

Additional 40 h.p. for Piper's Cherokee Six makes quite a difference in 1969 model's performance, particularly on takeoff. Cherokee Arrow 200 also demonstrates what a little added power will do for a fine plane

Two Latest Cherokees: Six B And Arrow 200

by MAX KARANT / AOPA 18

■ For all of the nearly 11 hours I flew N4169R, I kept thinking of those pickup-truck commercials on TV, in which they extol the virtues of one particular model as having the capabilities of the traditional pickup truck, but the riding qualities of a comfortable passenger car.

That's the new Cherokee 6-300B, which certainly will be a winner in Piper's stable. This 1969 version of what started out to be the small Cherokee, which replaced the venerable Tri-Pacer, is typical of Piper's "growth plans" for a staple model. From the original four-place Cherokee, this design has gone in both directions: down to the popular, two-place "140" and up to the soon-to-be-added Twin Cherokee Six, with two 180 h.p. Lycomings.

I was impressed by the original Cherokee Six when it first came out, and said so. But its 260 h.p. Lycoming seemed a little weak on the uptake, especially with a load. It did fine on the airports I used, but it's mostly sea-level around here, and there were ample runways. Soon afterward, they added the 300 Lycoming, though it was

originally on a proposed military version. It was only an addition of 40 h.p., but what a difference it has made.

N4169R was a 1969 demonstrator. As such, no matter how hard some people tried, others left a lot of loose ends. After all, virtually everyone around the place was flying it, and hardly any were turning in squawks. Some Piper officials were unhappy about some of the items I noted, such as the overpowering ADF interference from the plane's alternator. It's an old problem, easily corrected, but I nonetheless found myself having to momentarily turn off the alternator in flight just to get a bearing with the Narco ADF-31A. After getting it, and turning the airplane, I then turned the alternator back on—the ADF needle would swing wildly.

There were a number of other things, such as a defective gyro horizon, loose autopilot control, and a few minor things. But none of these could overshadow the fact that 69R was an excellent all-around airplane. After flying it, the smaller Cherokees, and the Arrow 200, it's easy to see why Piper's Vero

Beach plant is producing 19 Cherokees a day.

The full technical term for 69R is that it's a Cherokee 6-300B (the "B" is 1969). Piper's internal identification is PA-32-300B. The engine is a Lycoming IO-540-K1A5, which delivers 300 h.p. at 2,700 r.p.m. Gross weight is 3,400 pounds (just 200 pounds less than a Twin Comanche). The "B" now is certificated to carry seven people, with three people sitting in the second seat back. If you do that, there's a placard: "For seven-passenger operation all weight in excess of 3,112 pounds must be fuel weight only. Fill tip tanks first, use main tanks first."

I flew 69R a couple of times with six people. Once, with full fuel (84 gallons), we climbed 3,000 feet from takeoff in three minutes flat. Climbing airspeed is 105 m.p.h. All takeoffs, incidentally, are normally made with 10° of flap. On another occasion, with just

Piper's new Cherokee 6-300B, powered by 300 h.p. Lycoming. Photos by the author.





Piper's 1969 Cherokee Arrow 200, with a 200 h.p. Lycoming; 180 h.p. version also available.

two aboard but with full fuel, we climbed about 850 f.p.m. at 6,500 feet.

I made a couple of checks at 75% power (which Piper pilots all seem to use for cruise), but most of my flying was at 65%. At 22.9 in. and 2,400 r.p.m., true airspeed hovered between 155 and 158 m.p.h. at 3,000 feet. At 8,500 feet, using 21.5 in. and 2,300 r.p.m., true airspeed came to 163 m.p.h. Later, checking over the plane's specifications, I looked up its performance at 8,500 feet—and it was precisely 163!

Never-exceed speed for the "B" is 212 m.p.h., maximum structural cruise is 168, maneuvering speed 149, flap speed 125. Stall with flaps down is 63, and it's as gentle and forgiving in a stall as it is in a landing. Almost any landing was good; I made a number of them, crosswind, at Dulles. Several were made on one straight-ahead pass down the

runway, taking advantage of the runway's great length.

