Budget Buys

The Clipper carries on

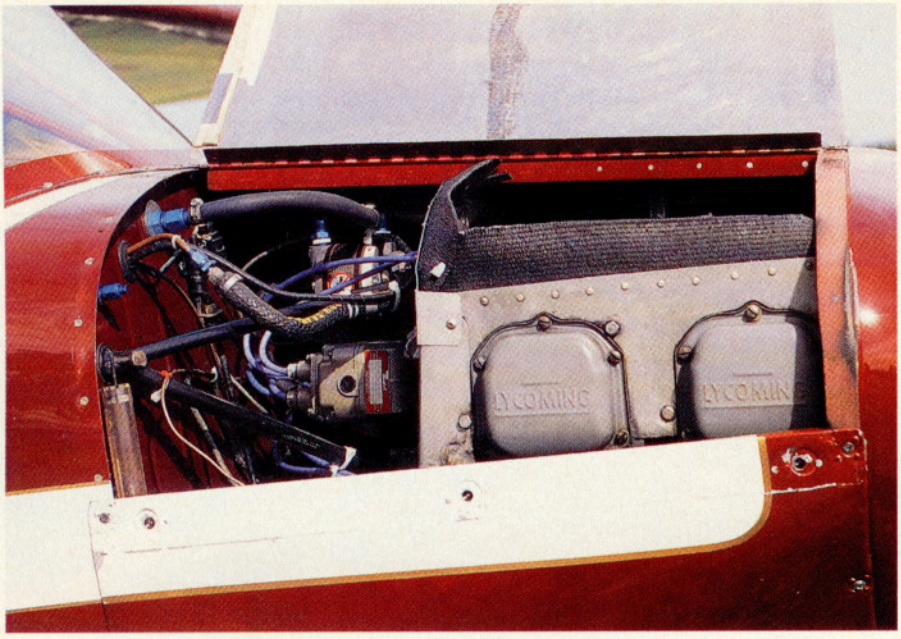
A little airplane that could

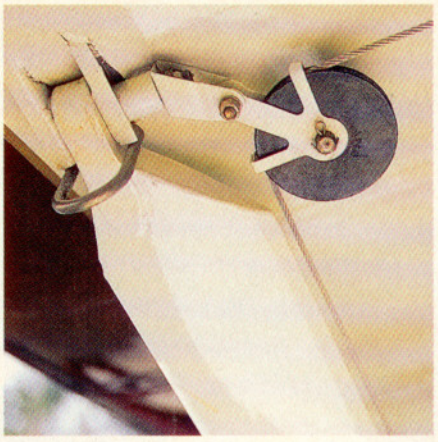
BY RICK DURDEN

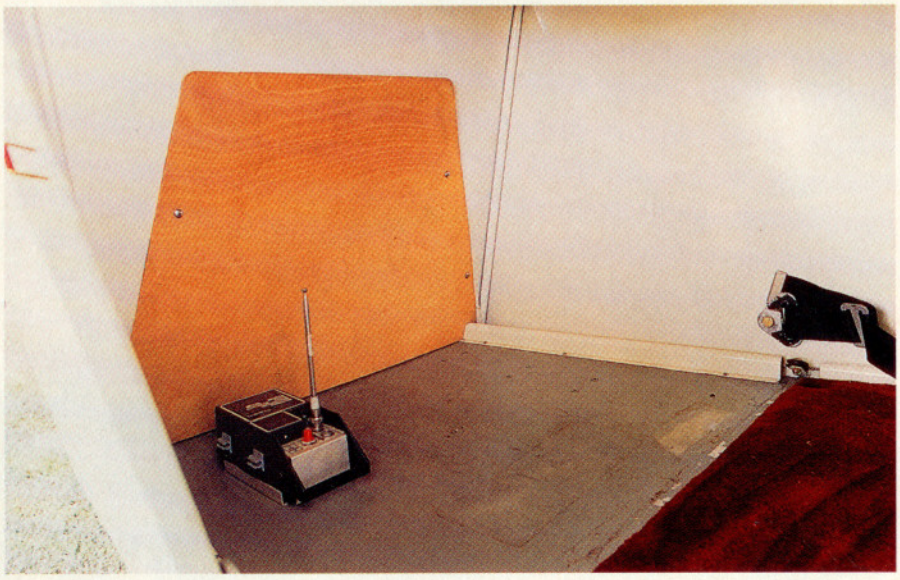
Born in poverty, nurtured in adversity, and forced from production by the machinations of an egocentric airline president, the Piper Clipper nevertheless persevered because it was a good, simple airplane. Spartan, small, and cheaply built, but surprisingly pleasant to fly, its backseat introduced more than a few young baby boomers to the world of flight.

