Ponderous is good

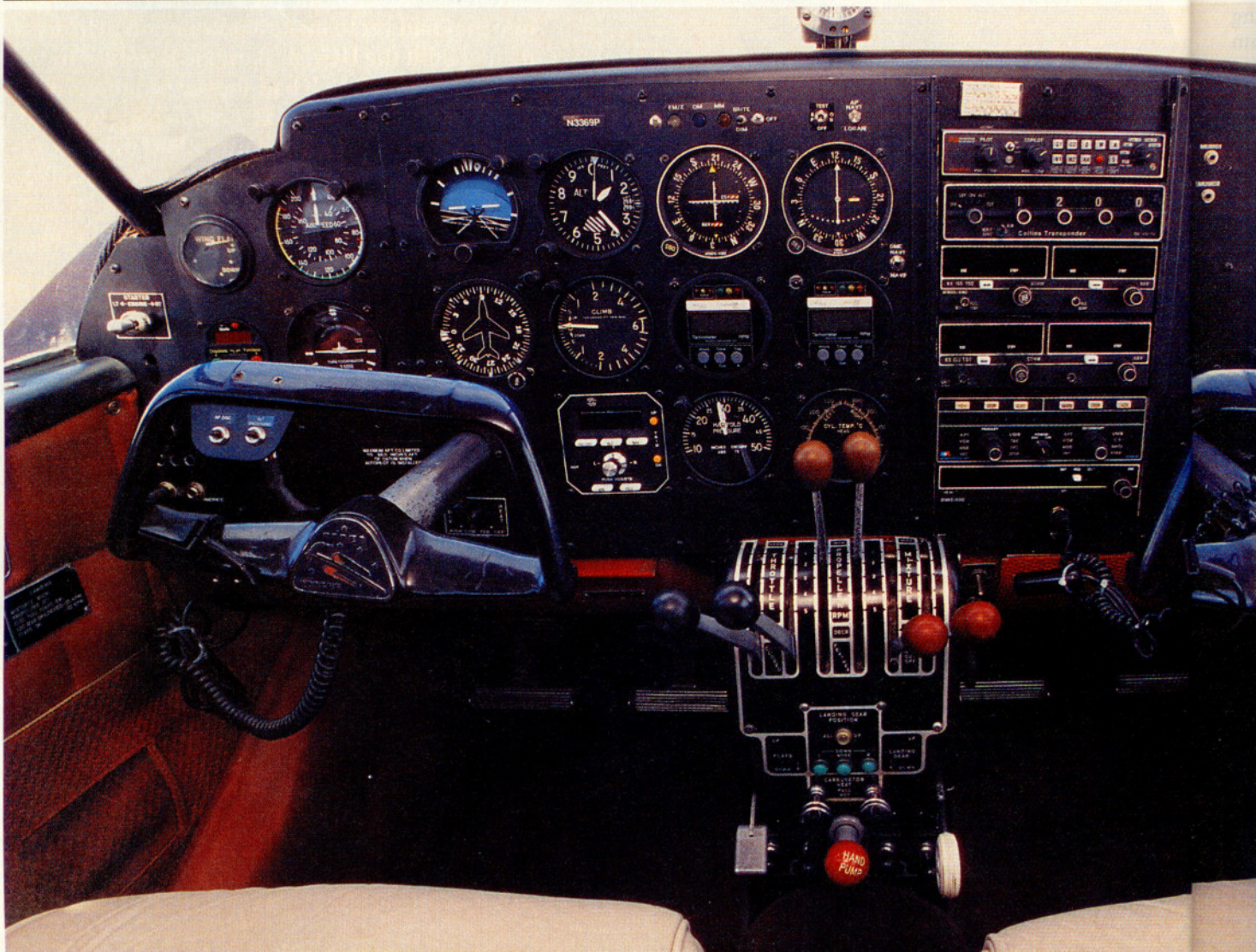
It's old, it's fat, it's slow—it's a great trainer

IN the early 1950s, Piper—as one of the few survivors of general aviation's postwar boom and bust—realized that it needed to build a twin to keep its corporate hopes alive. Of the Big Three, it was the only one that had yet to make a production twin. Cessna had built the UC–78 "Bamboo Bomber" in quantity, while Beech had shoved hundreds of Model 18s out the door. ■ Cessna had switched to all-metal airplanes and was about to turn out not only a sleek aerial hot rod in the Model 310, but the first of thousands of the T– and A–37 series of military jets as well. Beech, also in the all-metal mindset, was creating what would become its superb Travel Air/Baron line. Piper

BY RICK DURDEN

PHOTOGRAPHY BY MIKE FIZER


N3369P


N3369P
Collins Transponder
HAND PUMP

Bill Neail of Mesa, Arizona, owns N3369P, a 1958 Piper Apache powered by twin 160-hp Lycoming O-320s. Neail's airplane has undergone extensive restoration over the past several years. Leather seats cap off what is one of the roomiest interiors of any light twin. IFR avionics and an S-Tec autopilot ready Neail for IFR flight on those rare days in Arizona when the weather is sour.

was still building steel-tube-and-fabric flivvers that were dear to everyone's heart but becoming alarmingly out of date.