N4169R proved an excellent short-field airplane too. I deliberately sought out a number of them, including a winding little strip in the mountains of West Virginia. Once you get used to its flight characteristics, and learn to instinctively take advantage of them, you quickly turn into a pretty good bush pilot with the *Cherokee Six*.

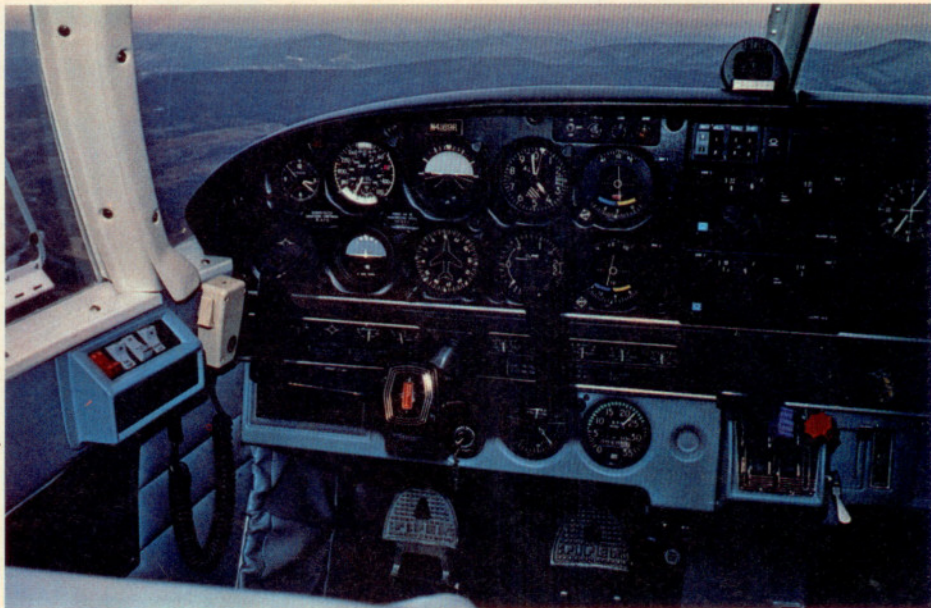
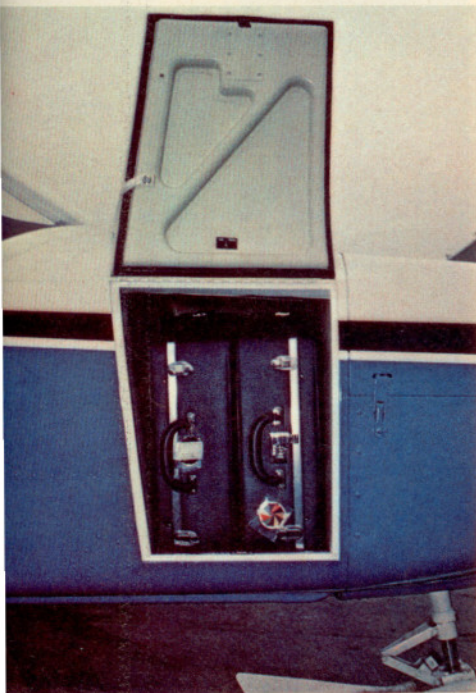
The autopilot installation proved interesting. There was the customary Piper Auto-Flite (made by Mitchell). Added to that was a unit called Tracker. This is a heading coupler, but not quite. The Tracker is connected to the No. 1 Mark 12A. It won't intercept an omni track, as the more sophisticated devices do. But it will hold the plane on track by performing a couple of extra steps. First, you select the omni track you want to fly, and center the needle. Then you push a cut-out button on the top left-hand side of the control wheel. In-

tercept the omni track manually. Then let up on the cut-out button, and the Tracker now will fly the needle, plus or minus 10°. It's useful, effective, and no contemporary plane need be without some form of autopilot these days.

