

Piper Twin Comanches

PA-30 & PA-39 series, including:

PA-30 (1963 to 1965)

PA-30B (1966 to 1968) & Turbo

PA-30C (1969)

PA-39-C/R (1970 to 1972) & Turbo



Piper Twin Comanche PA-30-B

The original PA-30 Twin Comanche was the first of the line, and it had a sort of minimalist appeal. It was an immediate success, and 931 of this first four-seat model were sold. Total sales of all PA-30 models came to 2,000 airplanes. The big draw - as with all the Twin Comanches - was the airplane's ability to extract maximum speed from minimum horsepower and fuel consumption. The PA-30's 160-hp, Lycoming IO-320-B1A engines let a PA-30 cruise at 170 knots (that's 200-mph) while burning a total of a mere 17 gph. The engines have TBOs of 2,000 hours and are highly regarded for their simplicity and durability. The airplane has a maximum gross weight of 3,600 pounds, and typical empty weights run 2,210 pounds. Twin-engine rate of climb is listed as 1,460 fpm; single-engine rate of climb is 260 fpm. Standard fuel capacity is 90 gallons; an optional fuel system has 120 gallons. IFR range with standard tanks is 770 nm, assuming 75-percent power and a cruise altitude of 8,000 feet. With optional tanks and an economy (45 percent) power setting, fuel burns drop to 11.2 gph (both engines) and range with 45 minute reserves rises to 1,000 nm. Bare-bones PA-30s came with only one generator and one vacuum pump, but the "Professional" model was equipped with DME, an IFR panel, a two-axis autopilot, and a "Palm Beach" paint scheme. New, PA-30s cost \$41,190.

The PA-30B was a step-up variant. It marked the first appearance of third side windows in the Twin Comanche series. Six seats and wing-tip fuel tanks were offered as options, as well as a heated windshield and wing and propeller ice protection equipment. Performance and weights are virtually the same as the PA-30. New, typically equipped PA-30Bs ran from \$42,925 to \$46,060.

The PA-30B Turbo has the same IO-320 engine as the other Twin Comanches but comes with the same manually controlled Rajay turbochargers mentioned in the description of the PA-260TC single-engine Comanche. In this application, however, there are, of course, two manual wastegate vernier knobs below the power quadrant. The same cautions regarding over enthusiastic use of the turbo levers and inadvertent over boosting of the engines applies. As with the 260TC, the PA-30B Turbo's Rajays offer no automatic controls and minimal over-boost protection; there is nothing to prevent a careless pilot from destroying an engine (or engines, in this case) on a single takeoff or descent. Recommended TBO for these engines is 1,800 hours, a reflection of the extra wear and potential damage caused by the higher cylinder temperatures and manifold pressures created by the turbochargers. That said, the turbos did make the Twin Comanche go faster and higher. At 75-percent power, true airspeeds hit 194 knots. At low altitudes and with power set to the maximum, the PA-30B Turbo could reach 209 knots. At economy power settings, range with 45-minute reserves is approximately 1,100 nm. Twin-engine service ceiling is 30,000 feet; single-engine service ceiling

is 19,000 feet. Maximum gross weight is 3,725 pounds, and empty weight is typically 2,408 pounds. Rates of climb are published at 1,460 (twin engine) and 260 (single engine) fpm. All turbos come with built-in oxygen systems, six seats, and a 120-gallon fuel system with wing-tip fuel tanks as standard equipment. New, they ran for between \$51,145 and \$54,355.

Piper Twin Comanche PA-30-C



The PA-30C Twin Comanche came next. It, too, has the third side windows and six seats. Better soundproofing and more standard features give this airplane a 60-pound empty weight increase over the earlier non-turbocharged Twin Comanches. The C model also brought with it a more modern panel design and the first appearance of the standard-T presentation of flight instruments. The 120-gallon fuel system with tip tanks was an option. New, the Cs sold for \$52,725.

The PA-30C Turbo is the fastest Twin Comanche. It uses the Rajay manual turbocharging system, and has 75-percent power cruise true airspeeds of 209 knots. At 24,000 feet, Piper claimed 214 knots as possible. With the standard turbo package (oxygen and tip tanks) and expanded avionics as standard features, these Turbo models had the highest typical empty weights: about 2,416 pounds. Climb rates are down from previous models (twin engine, 1,290 fpm; single engine, 225 fpm), and takeoff and landing distances are longer. Single-engine service ceiling is 17,000 feet - 2,000 feet lower than the PA-30B Turbo. In 1969, the PA-30C Turbo typically sold for \$62,174.

The PA-39 C/R Twin Comanches were attempts to address the perceived safety problems of the PA-30 series. The 39s, therefore, come with counter-rotating propellers (thus the "C/R" designation). By having the left propeller rotate clockwise and the right propeller rotate counterclockwise, the control problems usually associated with the failure of the critical (left) engine at slow airspeeds and high angles of attack are minimized.

The critical engine is so named because a failure of this engine at airspeeds at or below V_{mc} can result in the most dangerous levels of asymmetric thrust. (This is because descending propeller blades produce more thrust, the right engine's descending propeller is farthest from the airplane's center of gravity, and its comparatively greater arm creates a more asymmetric-ergo, critical-condition in the case of a power loss in the left engine.)

With 155 total sales, the PA-39s were the end of the Twin Comanche line. Owners of PA-30s can, under the terms of a modification described in Piper Service Letter 552, dated May 1, 1970, install a new right engine with a counterclockwise-rotating propeller in their airplanes. This, in effect, transforms a PA-30 into a PA-39.

The PA-39 Twin Comanche's cruise and load-hauling performance is virtually identical to that of the PA-30C. Takeoff and landing distances are slightly less than the PA-30C's. New, an average equipped PA-39 was priced between \$57,190 and \$66,715.



Piper Twin Comanche PA-39 Turbo

Similarly, the PA-39 Turbo Twin Comanche's specifications resemble those of the PA-30C Turbo's. These models cost an average of between \$67,440 (1970 model) and \$77,565 (1972 model).