Fortunately, Piper had purchased the Stinson line of aircraft, including the plans for a "Twin Stinson." Piper promptly built one. The result was a steel-tube-and-fabric, four-place, twin-tailed, fixed-gear twin, with 125-horsepower engines. It was sadly underpowered and had handling qualities charitably described as crummy.

Ah, but prototypes are merely a starting place. Piper engineers went to a single tail; fabric was replaced with aluminum (although the steel tube structure remained); the entire fuselage aft of the cabin was redone; a hydraulically actuated retractable gear was created; and the horsepower was raised to 150 per side.

The result—the first of Piper's Indians—looked as if a light bulb had consorted with two walnuts, yet it was roomy and comfortable and it carried a good load. It flew well enough that even those who called it a "flying sweet potato" bought it. Because virtually all left the assembly line with the last figure on the N number being *Papa*, even today many airport Apaches are simply referred to as *Da Pop*.

The PA 23–150 Apache hit the market in 1954, evolved to 160-hp engines in 1957, then leaped to 235 hp per side as simply a lower-powered version of its offspring, the 250-hp Aztec, which had debuted in 1960. The last year of Apache production was 1965, for the Aztec had stolen its thunder.

Some 2,047 Apaches were built over the years. At first, well-heeled individuals and corporations used them as comfortable business transportation. They later trickled down into every aspect of general aviation, finding an enduring niche as one of the best multiengine trainers ever made. A good one may be picked up now for about $32,000.

A splendid example of the line belongs to Barbara Mack. Mack is a corporate pilot—flying a Cessna CitationJet based in the Minneapolis area—and also a designated pilot examiner. She uses her Apache for flight instruction. Over the last eight years, many, many pilots have earned their multiengine ratings in it.

So, what does the prospective multiengine pilot face in the Apache? Preflight means some homework to learn the systems. Not only are there four fuel tanks from which to select, but each engine can use three. It is wise to know which three. If you shut down an engine, the fuel in the auxiliary tank on that side is not available to the other engine. The hydraulically actuated landing gear has only one engine-driven pump, on the left engine. Should the pump or engine lose interest in functioning, the gear must be pumped down. If pumping doesn't work, there is a final alternative: a carbon dioxide blow-down system. Once blown down, the hydraulic system has to be purged before further use. The heater is gasoline-fired and lives in the nose. Its fuel consumption must be considered in flight planning. Despite its being a twin, the Apache is not truly redundant. There is but one generator (on the right engine). It does, however, have two vacuum pumps. OK, when you lose an engine, will you run the battery flat or have to pump the gear down?

Walking around the airplane means checking oil in two engines and draining fuel from four tanks, but is otherwise pretty conventional.

A pilot newly introduced to the cabin of the Apache invariably takes some time to survey the domain. There is a certain majesty to the left seat. One sits regally, on high, and somewhat removed from the mere mortals in the passenger seats.

The Apache has the same basic airfoil as the venerable Piper Cub making it a forgiving multiengine trainer.

Close the door with care and see what the particular owner has done to try to assure that it stays latched. Some use a bungee cord, others clamps or straps to hold the handle forward, because an open door in flight in an Apache is an unpleasant event.

Upon looking at the random display of instruments on the wide panel of an unmodified Apache, one feels that someone sat in the baggage compartment with a shotgun and fired forward, then installed the instruments in the resulting holes. The gear and flap handles are reversed, being in the position used on airliners, not more modern general aviation aircraft. Depending on the model year, the throttle, propeller, and mixture levers are all the same size and shape, and all may have black knobs. Only in the later versions are the knobs color-coded.