N4169R had a lot of attractive features, but one of the most attractive was the cabin size. You get sort of a shock looking back over your shoulder and seeing all those people in all the seats. And for carrying cargo, you can quickly unsnap all but the pilot's seat, and you have a small moving van which will carry virtually anything you can stuff into it. But even when it's being used as a pickup truck, the *Cherokee Six* has above-average eye appeal. The interior is done in excellent taste. The instrument panel is attractive and quite functional, once you get used to it. Cradle switches for master, fuel pump, rotating beacon and landing lights all are on a neat little panel on the cabin wall, beside the pilot's left hand. The

A Cherokee Six "dividend" is the small baggage compartment between rear of engine and windshield. It has two specially designed bags for the Six's owner.

Instrument panel of the Cherokee 6-300B is tastefully laid out. "Six" has selector switch panel (just below magnetic compass) for radios. The Arrow flown by the author did not have selector switch panel, and radios had to be controlled individually. Turn and bank indicator of the Six has been replaced by Mitchell version of Brittain Turn Coordinator (directly below airspeed indicator).



instrument panel is modern and attractive, and follows the same basic design as now is used on all *Cherokees*. You can hardly tell the *Cherokee Six* panel from that of the *Arrow 200*, for example.

I was pleasantly surprised by the low noise level, especially when you consider there's a 300 h.p. engine pounding away just ahead of the windshield. Of course, it's mounted on a sort of extended engine mount, with an attractive little baggage compartment between the engine and instrument panel (complete with two specially designed *Cherokee* suitcases). Even so, the noise level is unusually good.

I suppose the salespeople would say that you could step right out of a small *Cherokee* into this "Six" and fly away with gay abandon. I'd say almost, but not quite. The "Six" is the heaviest of the *Cherokees*; gross weight is just 200 pounds less than a loaded *Twin Comanche*. Wing loading of the "Six" is 19.5 lbs./sq. ft., highest of any of the *Cherokees*. The *Arrow 200*, by comparison, is 16.3. Wing loading is one quick index of a plane's agility and maneuverability. The "Six" isn't a floater; pull off the power on approach and it really comes down. Also, there's a noticeable amount of torque on takeoff. So it should take a little checkout time in the "Six."

With the normal use of power, however, it's almost impossible to make a bad landing with the "Six." That huge gear tread (over 10 feet) is one basic reason. So is the 63 m.p.h. stall speed. On one of the 10,000-foot runways at Dulles airport near Washington, I made as many as four landings and takeoffs straight ahead. Full flap (40°) gives the "Six" excellent nosedown glide and slow landing, and the gear is rugged enough for just about anything that could even be referred to loosely as a landing strip.

If you're looking for a sumptuous single-engine airplane for your large

family, all you need is enough cash or credit for a *Cherokee 6-300B*. N4169R, with all its equipment, priced out at \$33,035. Not bad, when you consider that a lot of single-engine *Bonanzas*, for example, are selling for well over \$40,000. But if you have a business use for a pickup-truck type of airplane, like, say, a large farm or ranch, or a remote, inaccessible mining or lumber operation, the "Six" could very well pay for itself in six months or less.

Here's how the new "Six" compares with the Cessna 206, probably its No. 1 competitor:

	Cherokee 6-300B	Cessna 206
Gross weight (lbs.)	3,400	3,600
Climb at gross weight (f.p.m.)	1,050	920
Service ceiling (ft.)	16,250	14,800
Top speed (m.p.h.)	174	174
Optimum cruise (75% power)	168	164
Range (mi., @ 75% power)	525	650
Stall (m.p.h.)	63	NA
Empty weight (lbs.)	1,789	1,710
Engine	Lyc. 10-540-K1A5	Cont. 10-520-D
Takeoff h.p.	300	300
Standard fuel (gals.)	50	65
Wing span (ft.)	32.8	36.6
Length (ft.)	27.7	28.0
Height (ft.)	7.9	9.6
Power loading (lbs./h.p.)	11.3	12.0
Wing loading (lbs./sq. ft.)	19.5	20.5
Base price	\$24,900	\$23,850

NA = not available

Piper Arrow 200

The *Arrow 200* is still another *Cherokee* version. This one has the 200 h.p. Lycoming for the first time; last year's *Arrow* was 180 h.p., and it also is still in the *Cherokee* line. But once again, that extra little horsepower makes a bigger difference than you'd expect.

