

Sensational Seneca

The Laminar Flow Speed Kit cures the "Limited Range Blues"



According to Lou, this pre-mod photo was taken from a 235 hp Beech Debonaire (single-engine) as it passed him. How embarrassing!

by Lou Cicalese

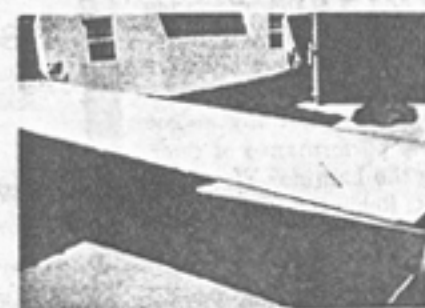
It all started when I was trying to locate auxiliary fuel tanks for my 1972 Seneca I. After flying for more than 20 years, owning seven different airplanes, and instructing in six additional types, I really do like my Seneca. It's very roomy, quiet, and docile to fly, with no bad habits.

N1481T started life as an air taxi, then did some flight training, and now with almost 6000 hours under her belt, she is serving private duty as my personal R.V.

The Seneca is quite inexpensive to own and operate, and handles our private grass runway with ease (I live in a fly-in community in Florida). On the down side, compared to many light twins, it's range is somewhat limited, partly due to its slower speed. It comes as no surprise, then, that you can negate almost any speed difference by eliminating fuel stops whenever possible. In other words, by staying in the air longer, your plane can become just as "fast" as the swiftest of light twins that must stop to refuel more often. So it became obvious to me that I needed to carry additional fuel in order to reach

my destinations quicker.

I began by looking through several magazines and other source books for auxiliary fuel tanks for a Seneca I—but to no avail. And several calls to possible prospects in *Trade-A-Plane* proved



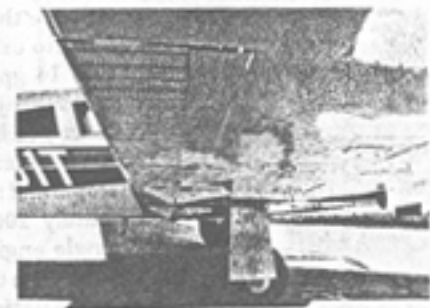
equally fruitless.

At that point, for a break in routine, I began digesting my freshly delivered copy of *PIPER'S Magazine*. It was there that I ran across an advertisement by *Laminar Flow Systems*, located in St. Thomas, VI. It was then that I realized my objectives were not so clear after all. Was I really looking to carry more fuel (which would increase my range, but also decrease my "in the cabin" useful load, while increasing my cost to top off the tanks), or did I really need more speed for the same fuel burn to achieve my objective? In retrospect, this turned out to be a rhetorical question.

A quick call to Laminar Flow Systems gave me clear direction. The owner and designer of the Laminar Flowspeed kit, Robin Thomas, proved to be as friendly and helpful on subsequent phone calls as he was on this first one. Equally courteous and helpful was his wife Rosie.

For about the same price or, in fact, probably less than the price of an auxiliary fuel system, I was in possession of a speed kit for my Seneca.

After spending about 25 spare hours in my hangar, with the use of ordinary hand tools and no "special" skills, my kit was installed. To make things easier, I had all the parts painted beforehand to minimize any touch-up painting, as my airplane was just painted the year before. All I had to do was "dot" on some touch-up paint to screw and rivet heads. I did not, however, use any *Bondo* on the wings to smooth out the factory imperfections, which would add still a few more knots of speed (I can do it anytime in the future, if I so desire and am



The kit includes aileron and flap gap seals, wing fuel tank fairings, flap hinge fairings, wheel well fairings, a dial gauge, hardware, and clear instructions. The large green turtle, though, must be purchased separately.

Seneca . . .

willing to repaint my gorgeous wings).

I can't stress enough how helpful Robin Thomas was throughout the modification process. From supplying his home phone number in case I needed support on a weekend or at night, to offering to fly over and help me install it if I got stuck. He truly cared about me, as well as my airplane. Service after the sale is his rule, not an exception.

The kit consists of aileron and flap gap seals, wing fuel tank fairings, flap hinge fairings and wheel well fairings. All hardware is included as well as a dial gauge to reveal areas of the wing that could be contoured for even greater gain. The instructions were well written, concise, and easy to follow.

As far as the results are concerned . . . I am very happy! The results were

“He (Robin Thomas) truly cared about me, as well as my airplane.”

well worth the money and effort. While I am still doing some flight performance comparisons, I do have some preliminary numbers to share with you.

Before the modifications, my Seneca cruised at 160 mph at 65% power at 6000 feet, burning 18.5 gph. After the modifications, under similar flight conditions, I am cruising at 180 mph. To achieve the old 160 mph cruise, I only need to use 45% power, while burning just 14 gph . . . So my range has increased by 40%! To me, that's better than auxiliary fuel tanks any day!

In summary, rates of climb, both single and multi-engine, are up approximately 200 feet per minute, and the single engine service ceiling seems to have gone up by about 5000 feet. Its roll rate is noticeably faster (it has lost that “trucky” feel) and it stalls and lands more slowly. All this and I'm not spending a penny more to fuel up — indeed, I now spend less!

I strongly suggest that anyone not happy with the performance of their Piper consider the Laminar Flow Systems speed kit.