The collapse of general aviation sales in 1947, following the postwar boom, was shockingly fast and devastating. Luscombe went into receivership, Stinson didn't survive, Cessna converted a factory to construct wooden furniture, and Piper stared bankruptcy in the face. William T. Piper, who had always operated his company under the stern philosophy of providing the public with the most inexpensive airplanes possible, found himself answering to his even

PHOTOGRAPHY BY MIKE FIZER







The Clipper's Lycoming O-235 engine is straightforward to maintain (top left) and the cargo area is roomy enough for a weekend's worth of baggage (left). The Clipper's aileron cables are exposed (top center) and the tail (above) recalls that of the Piper Cub, with wire supports for the horizontal stabilizer.

more miserly banker, Manufacturer's Trust of New York. Manufacturer's dispatched one William Shriver to the factory, where he seized the purse strings and exercised veto power over what would go into the newest Piper, the 1948 PA–15 Vagabond. That two-place, side-by-side tailwheel monument to a bean counter was so basic that it did not even come with dual controls, any shock absorbers for the landing gear, nor so much as an accent stripe to break up the all-over yellow paint scheme. An essential element of slashing costs in the Vagabond was to use up leftover components and assemblies built before J–3 Cub sales expired. As part of the cost-cutting crusade, even the wings were shortened so that they could be more easily covered with fabric left over from Cub days. The drastic steps kept the factory doors open.

As Piper planned for the future, management rightly concluded that the market for two-place airplanes was saturated, largely because the veterans who had bought them in quantity were starting families, and those who still could afford an airplane needed more room. In making the decision to produce its first four-place airplane, Piper became one of the first among thousands of companies to cater to the much-catered-to baby-boom generation. The PA–16 Clipper allowed mom and dad to stick the munchkins in the backseat and head over the river and over the woods to grandmother's house much faster than ever before, turning flying into a family activity for the most reasonable cost in history.

For the 1949 model year the aviation economy was not a great deal stronger than a year earlier. As a result, Piper frugally created the Clipper as a slightly enhanced and lengthened Vagabond. A larger engine was affixed, and a backseat was added in a fuselage stretch of a mere two feet, one-and-a-quarter inches. The result was pure Piper, designed, built, and sold for the lowest possible price. Today, when cars and aircraft seem not to be appreciated unless they are hideously expensive, it's a little surprising to some that an inexpensive airplane could be very good indeed.

There is something about walking up to a Clipper, particularly one that lives in an older hangar on a grass strip. Everything simply feels right. It's almost as if Clippers and grass fields define

each other. A PA–16 waits almost eagerly for someone to come fly it.

As one preflights the Clipper, its J–3 Cub ancestry stands out vividly. The entire horizontal stabilizer moves at the leading edge for pitch trim. The aileron cables are exposed for much of their run from the fuselage to the control surfaces. They would not be hidden away until the Pacer came out in 1950. The 12-gallon Cub fuselage fuel tank is there, but instead of having the cork-float-and-wire fuel gauging system sticking up in front of the windshield, there is a nearly indecipherable gauge on the back of the tank; designed, it appears, so the pilot's right knee can monitor fuel quantity. To provide enough fuel for reasonable endurance, the left wing contains an 18-gallon tank, giving a total of 30 gallons of fuel and about 4.5 hours to dry tanks—as much as anyone in a small airplane could desire. There are no flaps. Examining the gigantic ailerons and reflecting on experience in Cubs, one cannot help predicting that adverse aileron yaw is going to make this airplane a bear to coordinate in turns. Fortunately, that prediction will be proven erroneous.

Correcting a true shortcoming of the Vagabond, the PA–16 does have shock-absorbing cords for the landing gear, located inside the fuselage, out of the airstream.

The cowling halves open to allow inspection of the four-cylinder Lycoming. It is rated at 115 horsepower for a minute at 2,800 rpm, then it must be pulled back to 108 hp at 2,600 rpm. Because of the fixed-pitch prop, the horsepower limitation is never an issue, but it does make for interesting arguments as to whether the airplane has a 108- or 115-hp mill.