N9302N was a well-equipped version of the "200" set aside for "press evaluation." As such, Piper officials kept a little sharper than usual eye on its condition, particularly before it was turned over to someone like me to write about. In my case, everything worked as it should while I had the plane.

While the *Arrow 180* is an excellent all-around single-engine model, the "200" is a thoroughbred. While I wasn't able to do any extensive flying with the seats and tanks full, I did make a few notes with three and two people aboard, and with full tanks. The differences appeared to be small.

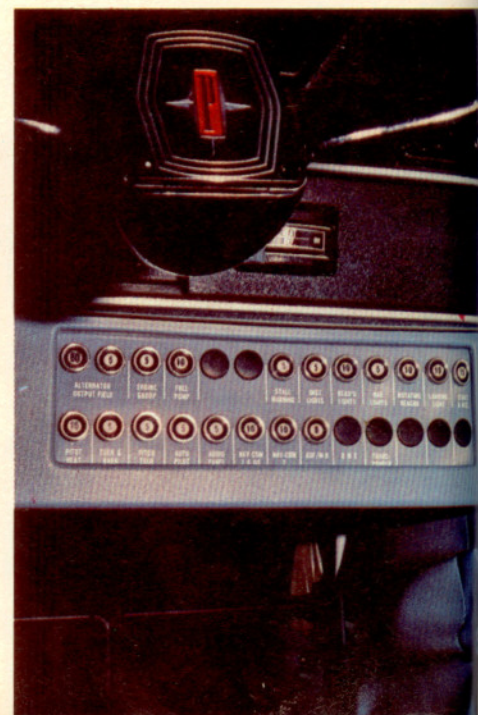
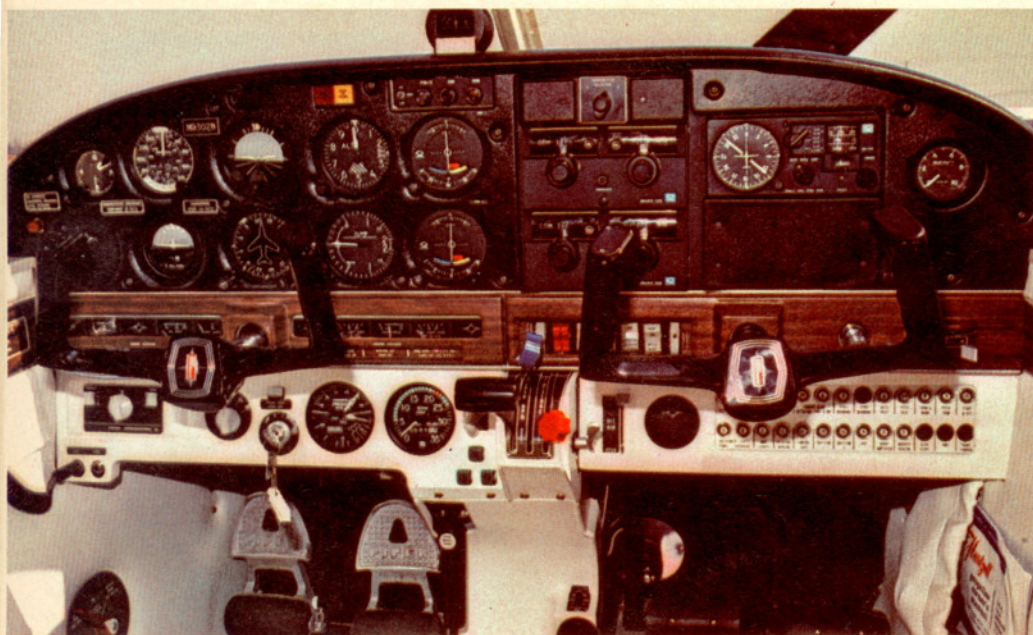
The specifications say the "200" will climb 910 f.p.m. with a full load. I got close to 1,000 f.p.m. once while lightly loaded. Then, once when I had close to gross weight aboard, I climbed 2,000 feet in 1 minute, 19 seconds, which worked out to exactly 910 f.p.m. Piper apparently is doing its best to make its performance charts tell the truth, because I also got their published cruising speed (166 m.p.h.) at 7,500 feet. Like the *Cherokee Six*, stalls and landings are as gentle as those of any plane I've flown in recent months.

