



Used Aircraft: Piper Cherokee Six

Keeping the family happy

The Six is the perfect aerial minivan

BY RICK DURDEN

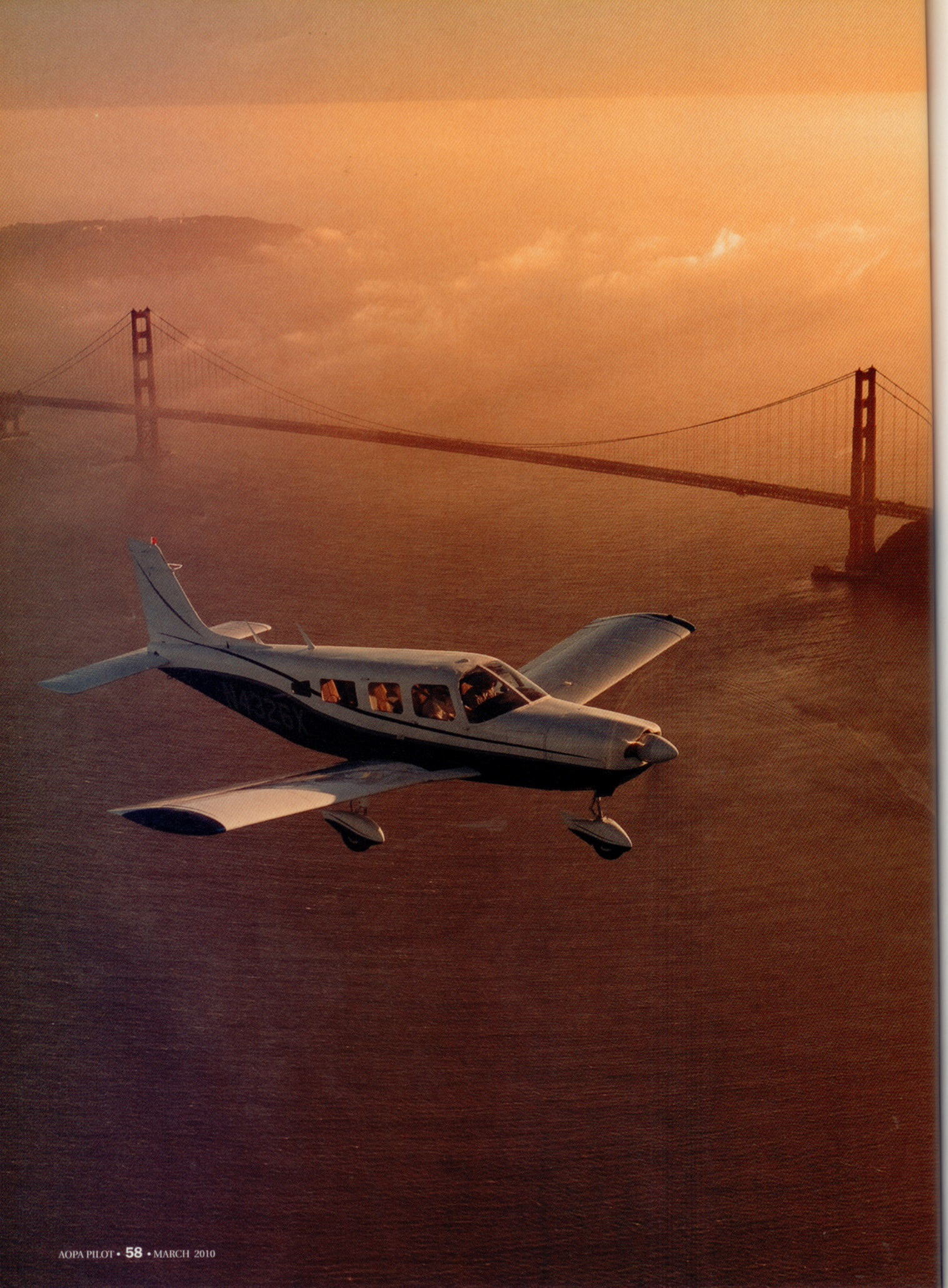
If life really begins when the kids move out, the dog dies, and you acquire a Cirrus SR22—then what does a pilot own during that period when it is still necessary to cart the kids, the dog, and their stuff around while dreaming of the Cirrus? A most suitable airplane is Piper's classic carryall, the Cherokee Six.

Less than a decade after the four-place Cherokee series sprung from the fertile minds of Fred Weick and Karl Bergey into black ink in Piper's ledgers, Piper—sensing a good thing—stretched the fuselage mightily, allowing it to accommodate as many as seven people, simultaneously adding a forward baggage compartment, more fuel, and a 260-horsepower engine. Then, perhaps having exhausted its 1965 vintage of creativity, Piper proceeded to call its newest Native American the "Six."

