

STRUCK BY AN ARROW

The real price of the Piper

BY GERALD L. LAWHON

If you are a pilot and don't own your own airplane, you have at least dreamed about it and probably given it serious thought at one time or another. There are a hundred reasons why ownership is rewarding and a few compelling ones to the contrary. *AOPA Pilot* editors asked that I share some of my ownership experiences, including costs. To do this, I went through my records, compiling and categorizing costs, an eye-watering exercise that only those with strong hearts should embark upon. Let's just agree up front that only in special circumstances is ownership a cheap way to fly. • Why then do my wife Joy and I choose to own our little 1975 Arrow II, our third airplane following another Arrow and an Aztec? Both of those airplanes were owned in partnership, and both were what I term "working airplanes." One was leased to a military aero club, and therefore, personal use was necessarily limited. The other was used in charter service. Partnerships, flying clubs, and business ventures are



some of the ways to defray ownership costs, but each has its own set of hassles and benefits—easily more than enough material for future articles.

N149JL is owned outright and used like a family car. I commute to work in it two or three days each week, and we use it for trips at our convenience, without the need to coordinate with someone else's schedule. This flexibility is one of the greatest benefits to owning. Equally important is having an airplane equipped the way *we* want it and maintained to *our* satisfaction at all times. Joy is in charge of cosmetics, and I'm in charge of airworthiness and equipment. She let me pick the airplane and avionics with the provision that if it "looked tacky" the deal was off.

I found an airplane I had known for years; I knew how well it had been maintained and babied. When we purchased it in October 1990, it had more than half time remaining on the engine before the published TBO, and the airplane was loaded with extras such as loran, engine analyzer, electric trim, and coupled autopilot. However, it did have original paint and interior and was sorely in need of a face-lift. We got it for a fair price and immediately invested about another \$11,000 in new paint and interior to satisfy upper management. For about another \$4,000, I added an S-Tec pitch stabilization system that provides altitude hold, glideslope coupling, and constant-rate climbs and descents. The airplane looks great and is a true IFR machine. Although it is coming up on 17 years old, it is nearly perfect for our

needs—simple enough to be affordable, yet has enough speed and equipment to provide us a lot of diversity.

The cost of ownership can be figured in many ways and expressed as an annual cost or as a cost per flying hour. Neither tells the whole story because the amount an airplane is flown greatly influences the way you view costs. The more an airplane is flown, the more it actually costs but the less it costs per flying hour. Let's break the cost down by categories: those that vary directly by the hours flown, those that are periodic and occur each month or year regardless of whether the airplane flies or not, and some miscellaneous or random costs.

The most obvious per-hour costs are fuel and oil. Less obvious are those for unscheduled avionics and airframe maintenance. The potential for equipment malfunctions generally varies proportionally to the amount of usage and the age of the equipment. These costs are much harder to predict, as they occur randomly, and many months of experience are needed to establish an average. A very real cost that is often overlooked (or ignored) by the owner until it bites him is a set-aside for engine and propeller overhaul. A 2,000-hour TBO engine that costs \$12,000 to overhaul costs \$6 per flying hour eventually. Or it is reflected in a corresponding decrease in resale value. A constant-speed propeller probably costs at least \$1.50 per hour in overhaul costs. You must calculate these costs based upon your own aircraft and engine and the prevailing



costs in your part of the country.

Periodic costs include hangar (or tiedown), insurance, an annual inspection, and taxes and licenses if they apply in your locale. By far, our greatest expense is for a hangar. Hangars are at a premium where we live. They rent for around \$300 a month for the old ones to almost \$400 for the newer ones. Hangars solve myriad foul-weather problems and protect your avionics and interior from the ravages of summer heat. It is a fact that a paint job lasts years longer when the airplane is hangared. (But the difference between annual hangar fees and tiedown fees will buy a new paint job about every 18 months where we live.) A hangar also provides storage for your spare parts and supplies as well as a social-gathering spot on summer weekends. This is a luxury you must weigh against the cost.

