

The T-tail reduces noise and increases stability by being removed from the propwash. Photos by the author.

PILOT FLIGHT CHECK: CHEROKEE LANCE II

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T-tail gives quieter,

■ Piper Aircraft Corporation's Lance II, sporting a T-tail, claiming a top speed of 165 knots (190 mph), and wearing a basic price tag of \$58,990 (ringing the register at \$83,841 equipped), demonstrated its capabilities during a PILOT flight check in Dallas, Texas.

The horizontal stabilator, mounted at the top of the swept-back tail, labels this latest version of the 300-hp, Lycoming-powered aircraft. Handling of the six-place plane is refined, since the stabilator is removed from the propwash. Thus, noise is reduced and stability is improved.

Preflighting the high tail, however, requires a tall ladder, trustworthy binoculars, eagle-like vision, or blind faith. Fuel drains, on the other hand, are more down-to-earth, with one quick-drain located at the lower inboard section of the single tank (47 gallons usable) occupying each wing. Simplicity ends there, with a lever inside the cabin draining each fuel sump after selection of the desired tank. The drain exit is underneath the fuselage and requires a small container to trap the fuel for examination.

Entrance to the cockpit is eased by a 36-inch-wide door located above the right wing. Some gyrations of the body are necessary in order to settle into the left seat although, once there, the arrangement is agreeable.

Passengers, aside from one person who might occupy the right seat in the cockpit, must enter the cabin from the opposite side of the aircraft. A cabin door/utility door combination is located aft of the wing. The swing-up utility door, adjoining the 29-inch-wide cabin door, adds an additional 28 inches of entrance width. The resultant large opening, although a bit high off the ground, is relatively simple to enter, providing easy access to the cabin, as well as the baggage area aft of the rear seats (where a 100-pound load is permitted).

The aircraft flown by the PILOT, N2204M, was equipped with the Deluxe Lounge, a 74-pound optional interior group available for \$1,630. The price includes curtains, oversized headrests, plush carpet, choice of fabric, chart compartment, fold-down armrests, and a refreshment console. The combination was attractive and neatly installed.

The conference-style seating—the two middle seats facing aft—affords adequate space for heads and elbows. Legroom, however, is less adequate; with all four facing seats occupied, weaving of legs will be necessary. An optional jump seat, available for \$265, makes room for a seventh person between the middle passenger seats.

The four passenger seats—56 pounds' worth—are designed for easy removal, so the cabin can be converted from a passenger-oriented craft to a cargo configuration.

A stint in the passenger compartment during a short flight proved the cabin's comfort, and the large windows added a feeling of roominess. The noise level was not unpleasant, although conversation between the rear



A 300-hp Lycoming generates the power to drive the Lance to a top speed of 165 knots (190 mph).

smoother ride and increases stability

seats and the cockpit required loud speech from both ends. This particular craft was fitted with the \$220 optional soundproofing package.

In the cockpit, most controls were within easy reach and readily accessible; the circuit-breaker panel on the lower right side of the panel demanded some arm stretching in order to reach it from the left seat. A complement of Narco avionics, including ADF, transponder, dual coms, dual navs, and DME, filled the panel (with space left over) for \$16,750.

After adding the basic empty weight (including options, full oil, and four gallons of unusable fuel), 80 gallons of fuel, and two souls, an additional 525 pounds would have been required to reach the airplane's 3,600-pound gross weight. Even with each of the two fuel tanks filled (94 gallons usable), there would have been 441 pounds to play with.

Starting the fuel-injected engine was straightforward and, forewarned by the Piper check pilot, Ted Allendale, I was prepared to apply above-average muscle power to the rudder pedals for taxiing; no dainty stuff there. Visibility from the cabin was good, even forward over the nose, without raising the adjustable seat.

With full throttle and 2,700 rpm, the Lance II was rotated near 70 knots (81 mph) and quickly climbed out of ground effect in less than 1,000 feet. The gear selector was changed to "up," but the wheels remained down. As the aircraft accelerated past 85 knots (98 mph), the gear promptly raised itself. The aircraft indicated an 800-fpm climb at 90 knots (104 mph) departing Love Field (elevation 610 feet) into a 10-knot headwind, with full throttle and 2,700 rpm.

