Down view of the new Piper Cherokee 235. Author Karant was impressed by the plane's short takeoff and landing characteristics. He had a field day in taking off and landing on one of the runways at the new Dulles International Airport, which serves Washington, D.C.

Another Winner For Piper

235 h.p. Cherokee is flown by PILOT editor. He finds it easy to fly, 'gentle and forgiving' in flight and its short landing and takeoff characteristics phenomenal. 'It's closest thing to a family bush plane I've flown yet,' he writes

It looks like Piper is having what they call in Las Vegas "a winning streak." They did well with the *Aztec*, probably one of the world's best light twins. The *Comanche* has long made them famous. The *Twin Comanche* should prove the hottest winner of all small twins. And now, as though they just don't know how to lose, comes the 235 *Cherokee*.

The *Cherokee* looked like a winner back when they first introduced it, with a 150 h.p. engine. It was a little puny in the power department, but it had outstanding flight characteristics, and was as gentle to get on and off the ground as the *Tri-Pacer* (which it succeeded) was touchy.

Of all the general aviation manufacturers, Piper probably has proved the company most inclined to add brute horsepower whenever and wherever it looks like it might do them some good. They've done this so consistently it's almost become a Piper trade mark. The 40 h.p. *Cub* became the 150 h.p. *Super Cub*—and it's still selling. The *Tri-Pacer* went to 160. The *Apache* went from 150's to its present 235's. The *Comanche* went from 180 to 250, and a 400 h.p. version will be on the market in the near future.

The *Cherokee* is no exception. It went from 150 to 160, then to 180. I haven't had much experience with the 180, but pilots say it's a bear. The 235 is a tiger. It's the closest thing to a family bush plane I've yet flown. It's got so much power it can haul a load equivalent to its own empty weight. It can go into almost any piece of ground that's flat, and it can take off from little more than a tennis court. And as nearly as I can tell, taking readings from the plane's own instruments, its cruising speed is 2-3 m.p.h. faster than the 156 at 75% power at 7,000 feet claimed for it. Power-on stall was at 51, and the stall was so gentle that it brought back strong memories of the *Ercoupe*.

Howard "Pug" Piper (AOPA 97315), vice president in charge of research and development (and generally credited as being the company's leading advocate of more and more horsepower—one wag has named the forthcoming 400 h.p. *Comanche* "Pug's Pursuit") wanted to check me out in N8503W. He quickly showed me that it would be quite difficult to get in trouble on takeoffs or landings. He also drove home to me quite dramatically the fact that the *Cherokee* on the ground is, in many ways, more stable than the best automobile. He did fast skidding turns while taxiing that would roll many contemporary planes up in a ball. The gear is so wide and rugged I'd say that the old saw about a plane landing itself could be demonstrated easily with the *Cherokee* whenever anyone wanted to see it done.

by MAX KARANT
AOPA 18

Once Pug assured himself that everything in 03W was working all right, and that I knew where the ignition switch was, I took off for a day's wandering around the countryside, trying all sorts of things with this wonderful airplane, while making detailed notes on a tape recorder.

This particular airplane was well equipped, with a Narco Mark 12 with Piper omni indicator, Narco ADF-30, and an Autocontrol II (Mitchell) autopilot. All these brought the price to $19,960 list. Because of the deluxe equipment (including complete blind-flying instruments), 03W's empty weight came to 1,467 pounds, leaving it a useful load of 1,433. This meant that this airplane could carry four 170-pound people, 226 pounds of baggage, 527 pounds of fuel (84 gallons) and oil, and still take off in 800 feet and climb 825 f.p.m.

I made a few maximum-performance takeoffs and climbs at 2,479 pounds gross, 421 pounds under the certificated maximum. The airport was 50 feet above sea level and ground temperature 57°. The wind was very light. Using the 90 m.p.h. IAS recommended in the plane manual, I climbed from the airport to 2,000 feet above ground at exactly 1,000 f.p.m., using one notch

Piper's new 235 h.p. Cherokee will carry a useful load 80 pounds greater than its empty weight (1,410 pounds). Greater wing spread and sculptured cowl distinguish the 235 Cherokee from its Cherokee B stablemate, which is offered with 150, 160 or 180 h.p. engines. The new plane will carry four 170-pound passengers, 84 gallons of fuel, 200 pounds of baggage, full instruments and radio with weight allowance left over

of flap. The second climb was with no flap at 90 IAS, and I averaged 1,100 f.p.m. for the 2,000 feet. Then I tried one at 70 m.p.h. indicated, with two notches of flap, got off in what appeared to be about 600 feet and averaged 1,000 f.p.m. for the 2,000-foot climb. Simulating the extreme, I even got off in about 200 feet and climbed out at 60 m.p.h., stall warner blowing.

