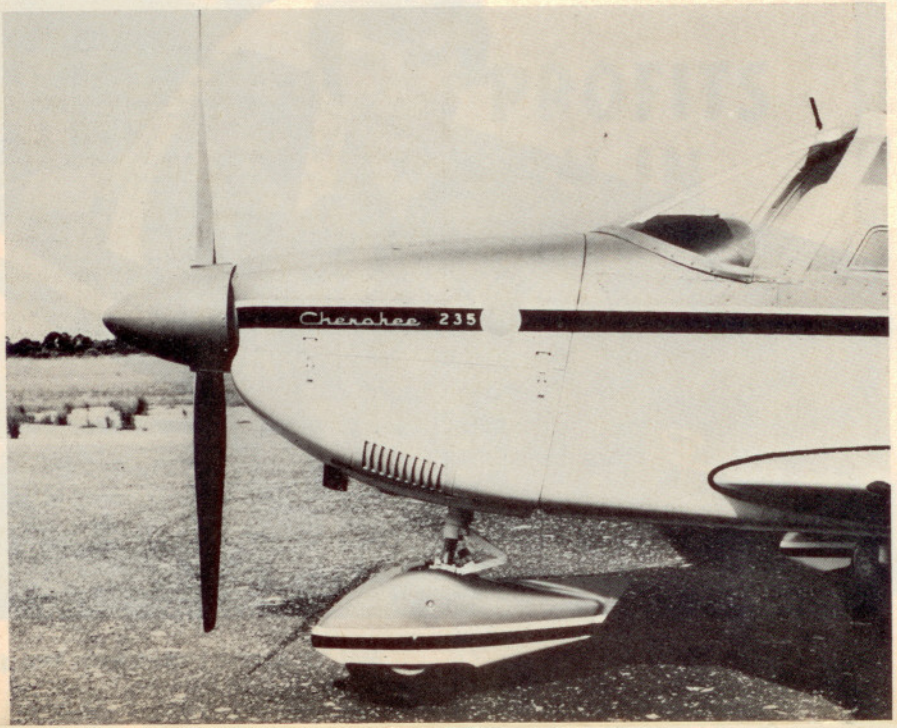
"Super" soundproofing of the cabin and internal dampening of engine mounts enable the new Cherokee 235B to provide an exceptionally quiet and smooth flight. The all-metal 235B has a top speed of 166 m.p.h. and a cruising speed of 156 m.p.h., the manufacturer says. Piper says the low wing, low center of gravity and wide tricycle gear enable the 235B to operate safely on small, unimproved fields

A new, longer propeller spinner is one of the features of the new Cherokee 235B. The smooth two-piece Fiberglas cowling, which is quickly removable to expose the entire engine, and the forward-mounted exhaust also are Model 235B features. The Dynaflair wheel fairings are standard equipment



Just about the time you think that they've hit a pretty good peak of refinement with a stable airplane like the *Cherokee*, Piper comes up with still more light touches to intrigue the potential customer. This is the case with the latest model of the 235 *Cherokee*, officially known as the 235B.

Not long ago I had what apparently is the production prototype of the new 235B, just to fly around and experiment with for a couple of days. Even though it has been about a year since I last spent any considerable time at the controls of the 235, I was quickly aware of changes and improvements in this latest *Cherokee*. The first glance inside the cockpit shows you there is something different; the instrument panel has been modified on the copilot's side to take just one more little piece of radio equipment, which everybody is pushing for all the time. So now there's a slight hump in the glare shield on the right-hand side of the panel, and this alone can immediately distinguish the 235B from the earlier model.

The improvements don't stop there, however. Piper's greatest effort has been aimed at soundproofing and vibration. The 235 h.p. Lycoming O-540 now has an entirely new engine mounting system and shock-mounted engine cowling, something that's quite noticeable almost from the first time you open the throttle. Then there are double side cabin windows, heavy insulation around the instrument panel and the forward bulkhead, special seals around all the side windows and even a new attack on the greatest source of airplane cabin noise these days—the ventilating system. The inlets for the outside air circulating system are now mounted close to the floor where their noise is held down to the minimum.

The entire cabin interior has been restyled again, with more and more appeal being added all the time for the ladies. They've even managed to squeeze a little room inside by recessing the arm rests into the cabin wall.

The airplane I had for this short familiarization was N9076W. I enjoyed flying 76W as much as I did the original 235 *Cherokee*. I was tempted to go back to the gigantic Dulles Airport near Washington and make another series of 13 landings and takeoffs straight ahead on one of those 11,000 ft. runways (as I did with the original 235), but I didn't have time. But the 235B retains that same kind of performance, which makes it a lot of fun to fly. With a full load (gross weight remains 2,900 pounds) the 235B is still an outstanding workhorse for almost any airport down to the smallest and roughest bush field. Best rate of climb speed with a full load is 100 m.p.h. indicated, which is supposed to give you 900 f.p.m. in standard air. My experience with 76W indicates that this performance is readily available under actual conditions.