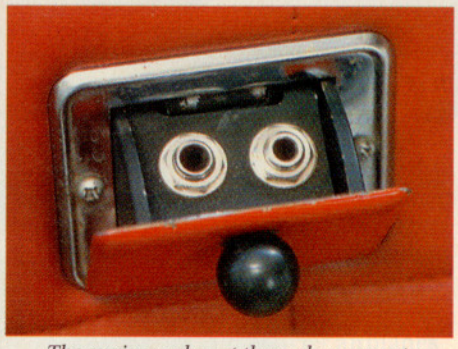
Between the front seats are small levers that select the desired fuel tanks. They operate cables that move the fuel valves in the wings. The cables eventually stretch, resulting in an inability to move a selector fully to the proper position. The runup may be uneventful, but engine fuel starvation at about 60 mph on the takeoff roll can create some real excitement—and danger. The Apache is no milquetoast when an engine quits, so the resulting swerve prepares the aspiring multiengine pilot for a real world where most twins demand appropriate handling reasonably quickly.

Startup is easy, although it can take a bit of time getting used to doing everything twice. The starter buttons on the early Apaches are hidden under the left side of the instrument panel—an antitheft device that can drive the uninitiated to distraction. Newer models sport a toggle switch to select starters. The right engine is usually started first because the battery cable is shorter, the generator is located on that side, and there is less electrical resistance to the starter. Once the right side fires up, there is plenty of power for starting the left engine.

Once running, the bark of a mere 150-hp engine's exhaust running through augmenter tubes sounds as if there is far more power out there than there really is.

Runup is only slightly more complex for the transitioning pilot. A rotating switch allows quizzing both vacuum pumps as to their health as there is but one gauge. (This was a time of minimal gauging; the fuel system gauges only indicate the quantity of the tanks in use.) There is repetition of the mag, carb heat, and prop checks. The propellers are cycled to ensure that they will actually feather; the inability to do so is a no-go item.

The single-engine pilot's first takeoff in an Apache is memorable. Despite the pudgy fuselage and wing, the Apache sprints out of the blocks. It is a rush. Pushing two throttles to the stop for the first time generates a feeling that is very effective in continuing to separate pilots from their money. They want to do it again and again. Minimum control speed (V_{MC}) of 85 mph is reached rapidly. Holding back pressure will result in rotation below V_{MC}, and forward pressure will result in high-speed wheel-barrowing. The magic speed is 90 mph, or V_{MC} plus five mph, where merely thinking about raising the nose is enough—the rotund bird bounds into the air. Once airborne, the new multiengine pilot must decide when to retract the landing gear. The rule of thumb is to wait until one cannot land on the remaining runway. That may mean leaving the Goodyears down until



The engines exhaust through augmentor tubes (left), which eliminate the need for cowl flaps and give the Apache an authentic sound. N3369P's headset jacks are hidden in ashtrays and are connected to a new audio panel/intercom system (above).

The Apache shines as proof that the loss of one engine results in loss of not half the climb rate but closer to 90 percent. The exhilarating rocket ship on two engines becomes a dog on one. On a hot day, selection of best single-engine rate-of-climb speed (95 mph) in a loaded Apache may result in what is described as "best rate of least going down." This airplane teaches a student that a twin has its horsepower split into two packages. It teaches that a pilot absolutely cannot realize climb performance that was not built into an airplane in the first place. It teaches that raising the nose doesn't help. It teaches that a multiengine pilot flying with one dead engine may simply have to point the airplane at something soft and cheap, and land, using the good engine to regulate the glide. These are good lessons. The Apache teaches them well. The instructor can then point out that a forced landing, right side up in that rugged structure, may mean walking away, while getting below V_{MC} and rolling upside down will be fatal.

After motoring slowly around the sky, the new Apache pilot discovers the paradox of struggling to slow the airplane to the maximum gear-operating speed of 125 mph and flap-operating speed of 100 mph without chopping the throttles. Once the flaps are selected, the speed must drop below best single-engine rate of climb and down near the minimum safe-single-engine speed of 90 mph, thus challenging the pilot to fly precisely. If an engine is lost in the pattern with gear and flaps down, landing is mandatory. Getting the gear and flaps up (pumped up if necessary) and the dead engine secured and feathered, while accelerating to best single-engine rate-of-climb speed of 95 mph, takes at least 800 feet of altitude. New pilots in the Apache tend to get fooled by the wide panel and shape of the nose and often come down final with the nose pointed to the left. Despite those considerations, closing the throttles on short final and flaring toward a full-stall landing can result in a most pleasing touchdown and short rollout, for the Apache can be operated from fields to which few other twins dare venture.

Thousands of multiengine pilots have acquired their skills in Apaches. More than a few have survived engine failures in high-performance twins at low altitude on takeoff because the Apache taught them the skill to handle that situation. Those pilots tend to say very good things about *Da Pop.* □

Rick Durden, AOPA 684126, *holds an airline transport pilot certificate and is an aviation attorney who enjoys flying antique and classic aircraft.*