There are two doors for the cabin, one on the left side for the rear seat and the 50-pound limit baggage area, and the second on the right for the front seat, a pattern that would be followed with the later Pacer and Tri-Pacer. If one happens to remove the rear seat cushions, the fact that they exist simply to give shape to what is nothing more than a steel-tube-and-fabric hammock becomes apparent. In this basic airplane, crashworthiness was apparently not a major consideration.

While going through the gyrations needed to enter the flight deck via the right-hand door, one immediately discovers a truly wonderful carryover from Cub days—control sticks rather than wheels. There is but one throttle, placed uncomfortably high on the instrument panel, so the pilot must fly left-handed. The instrument panel itself is basic; while a Clipper could be configured for IFR, few were. The addition of the necessary radios would cut into the 750-pound useful load. With 180 pounds of fuel there are still 570 pounds for mom, dad, two kids (or very small adults), and weekend baggage. A gross weight of 1,650 pounds being supported by 29 feet of wing and 108 hp means that performance won't be too shabby, despite the drag of struts and wires bracing the tail.

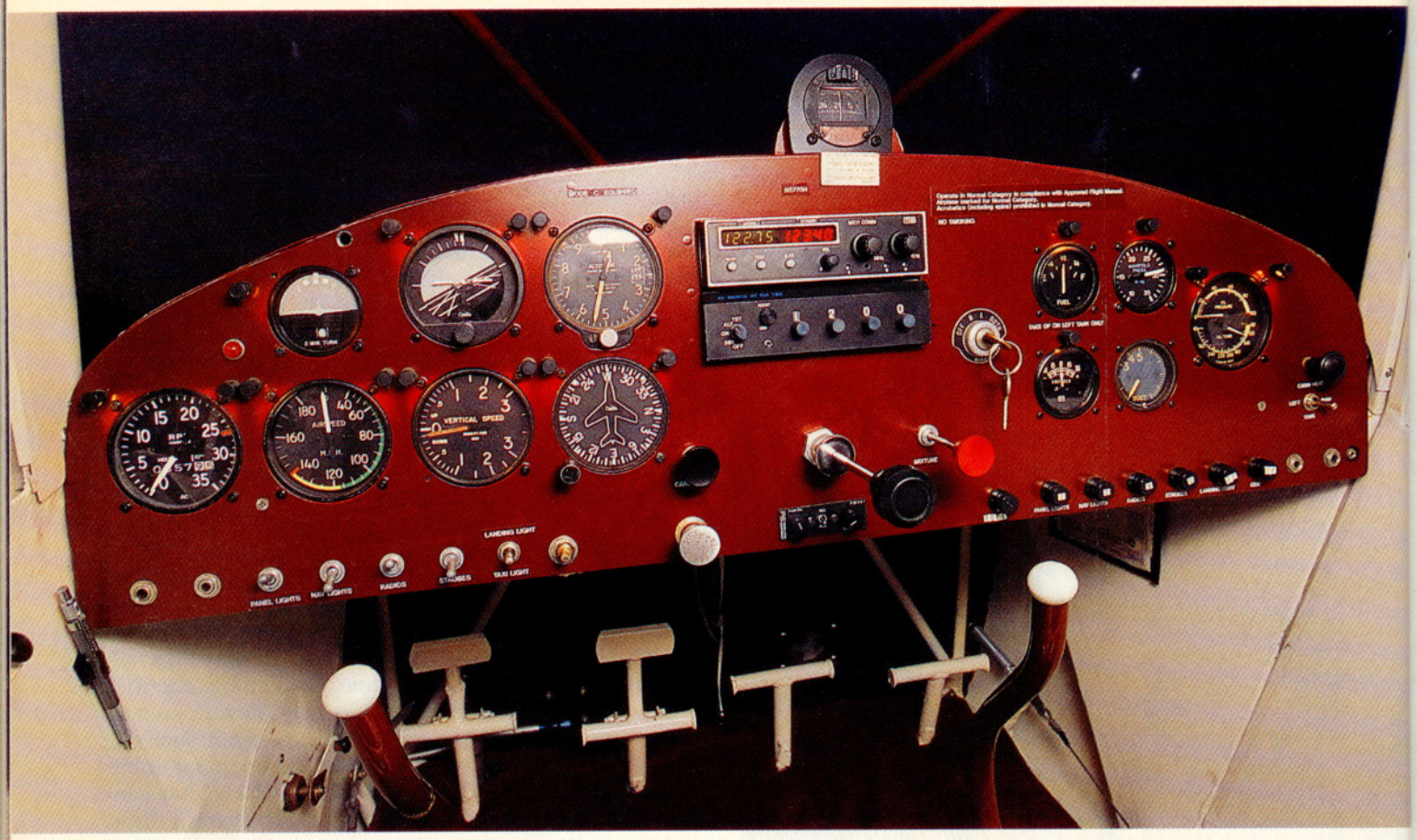
Startup is conventional; both fuel tanks gravity feed the engine, so no fuel pump is required. The literature is inconsistent as to which tank should be used first; given discomfort with fuel in the forward fuselage, many pilots burn from that tank immediately.