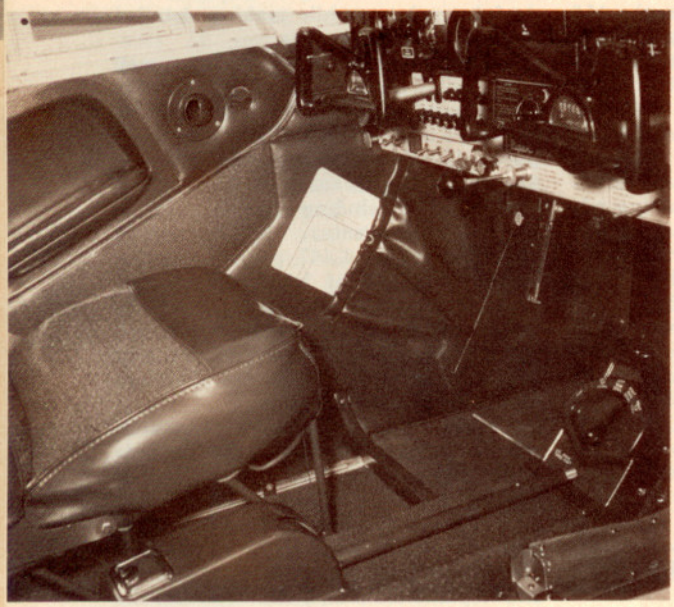
Next morning I happened to be flying by Dulles airport, the FAA's "vast wasteland" just west of Washington, D. C., and decided I'd do what I could to bolster their traffic count. Using one of their three 11,500-foot runways, I started at the extreme end of the concrete, used full flap, gave 03W full power and pulled it off at 40 m.p.h. Then, the moment the plane was flying clear of the ground, I pulled the power off, landed, and braked to a full stop. Then I'd do the same thing again, straight ahead. I did this 13 times before coming to the end of the concrete. I was alone at the time, but the fuel tanks were full. Ground temperature was 47° and the wind was 7 knots. I couldn't help wondering if that gigantic, but relatively trafficless, tower counted each of those 13 landings and takeoffs as 26 official plane movements.

From there I flew to a 2,000-foot dirt strip on the farm of a friend, in a narrow valley between two ranges of mountains in Pennsylvania. We estimate I landed and took off in about a third of that strip. By the time I'd become acquainted with 03W, and tried a few landings and takeoffs of this kind, I was convinced that any little bit of flat ground, or a dirt road, would be ample for the 235 *Cherokee*. Combined with its excellent ground-handling, and weight-carrying ability, these characteristics should make the 235 *Cherokee* an outstanding piece of transportation for farmers, ranchers, and anyone having a requirement for so versatile an airplane.

Flight characteristics are as gentle and forgiving as any plane I've flown in recent years. It has most of the outstanding slow-flight capabilities of the *Navion*, and, as I've already mentioned, can be flown almost exactly in the same manner as the *Ercoupe*. I made a number of "*Ercoupe* approaches" simply by trimming the nose up, pulling the power back to idle, and letting the *Cherokee* mush downward until in a landing position off the end of the runway. Then just dip the nose forward slightly, fly up to the runway, then hold the nose up slightly while the ship lands itself. It's a lot easier than slipping to lose altitude. Even the clumsiest student should be safe in this airplane.

As I've said, cruising speed is, if anything, a little better than Piper advertises. At 7,500 feet I noted 157 TAS at what worked out to 72% power—faster than Piper claims, at less power. Stability is excellent, as is maneuverability. I was interested to note that, with my hand lying gently on the wheel, I could feel the slight oscillations of the "flying elevator" as it flew. When I turned on the autopilot, it appeared to be oversensitive, because the plane's wing tips kept up a slight rolling motion all the time the autopilot was on.

