designed to provide a stabilizing down force causing a nose up force. The horizontal stabilizer can be adjusted by the pilot using the yoke and trim. As the aircraft moves through the air the wings produce down wash which strikes the top of the horizontal stabilizer producing a downward force. If the front portion of the horizontal stabilizer is fixed, the aircraft designer sets the angle of attack that provides the best stability at a given range of air speeds, usually cruise flight. As the speed changes the pilot must adjust the elevator's angle of attack and trim to compensate for the change in pressure.

GENE'S AVIATION QUIZ

- 1 Why are there only 48 gallons of usable fuel in the Archer when the tanks hold 50 Gallons?
- 2 Why do some Cessnas have wing struts and others do not?
- 3 What are SAFOs?
- 4 Why do Archers have a difficult time stalling in a Power-on-Stall maneuver?
- 5 What is an Altocumulus Castellanus cloud?
- 6 What is a Coupled Magneto?
- 7 What does "ZFR and YFR" mean?

Taxiing with full flaps down is equivalent to squawking 7500 on your transponder – a sign of distress. The idea is that the tower or ATC would see this abnormality and be able to intervene without the hijacker knowing that anyone had been tipped off.

Riding the brakes while taxiing can lead to excessive wear on the pads and rotors and can generate excessive heat. While you should perform a brake check as part of your initial taxi, try your best to keep ahead of the airplane and use your brakes sparingly on the taxiway. The same rule goes for taxiing in, as taxiing out.

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QUOTE OF THE MONTH

*"Everyone
complains about
the weather,
but nobody
does anything
about it."*

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GENE'S QUIZ ANSWERS

- ❶ Each tank holds 25 gallons. The fuel outlet in the tanks is above the bottom of the tank. Therefore, one gallon of fuel is unable to reach the outlet of the tank. This is done so any water or contaminants will settle in that fuel below the outlet and can be drained and inspected prior to flight.
- ❷ The ones with struts, the main spar does not go through the fuselage. Without struts, the main spar goes through fuselage into the opposite wing.
- ❸ Safety Alerts for Operators, produced by Flight Standards Service. They contain important safety information and may include recommended actions.
- ❹ Since you have a relatively high-power setting, airflow from the propeller slipstream can provide enough lift over the wing and tail preventing a stall.
- ❺ Castellanus is Latin for Castle. All castellanus clouds show that there exists an unstable layer at their altitude but not necessarily at the bottom the cloud, depicted by a flat bottom with a rising cumulus above.
- ❻ One of the two mags contains an impulse coupling to retard the spark and start the engine. If only one mag has the coupling, you start the plane on that mag. If both mags are coupled, start on both.
- ❼ ZFR means changing the VFR flight plan to IFR. YFR means changing the IFR flight plan to VFR.

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