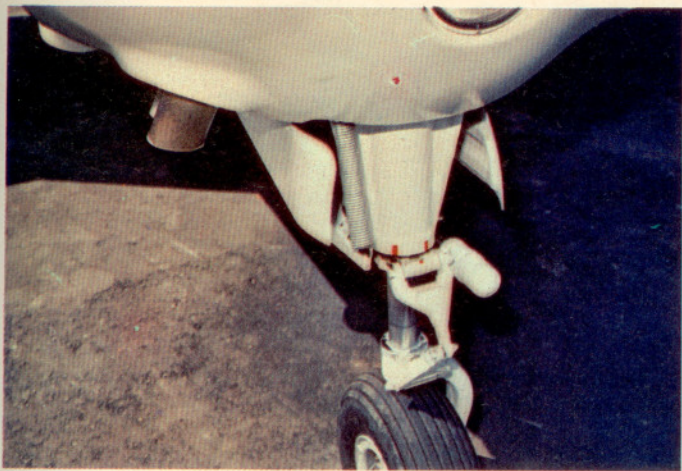
One thing the *Arrow 200* has is eye appeal. As a matter of fact, all the *Cherokee* line follows a tasteful, almost interchangeable, pattern. The cabin of the *Arrow* looks almost identical to that of the "Six". Instrument panel and controls are attractively laid out, and quite functional. One small point in the *Arrow*, however: I hooked my left pants leg over the fuel selector valve handle on the left side of the cabin wall, and pulled the handle down toward the off position inadvertently. Fortunately, the engine didn't quit; I found it out when I tried to move my leg.

The *Arrow* is obviously competition for the Mooney line, particularly the

Circuit-breaker panel for electrical equipment currently installed in *Cherokee Six* flown by the author. The black blanks are for additional equipment as it is installed.

Red and yellow squares above altimeter on *Arrow* panel are part of gear operating system.





Nosewheel spring is part of Arrow's novel gear system. If system fails, emergency mechanism in cabin can be activated by pilot, and gear falls down and locks by itself. This spring pulls nosewheel into safe position.

Executive 21. As such, comparisons are inevitable. The *Arrow* is roomier. It's a little larger all-around, which gives the Mooney a little edge on speed. But comfort and room can be as important as performance to many people, and the *Arrow* has both.

Once again, Piper has done an excellent job of soundproofing, even though the 200 h.p. Lycoming is just in front of the windshield. The noise level is not only good; the engine also is quite smooth at cruising power.

Visibility from the cabin is excellent. The windshield and cabin windows are large, giving pilot and passengers maximum vision in all directions except

Arrow's gear mechanism, just to left of throttle quadrant. Gear switch just above three lights is operated manually, but if pilot forgets to put it down for landing, the gear lowers itself when speed drops to about 80 m.p.h., and horn blows until this switch is put in "down" position. The plane, however, can be landed safely with horn blowing.

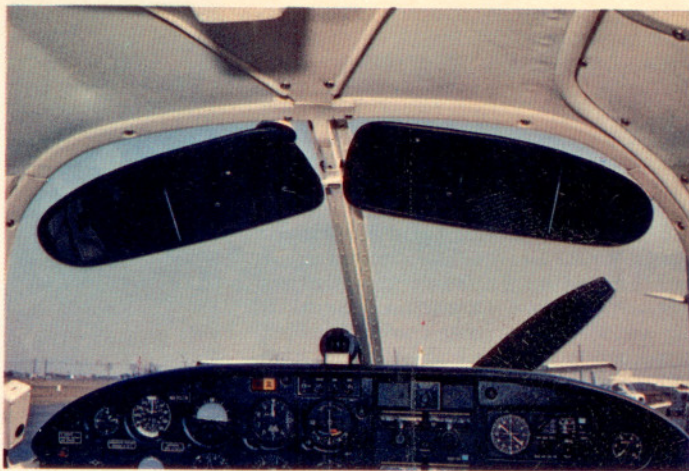
straight down. I was puzzled by one little feature: a set of sun visors, bolted to the windshield center post, and impossible to get out of your way in the event you are not being bothered by the sun. The visors rotate and are a dark, transparent plastic mounted in a metal frame. You can minimize their obstruction by turning them sideways, with the metal frames pointed straight at the center of your forehead, a few inches away.