Designed to capture a portion of the fixed-gear, big-single market that Cessna had latched onto with its models 205 and 206 (and soon would add the seven- to eight-seat 207), the Six proved an immediate success, largely because the cabin was gargantuan for its day—and passenger friendly, a true rarity. Feedback from the field soon convinced Piper to offer a 300-horsepower model as well as club seating for the rear seats. Both changes were enthusiastically received, with virtually no one ordering all forward-facing seats once club seating became avail-



PHOTOGRAPHY BY MIKE FIZER



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able (the middle row of forward-facing seats was cramped), and the 260-horsepower version steadily lost sales before being dropped from production after the 1978 model year.

Sixes immediately went throughout the aeronautical world. The voluminous cabin beckoned everyone from flying clubs to bush operators, flightseeing services, and small freight haulers to even the floatplane community. After more than 40 years in service, things have shaken out and a general pattern of Cherokee Six usage has emerged. The docile handling endeared the airplanes to flying clubs and FBOs that desired a large single on the line but whose rental customers included pilots still in the learning stages. Bush operators gradually turned away from the Six because of a combination of the low wing, which was susceptible to damage on unimproved runways; only average short-field performance; and an inability to withstand the punishment of day-to-day backwoods service. Over time, the Cessna 206 and 207, with their greater useful loads, gravitated to the harsher environments where utility was more important than comfort; the Cherokee Six came to excel where consideration for the passenger was primary. One of the most popular uses of the venerable Six is by pilots who want to keep their families happy. As an aerial minivan, the Cherokee Six is superb.

Growing family

Noel Weigel of Dublin, Georgia, had used a Cessna 172XP as a family airplane for some years until child number three meant it simply couldn't carry all that was kid-essential for even a weekend trip to the shore. After a careful search, Weigel purchased a 1975 Cherokee Six with the 300-horsepower engine up front, or a PA-32-300 in type-certificate parlance. According to Weigel, it has met the needs for family travel even for those members of the group who are not convinced flying is here to stay. (Since this was written, Weigel, as a happy Cherokee Six owner of many years, upgraded to the Six's retractable gear, tapered-wing descendent, the Piper Saratoga HP.)

Weigel introduced us to his Six by pointing out that it has the factory air conditioning option, which adds about 100 pounds to the empty weight. Living in the South, his experience is that the ability to keep the cabin cool, no matter the altitude, is worth every single pound. Keeping the kids and spouse comfortable is not just the role of a good parent; it may make the difference as to whether the family owns an airplane at all.

With a 2,090-pound empty weight, Weigel's Cherokee Six has a 1,310-pound useful load, only slightly less than the average Six. With all 84 gallons (504 pounds) of usable fuel aboard, 806 pounds may be placed in the cabin. A few examples of the Six come close to being able to carry 1,000 pounds with full fuel, but the Six does have a gotcha in the form of another limitation, unusual in single-engine airplanes: It has a zero fuel weight (sometimes called *wing bending weight*). When working a loading problem, the cabin load must be figured first. Once the empty weight of the airplane and the cabin load reach a total of 3,112 pounds, all of the rest of the weight must consist only of fuel. Despite years of rhetoric to the contrary, the Cherokee Six has never been a "fill the tanks and



the seats" airplane, and many pilots who have tried to do so have discovered that the trees at the end of the runway can suddenly become huge. Nevertheless, 84 gallons of fuel is much more than most trips require, so the airplane has the flexibility to carry more in the cabin for a shorter trip or to fill the tanks, take less stuff, and go a long way. The 100-pound-capacity baggage areas in front of and behind the occupants help to keep the center of gravity within limits.

Preflighting a Six is pure Cherokee, with a little more acreage to cover. There are four fuel tanks to check, each with its own quick drain. The outboards hold 17 gallons usable while the inboards hold 25 each, and have a handy tab showing the 18-gallon level. There are two down-

A big, roomy cabin, ample storage space, and an ease of entry make the Piper Cherokee Six a super hauler for family, friends, and stuff of all kinds.

The four-foot-wide cabin gives plenty of room for everything on the instrument panel, something that has proved valuable over the years.



The well-equipped and highly polished wood panel is another of this Cherokee's finer points.

sides to the fuel system that a pilot needs to keep in mind: There have been more than a few forced landings caused by fuel starvation, despite the presence of fuel on board, because pilots did not keep track of which tank held fuel—and fuel sampling is work intensive. The fuel strainer outlet is under the fuselage, with its drain lever on the front of the spar, under the co-pilot's seat. To sample the fuel, position a big jar under the airplane, then allow 10 to 15 seconds of fuel flow from each selected tank to assure the fuel lines contain nothing but clean fuel.

