

I had always wanted to be a pilot. I was born in 1943 and, in the post war years, the Spitfire and the Lancaster were the stuff of every schoolboy's dream. No steam engines for me, I was going to fly a Spitfire. My father worked for BOAC and when I was about six years old he took me with him to work (this was when Terminal 1 was just a Nissen hut) and I played, *yes played*, all day on one of those Handley Page bombers that BOAC had bought. Then one day I saw the Heron and the Dove and that was it, I just *knew* I was going to fly a Hawker Hunter. But at the tender age of 17, I was turned down

by the RAF because I was too tall; they said my knees would have caught under the instrument panel if I'd had to eject.

So in the army I learned to parachute instead and then, as if by divine intervention, to fly gliders as well. At RAF Bicester the legendary Andy Gough made me one of his assistant instructors in 1976 and, in a way, I'd sort of got my own back. The Royal Artillery Flying Club taught me to fly a 172 and by the time I was 35 I had my very own MS 880B. Nothing could hold me back now, except perhaps bad weather, low cloud, poor visibility, darkness, long sea crossings and a

200 mile range at max all up weight.

By the time I was 40, and some 500 VMC hours later, the MS 880B had faded into the corrosive oblivion that caught all the early models and it was back to club flying again but, this time, there was to be no going back. At Thruxton, Barry Dyke coached me through the IMC Rating and then the great day arrived when I finally taxied my Lancaster down the runway at EGHO – at least that's how I felt in the club Aztec.

In 1999 we found the advertisement; we had been discussing the purchase of another aircraft for some time and had been to see lots of possibilities, but nothing quite suited. A PA 23-200, it said. An Apache? A Geronimo? And that's when the love affair with N4422P began, although the family reckons it was more like a mid-life crisis.

The PA 23-150 Apache was one of the first post-war light twins built for the business market in the USA. Its performance was not

# Apache on steroids



A Geronimo conversion with unique tweaks gives **Warren Armstrong** a rare and highly capable light twin

Photos: Keith Wilson

that good, but it did have five seats. Piper upgraded it to a 160hp in 1958, but still it wouldn't fly well on a single engine. Nevertheless, by 1962, some 2,050 had been produced and sold all over the world; there are currently, we believe, about 28 on the G-register.

In the mid sixties a company called Seguin Aviation in Texas had a bright idea and completely upgraded the Apache with an STC called the 'Geronimo' conversion. Essentially it consisted of an upgrade to a four cylinder Lycoming O-360 engines, with a nominal output of 180hp at about 2700rpm, a larger tailplane, a longer nose cone, long range nacelle tanks, a one piece windscreen and a fearsome performance. There are many other options on the upgrade and to see them all visit [www.diamondaire.com/conversion](http://www.diamondaire.com/conversion). But this story doesn't quite end there. N4422P was upgraded in 1970, not with the naturally aspirated engine, but with the four-cylinder

fuel injection IO-360 engine, giving a nominal output of 200hp at 2700 rpm. This baby has a ceiling of 20,000 ft on two engines (yes, it does have oxygen) and 5,000 ft on a single engine, though some pilots claim that their Geronimo will fly at 12,000ft on a single engine (go to [www.planeandpilotmag.com/aircraft/pilot-reports/piper/geronimo](http://www.planeandpilotmag.com/aircraft/pilot-reports/piper/geronimo) and see what an airline pilot thinks of his Geronimo). Barry Dyke and I once switched the starboard engine off over Thruxton, at about 4000 ft and half load, and we had to throttle back the 'good' engine to normal running (20/20) because she was flying too fast at full throttle settings. Diamondaire believe that only two Apaches were upgraded to IO-360 status but they don't know what happened to the other one. If you do, maybe you could let us know.

The Geronimo is in a class of its own. It's smaller than its big brother, the Aztec, and most people mistake it for a Comanche. Sure

it's an entry level twin, and if it had de-icing it would be a market leader. It's one of those aircraft whose proportions are exquisitely right. It's not in the Spitfire class of good looks, but it runs a very close second. Go to [www.abpic.co.uk/photo/1091605/](http://www.abpic.co.uk/photo/1091605/) and see what I mean. A few weeks ago a Frenchman came up to me on the hard standing in Jersey and said 'You 'ave a very pretty aeroplane but what is she?' Great taste, these Frenchmen.