76W was the essence of simplicity to fly. Like all its *Cherokee* brethren this one is extremely stable, very maneuverable, and has no nasty or

The Improved Cherokee 235

PILOT editor finds that first glance inside the cockpit of the new Model 235B shows that "something is different." Added refinements of a staple product are expected to appeal to prospective buyers

by MAX KARANT • AOPA 18

tricky flight characteristics that I could find. It's one of those airplanes that you hear about during hangar-flying sessions, that have such good flight characteristics that they can actually land themselves with a very minimum of help from you. With flaps down it lands just a little above 60 and the brakes are good and powerful. I found one thing about those brakes a little disturbing, incidentally. They are toe brakes at the top of the pedal but the entire pedal itself is suspended from a metal bar above the pedals. I found several times that when I pushed hard on the toe brakes I found myself pushing on the metal bar instead of the brake, because the bar itself is too easily reached with your toes—at least when you have feet as big as mine.

Piper's true airspeed indicator was a little out of calibration on 76W—if the engine instruments were reading reasonably accurately, that is. At 75% power I set up 24.5 inches and 2,400 r.p.m., which is the normal rated cruising power specified by Piper. For the altitude I was at the manual says the true airspeed should have been 143 m.p.h.; actually the indicator was showing 158. I took 76W over to a U.S. Navy speed course on Chesapeake Bay where I made four low altitude passes (two in each direction) over the one nautical mile course at 75% power. My average ground speed, timed with a stop watch, was 10 miles less than the 145 m.p.h. shown in the 235B's owner's handbook. On one such run incidentally, I found that I had accidentally left the carburetor heat in the full-on position. Having flown fuel-injection engines for some time, and not being recently exposed to a carburetor engine until I got the 235B to fly, I was forever forgetting to put carburetor heat on for an approach and landing, or turn it off for cruising performance. So I caught myself after making one pass over the speed course, and turned the carburetor heat off.

There's an interesting thing about the efficiency of the 235B: in its standard configuration it weighs 1,435 pounds empty, yet retains the 2,900-pound gross weight. That means that this airplane carries a useful load that is 30 pounds higher than its own empty weight. So the 235B can carry four 175-pound passengers, 84 gallons of fuel (good for six hours nonstop), 200 pounds of baggage and a little something left over besides.

The engine also drives a 60 amp alternator, an excellent feature these days considering all the electrical equipment that has to be kept operating continuously in the typical general aviation airplane. The alternator gives full charge even when the engine is idling. In addition to the toe brakes on the left-hand side, there is a hand brake with a locking button for parking mounted just in the center of the instrument panel, within easy reach of both occupants of the front seats. ●

PIPER CHEROKEE 235B

Specifications

Engine	Lycoming O-540
H.p. and r.p.m.	235 @ 2,575
Gross weight (lbs.)	2,900
Empty weight (lbs.)	1,435
Useful load (lbs.)	1,465
Wing loading (lbs./sq. ft.)	17.0
Power loading (lbs./h.p.)	12.4
Fuel capacity (main and tip tanks; 83.3 gals. usable)	84
Maximum luggage (lbs.)	200
Wing span (ft.)	32.0
Wing area (sq. ft.)	170
Length (ft.)	23.7
Height (ft.)	7.1
Wheel base (ft.)	6.1
Wheel tread (ft.)	10.0

Performance

	2,900 lbs.
Top speed (m.p.h.)	166
Optimum cruising speed (m.p.h.; 75% power, 7,000 ft.)	156
Stalling speed (m.p.h.; flaps down)	60
Take-off run (ft.; 25° flap)	800
Take-off distance over 50-ft. obstacle (ft.; 25° flap)	1,360
Ground roll (ft.)	680
Ground roll over 50-ft. obstacle (ft.)	1,300
Best rate-of-climb speed (m.p.h.)	100
Rate of climb (ft./min.)	825
Service ceiling (ft.)	14,500
Absolute ceiling	16,500
Fuel consumption (g.p.h.; 75% power)	14
Cruising range (miles; 75% power, 7,000 ft.)	935
Optimum cruising range (miles, 55% power, 10,000 ft.)	1,130

The slight hump on the right side of the instrument panel is one of the Cherokee 235B's marks of distinction. This enables the adding of one more piece of radio equipment on the copilot's side. This well-equipped panel is one of a variety available to 235B buyers