Visibility from the cabin is outstanding, as good as the *Bonanza*, and far



Cockpit of the Cherokee 235 features recessed arm rest, which adds cabin width, map pocket and an instrument panel designed to accommodate full instrumentation for IFR flying. In the center area, between the seats are (left to right): flap handle, fuel-tank selector valve and brake handle center-mounted under the throttle

COMPARISON OF THE CHEROKEE 235 AND CESSNA 182

Specifications	PIPER Cherokee 235	CESSNA 182
Top Speed (m.p.h.)	166	167
Optimum Cruising Speed (75% power, 7,000') (m.p.h.)	156	159 (75% power, 6,500')
Stalling Speed (flaps down) (m.p.h.)	60	62
Rate of Climb (f.p.m.)	825	980
Service Ceiling (ft.)	14,500	18,900
Cruising Range (75% power, 7,000') (miles)	935	905 (79 gals. optional, @ 6,500 ft.)
Engine	Lycoming 0-540-B2B5	Continental 0-470-R
Gross Weight (lbs)	2,900	2,800
Empty Weight	1,410	1,555
Wing Loading (lbs/sq. ft.)	17.0	16.1
Power Loading (lbs/hp)	12.4	12.2
Fuel Capacity (standard, gals.)	84	65
Wing Span (ft.) (in.)	32'	36'2"
Wing Area (sq. ft.)	170	174
Length (ft.)	23.5	27.4
Height (ft.)	7.1	9

better than the *Comanche* or *Twin Comanche*. The noise level is pretty high, what with that big Lycoming turning a fixed-pitch prop 2,550 r.p.m. a few inches in front of the cabin. Piper expects to start using Hartzell's new self-contained controllable prop (see PILOT 10/63/86), which will give the *Cherokee* three automatic prop settings: takeoff, climb and cruise. This prop should improve the plane's performance even more, and cut the noise somewhat. But quite a bit of the noise comes from the several air vents throughout the cabin, and with all of them open the noise level is pretty high.

Layout of the cabin is excellent, and quite comfortable. The front seats slide on long rails. The flap handle lies on the floor between the front seats when the flap is retracted. The fuel-selection system is outstanding for its simplicity. One selector valve handle, and clearly labelled positions, lie between the front seats and forward under the instrument panel, tilted upward so pilot and co-pilot can easily read them. There are five positions: off, left tip (17 gallons), left main (25), right main (25), right tip (17). Each tank has a separate fuel gauge on the right side of the instrument panel.

One jarring note is the lack of brakes on the rudder pedals. Piper's gone back to the single brake handle sticking out from under the panel. You steer the nose wheel with the rudder pedals, and pull on the brake handle. Another item I'd change is the clumsy tinted sun visor that's bolted to the windshield center post, and can only be adjusted out of the way by tilting it so the edge projects outward straight at your head.

The elevator tab handle is in the ceiling, in traditional Piper style. But the rudder trim has been moved down under the instrument panel, between the front seats, and is a circular knob.

The back seat is wide and comfortable for two. The baggage compartment is so big it might be called oversized.

Major reason for the 235 h.p. version of the *Cherokee* is to compete with the Cessna 182 in a class of plane Cessna has had largely to itself, although Piper feels the 180 *Cherokee* has been making a fairly good showing in the class. Nevertheless, the 182 accounts for about half of Cessna's total sales in the 172-182 category.

Piper obviously had a sharp eye on the 182 in working up the 235 *Cherokee*. According to Pug, top speeds, takeoff distances and rate of climb are about the same fully loaded. The *Cherokee* has five more horsepower than the 182, has 84 gals. fuel capacity standard; the 182 has 65 standard and 84 optional. The 182 cabin is a little bigger, and has two doors instead of the *Cherokee's* one. The *Cherokee* grosses 2,900 pounds, the 182, 2,800, but the *Cherokee* is 145 pounds lighter empty, so its useful load works out to be about 245 pounds more than the 182.

Short of some unexpected major setback, the 235 *Cherokee* should prove to be one of Piper's best contributions to general aviation. ●