Owners report that alternator and air conditioner belts seem to have short lives if the pulleys are not exactly aligned, so the condition of each belt should be a part of the preflight. The static source is on the left side of the fuselage, forward of the wing, as is the plug for 12-volt external power starting, which gets the ground crewman unpleasantly close to the propeller.

The doors on the left rear side of the fuselage have sold a lot of Cherokee Sixes. On all but a few versions there are two; the forward opens much like a car

door (but with two latches) and then the rear door swings vertically to be held open via a strap arrangement. Baggage has to be lifted only a short distance and passengers for the club seats can enter gracefully. The large opening apparently was essential to compete with the Cessna 206 for the funeral business, because many small FBOs made good money hauling bodies and the large doors of each airplane allowed loading a casket. In one of the most famous aircraft advertisements ever, Piper—not willing to display a casket—loaded a spinet-size piano in a Cherokee Six to show it could be done.

Ready to fly

Once the passengers are comfortable and you have boarded through the right-side, over-wing door, it's time to look over the flight deck. The four-foot-wide cabin gives plenty of room for everything on the instrument panel, something that has proved valuable over the years. The fuel selector is prominent, a wise idea when fuel management means selecting from four tanks. The manifold pressure gauge and tachometer are the only poorly placed instruments, located at the bottom of the panel, making the power check on the takeoff run challenging. The presentation on the ammeter can be confusing; more than one Cherokee Six pilot has run a battery flat in flight because the gauge does not clearly indicate a discharge. Power controls are on a quadrant, initially a "big airplane" marketing ploy that proved quite popular.

Starting the fuel-injected Lycoming in Weigel's airplane proved easy; once primed, the engine was cranked with the

mixture at idle cutoff. Upon signs of ignition, the mixture was moved forward the desired amount, usually only a third to half way, as running full rich at idle is a good way to foul the plugs on an engine that was originally designed for 91/96 octane fuel. Weigel's Lycoming started at dead idle, between 800 and 900 rpm, making a most satisfying sound of contained power.

Virtually every Cherokee Six sits nose high on the ground, so taxiing visibility is akin to being in a tailwheel airplane—there is a big blind spot to the pilot's right. It is sometimes necessary to S-turn a bit to make sure the way is clear. Some early Sixes had very heavy nosewheel steering, but Weigel's demonstrated no sign of ponderousness.

Runup is completely conventional for an airplane with a constant-speed prop. The mixture is brought full forward, power increased, propeller exercised once, mags checked, controls moved to the limits, instruments and radios set, a check of all door latches is made, and it's time to depart.

Normal takeoff is made with 10 degrees of flap, the first of three notches on the manual flap handle. As the power comes up, the nose drops, so the airplane sits level as it accelerates. P-factor is very noticeable, especially when the nosewheel is raised prior to liftoff. Behavior on takeoff is directly related to weight. Light, a Cherokee Six leaps off the ground and climbs with vigor. Loaded, especially the 260-horsepower models, they seemingly can take forever to leave the ground, and then only with reluctance. Experienced pilots take the 300-horsepower airplane manual's claim of 1,140 feet to clear a 50-foot obstacle on a gross-weight takeoff with lots of salt, and allow twice that distance—more if there are only 260 horses up front.

In the air, the long nose blocks the view forward, necessitating gentle turns for traffic avoidance; but it helps make selecting a pitch attitude easy, allowing for very precise speed control. Best rate of climb occurs at 105 KIAS at sea level, with 115 knots suggested for en route climb. The Six is absolutely solid in the climb, with very smooth controls, and a faster roll

One engine to go

In the process of buying his Cherokee Six, Noel Weigel learned a nasty little secret of the southeastern United States: The Lycoming IO-540 is very, very popular among the airboat set. There is a thriving black market in stolen engines.

Weigel bought his airplane with a nearly new engine because the previous owner had opened his hangar one morning to find that someone had apparently felt more entitled to the powerplant than the registered owner of the airplane—and removed it. The surprising thing was that although the engine was gone, the propeller had been carefully removed and set aside, with all of the attaching hardware neatly placed with it. All hoses and lines were cleanly cut, and all bolts and nuts that had been removed were placed in an orderly fashion where they could be found and, if desired, reused.

Aircraft owners have long been taking precautions against theft of their airplanes and the avionics within; however, they now need to recognize that if they have a big Lycoming or two on their machine, they are potential targets for engine theft. —RD



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rate than one normally expects from the Cherokee series. Its handling, especially when light, is enjoyable. Steep turns are frankly delightful, and with the long nose as a reference, altitude control is fairly easy. It does decelerate about 15 knots in the first 180 degrees of turn, so lots of nose-up trim is needed, which calls for planning as the electric trim is very slow.