The landing-gear system is based on an airspeed/power sensing arrangement that automatically controls retraction and extension. If the gear lever is selected "up," unless the airplane has accelerated to 85 knots (98 mph) with full throttle, the gear will remain down. When the airspeed is reduced below 102 knots (117 mph) with a low power setting, the gear will come down, even if the selector is in the "up" position. Additionally, should manifold pressure be reduced to 14 inches or less, without placing the gear selector in the "down" position, a beeping warning horn sounds (the stall horn is continuous) and a red gearwarning light is illuminated on the panel.

No doubt, it will be hard to land this one gear up, but not impossible. There is a manual override lever, located between the seats alongside the manual flap lever, which prevents the automatic system from functioning. Since the sensing system includes an airspeed mast outside the cabin, it is susceptible to bugs, rain, and ice. A careful preflight of the system is in order. Selecting the optional heated mast might be a wise investment as well.

Level at 3,000 feet, the Lance II indicated 145 knots (167 mph) with 25 inches of manifold pressure and 2,400 rpm, a combination netting 75%

CHEROKEE LANCE II continued

power. Those figures tallied a true airspeed of 150 knots (173 mph) with an outside air temperature of $42^{\circ}F$ (5° C). According to the Piper manual, N2204M met the specifications for speed called out in the performance cruise configuration. During the flight, the Lance II exhibited a distinctive feel in the controls, more comparable to a 6,000-pound twin, rather than a 3,600-pound single.

The cockpit was quiet enough for near-normal conversation at 75% power. Piper says that a baggage compartment, located between the firewall and the engine, reduces noise, in addition to holding 100 pounds of paraphernalia. That compartment is reached by a latched cover on the right side of the cowling.

After climbing to 5,000 feet and leveling off, a 65% power setting was selected, opting for 24 inches and 2,300 rpm. The OAT was $30^{\circ}F$ (4°C) and the indicated airspeed settled down to 140 knots (161 mph) for a TAS of 150 knots (173 mph).

A 55% cruise, with 22 inches and 2,100 rpm at the same altitude, yielded an IAS of 130 knots (150 mph) for a TAS of 140 knots (161 mph). Leaned to 50 degrees rich on the EGT (optional at \$240), the fuel flow indicator showed nearly 13 gph. Performance charts advise that leaning to peak (11.9 gph) EGT at the 55% power setting under similar conditions, should result in a range just over 900 nautical miles (1,035 statute miles),

allowing for climb, descent, and no reserve.

After engaging the manual override lever, eliminating automatic control of the gear, the Lance II was readied for a series of stalls. Power was reduced and the gear was extended. As the indicated airspeed fell below 109 knots (125 mph), the maximum flaps-extended speed (VFE), the first notch of flaps was lowered. A change in pitch was especially evident during the lowering of the first two notches, and less of an effect with the last notch.

The manually operated flap lever, located to the right of the pilot's seat, is reminiscent of a sports car hand brake. Fortunately, those little runabouts are not equipped with springloaded levers, as is the case with the Lance II. The flaps operated smoothly and the manual operation didn't require any special attention that detracted from flying the airplane.

Gently pitching the nose upward, we felt some mild buffeting near 50 knots



Avionics are available from Narco, King, and Collins and include such options as three-axis autopilots, RNAV, and HSI indicators.



A dual door on the left side, in addition to a crew door on the right side, facilitates baggage loading and access to the cabin seating.

(58 mph), marked by the continuous blare of the stall-warning horn. There was a gentle pitch-down at 45 knots (52 mph) and recovery was easily made within 200 feet.

A departure stall proved even more docile. The horn came on near 55 knots (63 mph) with the aircraft cleaned up at full power. The break was not well defined; a gentle wallow would better describe it, easily controllable. The aircraft could spend the better part of a day in that configuration, trying to work its way down.

The Lance II was trimmed for a 500fpm descent at 120 knots (138 mph) with 20 inches and 2,400 rpm. Then the gear was lowered and the nose pitched down slightly, increasing airspeed by 5 knots and rate of descent to 1,000 fpm. In less than 300 feet of descent, the aircraft had established itself in a 600-fpm descent at 120 knots (138 mph), without a hand on the controls.

Landings at Denton Municipal Air-

port, within sight of the Dallas skyline, proved to be no problem at 80 knots, full flaps, and 12 inches of manifold pressure. Rollout was within 800 feet, and the braking was good in a 10-knot crosswind. The airplane was equipped with optional heavy duty brakes and tires, available for \$155.

While the Piper literature refers to "jet aged technology and advanced T-tail," the simple fact is that the airplane looks good, performs well, and feels solid. It flies right nice, too.



The IFR-equipped Lance flown by PILOT could lift 830 pounds of payload in addition to full fuel tanks.