Taxiing is surprisingly easy for a tailwheel airplane, particularly one with such a short fuselage. The ride, even on rough grass fields, is pleasant; someone at Piper knew how to design for unimproved fields. The tailwheel has adequate authority for wide-radius turns. Fortunately the PA–16 has toe brakes so tightening up a turn is not as challenging as was the case in its forerunners with heel brakes. The brakes must be adjusted correctly, or your landing adventure may include an unintended trip into the weeds.

There isn't a great deal to do on the runup: waggle the stick, confirm temperatures and pressures, check the mags and carb heat, set the guess-again ceiling trim crank, check the pattern for traffic, and line up. Sliding the throttle forward results in a great deal of noise, moderate acceleration, and—if the pilot has some degree of foot-eye coordination—the pleasant realization that the rudder is more than capable of handling any incipient swerve.

Even with a fairly forward center of gravity, the pilot must raise the tail; it does not have a tendency to come up on its own. Getting the tailwheel about a foot off the ground seems to work well, as the airplane gathers its modest speed and flies off the ground at about 50 mph.

Once in the air and starting to climb, let the speed move gently up to about 75 mph and then be patient. The rate of climb is not going to cause nosebleeds. Loaded, the Clipper ascends at something on the order of 600 feet per minute. For pilots raised on Cubs, Aeronca C–3s,


AIRSPEED
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and other early GA airplanes, the climb rate is perfectly acceptable. Some right rudder is required, but the pressure needed will not generate a worker's-comp claim. The ball will stay in the center of the race without macho heroics. While you sort out the needed pitch attitude and other demands of the climb, the crispness of the controls manifests itself. For those used to airplanes that seem to wallow through the sky with massive adverse aileron yaw, the Clipper is a different airplane. It is tight. The long-span ailerons are lighter and more effective than those on an Aeronca, the rudder is harmonized with them, and the elevator completes a package that speaks a language a pilot can understand.

Steep turns are easily entered and maintained. Nearing 45 degrees of bank, they require full power and are accompanied by a loss of about 20 mph. Stalls with the ball centered are free of the evils that one experiences in some old airplanes. There is no aerodynamic warning in the form of buffeting, yet the stall itself is a gentle rocking-horse bobble accompanied by a serious rate of descent rather than any sort of sharp break or rolloff. But the Clipper is not free of vice. The horizontal stabilizer has no camber; thus a stall with the ball wandering toward the edges of its house will result in a vicious rolloff and a very rapid loss of several hundred feet of altitude—a most serious event if entered low. A Clipper will forgive the hamfist much, but not an uncoordinated stall. Another shortcoming is poor in-flight visibility. The pilot must make a concerted effort to look for traffic.

The vintage panel has room for a radio upgrade, but simplicity fits the Clipper's style. The airplane looks at home on the grass.

I was given an introduction to the Clipper by Vic Johnston, the airport manager at Sparta, Michigan. His airplane gives pilots much pleasure, but it is not the polished thoroughbred that one uses for photographs. He spent some time explaining some of the things to watch out for when flying a Clipper, because a previous owner of his airplane had ground looped it with some degree of vigor. Johnston believed it was caused by poorly adjusted brakes, as the airplane is otherwise so well behaved on the ground.

Cruise is on the order of 105 knots. Given that Cessna's legendary Dwane Wallace established a cruise-speed benchmark for four-place airplanes of one mile per hour per horsepower with the 1930s' era Airmaster, the Clipper with 108 horses up front fares well. A Clipper won't set any speed records but, at 6.2 gph, it won't bankrupt you, either. With all due respect to the more sophisticated Pacer and Tri-Pacer series, the Clipper is more fun to fly. The stick gives positive control and doesn't block the view of the instrument panel as the yoke does.