Slow flight requires only that the pilot show a willingness to apply lots of right rudder, otherwise the airplane does not waffle around at all. Stalls are typical Cherokee; there is a noticeable buffet, the stall warning clatters, and then the nose bobs up and down a bit as the descent rate goes out of sight. Pulling hard will result in a straight-ahead break. Lowering the nose slightly has the airplane flying again, although prompt application of full power is essential to break the resulting rapid descent. Even then, it takes some time to accelerate away from the high drag end of the envelope and establish a climb. Stalling a heavy Six at low altitude, in spite of the very obvious warnings, may be the last thing a pilot does.

Settled down in cruise, expect to see a TAS of 140 knots with a fuel burn of 15 to 16 gph. More power results in burning more fuel rather than going much faster. There are speed mods for the Six that will bump up the cruise speed about 5 percent or so. However, speed is not where this airplane shines. The Cherokee Six's role in the aeronautical kingdom is to provide comfort for those folks in the back who may have veto power over your ownership of anything with wings. Because it has high enough wing loading to make the ride fine most of the time, those wielders of the veto are unlikely to use it unless you do something foolish.

As an instrument platform, few are better. The significant wing dihedral helps provide an overall resistance to displacement and general stability that makes instrument approaches how-hum events. Because of the long nose, a notch of flaps is de rigeur for all approaches to keep the deck angle lower and allow a view of the runway when breaking out of the clouds. Instrument approaches are generally shot at 100 KIAS, which is nicely below the max flap speed of 108 knots and above V_{γ} , so a speedy transition to a healthy

climb can be carried out if a missed approach is necessary. A good speed on final, with full flaps, is 80 KIAS, slowing to 75 prior to the flare. Even though it is big and can develop a prodigious sink rate on final, a Six will float surprisingly far in ground effect. One of the worst mistakes a Cherokee Six pilot can make is to carry any extra speed. Doing so has historically been an invitation to either land on the nosewheel and wheelbarrow into ignominy, float and lose directional control in a crosswind, or just plain run out of runway.

With appropriate speed control and a willingness to raise the nose, a Cherokee Six will reward its pilot with some amazingly smooth landings. Done correctly, it will land in noticeably less distance than is needed for takeoff, so once a pilot has a little time in type, he or she simply comes in on speed, touches down slowly, doesn't touch the brakes, and modestly acknowledges the acclaim from the rear seats during rollout.

When taking the family, *smooth*, *comfortable*, and *roomy* are the watchwords, calling for shallow banks, lots of room for people and things, and an absence of excitement when aloft. The Cherokee Six is the airplane for the moment. The kids will love you for it, and when they finally move out and the two of you are free to roam the country, you may just decide it's the perfect airplane for that as well.

ACPA

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SPECSHEET

1975 Piper Cherokee Six

Equipped price new: \$49,300

Today's Vref value—Basic aircraft: \$71,000; w/Garmin 430W, like-new paint and interior: \$89,000

Specifications

Powerplant	Lycoming IO-540-K1A5 300 hp
Recommended TBO	2,000 hrs
Propeller	Hartzell
Length	27 ft 9 in
Height	7 ft 11 in
Wingspan	32 ft 10 in
Wing area	174.5 sq.ft.
Wing loading	19.5 lbs/sq.ft.
Power loading	11.3 lbs/hp
Seats	6-7
Empty weight	1,788 lbs
Empty weight as tested	2,090 lbs
Max gross weight	3,400 lbs
Useful load	1,612 lbs
Useful load as tested	1,310 lbs

Payload w/full fuel	1,108 lbs
Payload w/ full fuel as tested	806 lbs
Fuel capacity	84 gal/504 lbs
Baggage capacity	200 lbs (100 nose, 100 aft cabin)

Performance

Takeoff distance ground roll	740 ft
Takeoff distance over 50-ft obstacle	1,140 ft
Rate of climb, sea level	1,050 fpm
Cruise speed @ 75% power	145 kts
Service ceiling	16,250 ft
Landing distance over 50-ft obstacle	1,000 ft
Landing distance, ground roll	630 ft

Limiting and Recommended Airspeeds

V_x (best angle of climb)	95 mph
V_y (best rate of climb)	105 mph
V_A (design maneuvering)	143 mph
V_{NO} (max structural cruising)	146 mph
V_{NE} (never exceed)	184 mph
V_{SO} (stall, in landing configuration) ..	55 mph

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.