As for insurance, setting premiums is a black art practiced by underwriters based upon the ratings and experience of those who will fly the craft, the value of the machine, and the uses to which it will be put (personal, business, rental, etc.). One thing





is sure, however—the coverage, the restrictions, and the premiums vary greatly between companies. The cheapest price is not always best. A trusted and reliable aviation broker can be a big help.

The annual inspection can vary a lot, depending upon how well you maintain the aircraft the rest of the year. My philosophy is to have *everything* on the airplane working as designed at all times. Therefore, a lot of malfunctions never stack up awaiting the annual. As a result, the annual is generally routine and not too costly.

Another real expense is the cost of the investment in terms of payments, interest, or the value of your money. While it is real out-of-pocket money, most of us look at that expense the same as owning a car, sailboat, or recreational vehicle or indulging ourselves in golfing, skiing, or other luxury pastimes. Besides, in today's aviation market, your airplane will probably bring more than you paid for it when you sell. Of course, if you use your airplane in a business, these investment dollars must be considered and accounted for.

Speaking of business, many people incorporate the ownership of their airplane, generally in an S corporation,

and rent the airplane from the corporation. An S corporation is a form of corporation that is taxed as if it were a partnership. This is done not to save money because S corporation income and expenses are passed directly through your personal income taxes. Rather, it can limit liability arising from the use of the airplane to the assets of the company (usually the airplane itself) and may keep a lawsuit from invading your personal assets. If you choose this method, do it right. That involves lawyers and accountants and additional expenses. The IRS takes a dim view of companies that only show losses and might deem your arrangement a hobby, thereby disqualifying you.

Getting specific, the direct operating costs during our 15 months of ownership and 182 flying hours break out as follows:

Fuel/oil	\$19.26/hr
Maintenance (parts/labor)	\$33.94/hr
Engine and prop set-aside	\$8.50/hr
Total	\$61.70/hr

The maintenance costs were about three times as much as I guessed they might be. Whether this was just a bad year or will be typical, only time will tell (we did start with a 15-year-old airplane, after all). We had to replace

the fuel pump, overhaul the starter, and repair the transponder in addition to the expected replacement of high-wear items such as tires and brake pads. Starters and transponders don't fail annually, but *something* will. The only chronic maintenance problem is the airplane's penchant for eating alternator belts. The Arrow is air-conditioned and therefore has a very thin alternator belt—a design deficiency in my opinion. Even Piper and Lycoming acknowledge that it is a common problem, and following their advice on replacing pulleys and aligning and torquing belts, the problem persists. Adding to the expense and frustration is the fact that Gates, which was the only company making the belts, no longer does. When you do find a belt, the prop must be removed to change it. Another thing we do that many owners don't is perform 50- and 100-hour inspections and do all of the avionics tests required by FAR Part 135. The 50-hour inspection is little more than an oil and filter change and an extensive walkaround. The 100-hour is less extensive than the annual, and with the few hours we fly, we don't have to do many. This adds a little to maintenance costs and a lot to the confidence level.

Our periodic (fixed) expenses on an annual basis were:

Annual inspection	\$ 942
Insurance	\$1,220
Hangar	\$4,500
Total	\$6,662

At our average of 146 hours per year, that works out to fixed costs of \$45.63 per hour. While the average owner flies fewer than 100 hours annually, someone who flies 300 hours per year would cut this hourly cost by more than 50 percent. The long pole in this tent is, of course, the hangar fees that we've already discussed.

For the way we operate, our first year of owning this fine machine has cost us more than \$107 per flying hour. Is it worth it? Our answer is a resounding *yes*—the pleasures and benefits of ownership transcend a pure dollars-and-cents relationship. Obviously, the decision is very much an individual thing, depending upon personal desires, values, and circumstances. □

Jerry, a designated examiner, and Joy regularly fly N149JL on vacations and to visit friends and relatives.