N9302N was equipped with a Mitchell Autocontrol III, with the added function selector for NAV, OMNI, HDG, LOC, and REV. This worked well and is a great labor-saving device. I flew this airplane on instruments a couple of times, and the weather was fairly turbulent. The Autocontrol did an excellent job of flying the plane on the airways, and also made a quite acceptable ILS localizer approach.

Radio equipment in 02N included two Narco Mark 12B's, each with 360 VHF channels. The Narco ADF was labeled ADF-31AB, a new designation to me. There were two VOR heads with self-testing accuracy buttons, and a marker-beacon receiver. But there was no selector-switch panel for this equipment; I had to remember to turn the volume down on whatever set I wasn't using at the moment.

Practically all the flying I did in 02N was in rough air. Yet stability and ease of operation were excellent, and a reasonably skilled pilot should have no trouble whatever with either the *Arrow* 180 or 200. Maneuverability is excellent, and it's a good instrument airplane.

The *Arrows* have one feature that has been widely publicized: the automatic retractable gear. Unlike some of the more complex systems that can be purchased on some planes as optional equipment, the Piper device is standard on the *Arrows* and, according to Piper, has been performing so well that they haven't heard of an inadvertent belly landing yet. The Piper system is a combination in which an electrical pump operates the hydraulic gear. A pressure-sensing device reacts both to the plane's airspeed and to the propeller slipstream; there's an airspeed-type head on the left side of the fuselage, just below the rear



Arrow's sun visors present something of a problem. They are bolted to windshield center posts. Windshield itself gives excellent visibility, but these visors cannot be gotten out of the way if you happen to want to use entire visibility. If you turn them down level with your eyes, the frame's sharp edge is pointed right at your forehead.

of the pilot's window. I tried to trick this system a couple of times by slowing up 02N, both with power on and off. Each time, the gear came down by itself, even though the gear switch was in the up position. The gear warning horn kept blowing, however, until I put the gear switch down. It's a clever device, and should prevent the great bulk of accidents due to gear mishandling. There's an emergency override system which the pilot can use in extreme situations. A heated pitot also is provided, so the gear system won't ice up.

02N carried 50 gallons of 100 octane fuel. That's good for a maximum of 04:56 at 75% power, 05:28 at 65%, and 06:15 at 55%. These power settings give maximum range of from about 830 miles at 8,500 feet to 940 miles at 15,000 feet.

Piper's indulging itself in a wry bit of humor these days, in talking about the *Arrows*. For a long time, Mooney boasted that it sold "the most retractables" of anyone, a claim that stung its bigger competitors. Now Piper, in its latest publicity on the *Arrow*, claims it "is now the No. 1 selling single-engine retractable." □

	Piper Arrow 200	Mooney Executive 21	Cessna 182
Engine	Lyc. 10-360-C1C	Lyc. 10-360-A1A	Cont. 0-470-R
Horsepower (takeoff)	200	200	230
Wing span (ft./in.)	30	35	36/2
Height (ft./in.)	8	8/4	8/10
Gross weight (lbs.)	2,600	2,740	2,800
Empty weight (lbs.)	1,459	1,640	1,580
Service ceiling (ft.)	16,000	16,000	18,900
Maximum range (statute mi.)	950	1,175	905
Best climb (f.p.m.)	910	1,330	980
Top speed (m.p.h.)	176	185	170
Cruising speed (m.p.h.)	166	172	162
Standard fuel (gals.)	50	64	65
Base price	\$18,500	\$23,200	\$18,895