There are certain times in a Clipper that are less than enjoyable. A cross-controlled stall is one. The other is realizing that one has to end the flight. Cruise power is maintained through the downwind so as to fit in with the crowd. Target speeds are about 75 mph on base and 65 to 70 on final. The flight controls are effective throughout the approach and landing, even in a stiff crosswind. A lot of short-wing Piper pilots feel the need to fly final at 80 or 90 mph, claiming that the wing loading requires it. The extra speed does nothing but increase the number of overshoot and loss-of-control accidents after touchdown. The manual calls for 65 mph; anything over 75 is too fast.

Closing the throttle on short final and flaring smoothly until the stick is all the way back to the stop will reward you with a very smooth touchdown as the tailwheel rolls a microsecond prior to the mains. Full-aft stick renders the tailwheel effective almost immediately, assisted by a large rudder that does not lose its authority until speed has slowed nearly to a walk. This is an airplane that can be caressed onto the ground and through the rollout. Wheel landings are best accomplished with the trim set slightly nose down on final, with speed at about 70 mph, followed by a flare to a tail-low attitude. As the mains start to brush the grass, simply relax the back-pressure. It is not necessary to push forward on the stick—the trim will reduce the angle of attack about a half a degree, pinning the mains to the runway and turning the landing into a delightful experience. The rudder stays effective longer than the elevator will hold the tail in the air. Braking may be performed with great care by one who is experienced and the tail lowered precisely when the pilot desires. A combination of power, brake, rudder, and elevator allows a knowledgeable pilot to land the Clipper in crosswinds that would park many nosewheel ships.

As Clippers began to be widely seen in the skies, Juan Terry Trippe, president of Pan American World Airways, fresh from shutting down rival over-ocean

SPECSHEET

Piper Clipper PA–16

Base price: $3,095, new in 1949
Price as tested: $15,000-$25,000

Specifications

Powerplant	Lycoming O-235
Recommended TBO	2,400 hr
Propeller	Sensenich 74-in dia
Length	20 ft 1 in
Height	6 ft 2 in
Wingspan	29 ft 6 in
Wing area	147.5 sq ft
Wing loading	11.2 lb/sq ft
Power loading	14.3 lb/hp
Seats	4
Empty weight, average	850 lb
Empty weight as tested	1,030 lb
Maximum ramp weight	1,650 lb
Maximum gross weight	1,650 lb
Useful load, average	800 lb
Payload w/full fuel	584 lb
Payload as tested	405 lb
Maximum takeoff weight	1,650 lb
Maximum landing weight	1,650 lb
Fuel capacity, std.	30 gal (29.5 gal usable) 216 lb (213 lb usable)
Baggage capacity	50 lb

Performance

Takeoff distance, ground roll	750 ft
Takeoff distance over 50-ft obstacle	2,000 ft
Rate of climb, sea level	600 fpm
Cruise speed/endurance w/45-min rsv, std fuel (fuel consumption) @ 75% power, best economy, 5,000 ft	97 kt/4.2 hr (42 pph/7 gph)
Service ceiling	11,000 ft
Landing distance over 50-ft obstacle	1,600 ft
Landing distance, ground roll	700 ft

Limiting and Recommended Airspeeds

V_X (best angle of climb)	71 KIAS
V_Y (best rate of climb)	65 KIAS
V_A (design maneuvering)	94 KIAS
V_{NO} (max structural cruising)	102 KIAS
V_{NE} (never exceed)	122 KIAS
V_{S1} (stall, clean)	45 KIAS
V_{SO} (stall, in landing configuration)	45 KIAS

For more information, contact the Short Wing Piper Club, 316/835-2235, or call AOPA technical specialists at 800/872-2672.

All specifications are based on manufacturer's calculations. All performance figures are based on standard day, standard atmosphere, sea level, gross weight conditions unless otherwise noted.

airlines, turned his attention to Piper. He announced that there was no way that some little bug smashers would dare carry the name of his world-girding Clippers. Tiny Piper, recognizing economic reality, gave in, made its model-year changes, and rechristened the Clipper for 1950 as the Pacer.

Pan Am and Trippe prevailed in the short run. There were but 726 Clippers built. Probably half that number still fly. In decent shape, they change hands for about $21,000. Some folks hang larger engines on them or perform other modifications. No matter what is done to the feisty little airplanes, they remain diamonds in the rough. After all, the only Clippers now flying the world's skies say *Piper* on the side. AOPA

i Links to additional information about Piper aircraft may be found on AOPA Online (www.aopa.org/pilot/links.shtml).

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