So what about N4422P? Owned for many years by an Alaskan and subsequently by an Air Force pilot and then an aircraft engineer, she has been in Europe since about 1976. Built originally in 1960 as a PA23 160 she has some 4000 hrs on the airframe but only 700 on the two Lycomings. She is IFR equipped but, more unusually, she has oxygen, dual brakes, an ELT, Mode S and an HSI (how did I ever manage without one of those?) and electric engine sump oil warmers for those cold Alaskan winters. The fifth seat has been taken out, so she has an enormous luggage compartment accessed by a rear cargo door. The remaining rear seats can be moved back quite a long way and then the leg room in the back is close to Club Class proportions. The cabin is very spacious and each seat has its own headset facility. The Southwind heater (also installed when she was in Alaska) is too hot for Northern Europe and is only ever used on minimum and with the fresh air vent partially open. She will climb at 1500 fpm at MAW and 300 fpm on one engine at about half MAW; blue line speed being 100mph. With a useful payload of some 1400 lbs, even with full tanks, there are still 530 lbs for pilot, passengers and suitcases.

I cruise her at 120 mph, burning 15 US gallons an hour at 20/20 at 55% power and her long range tanks give her an absolute range of 1000 miles. Because the windscreen is much lower and the nose cone much shorter than the Aztec's, there is an initial tendency for the pilot new to the Geronimo to fly in a nose up attitude and thus climb steadily; the initial reaction is to lift the nose so that the visual picture is the same as the Aztec's. Visibility from the cockpit is great and, once you get used to this, then she is very easy to fly straight and level. At 24/24 settings she will cruise at 150 mph but it gets a bit noisy then and, anyway for me, it's time in the air that is more important than speed over the ground. She stalls very cleanly at about 56 mph and very tight turns are not that difficult. Landing at 80 mph is straightforward because the view is so great. With full flaps she lands very flat and it takes a positive pull back on the yoke when flaring to avoid the risk of a nose wheel landing. With any other flap setting it's a piece of cake.

Anyone who has flown the Aztec will feel at home in the Geronimo. The cabin entry over the wing is easy, the door is large and the front seat folds forward a long way for good rear cabin access; there is a surprising amount of elbow room that would make Seminole owners turn green with envy. The seats are comfortable and adjustable.

There are no unusual pre-flight checks and the engines start quickly and, if you've ever flown a PA28, you'll be immediately familiar with the engine instrument display. Taxying can be quite interesting because, even throttled fully back, she will hit 30mph quite quickly; her power to weight ratio is high. I





try to avoid excessive use of brakes and prop aided turns are important to master quickly.

Once power and feathering checks are over (these are identical to the Aztec) and clearance to depart has been obtained, transponder is on and one final glance at the engine instruments, then a gradual, balanced transition to full power is essential to avoid yawing all over the runway. The rudder isn't that big and the prop wash has little effect in this twin so, until some decent airflow over the rudder is established, careful throttle control is the major aid to longitudinal control. At about 80mph she flies herself off the tarmac and once rpm and manifold pressure are reduced to 25/25, best climb is 100mph. This speed is also critical to engine cooling; the four exhaust ports vent directly into a large venturi tube which sucks air over the engine block, and cylinder head temperature will rise quickly if airspeed is too low. Throttling back to 20/20 gets rid of the raw exhaust noise and the noise cancelling headphones leave just a gentle hum in the background. After that it's all plain flying really. The autopilot, essential in airways, helps to reduce the single pilot workload, but properly balanced she will hold a course remarkably accurately without the help of George. The trim levers are overhead on the cabin roof and require very little alteration once she is trimmed out correctly. When flying on instruments I have a personal target of +/- 40 feet, which is quite easy to achieve when flying alone, but when passengers are involved continuous re-trimming is essential as she is very sensitive to fore and aft weight redistribution. I can make her climb and descend just by leaning backwards or forwards. Mind you, so can the passengers.

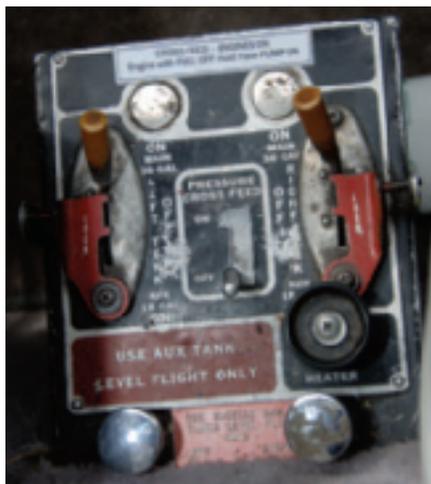
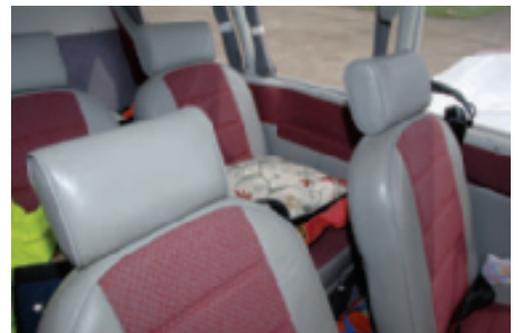
Once the props have been synchronised (one gauge under-reads, annoyingly, by about 50rpm) and the fuel flow sorted out by reference EHT and CHT gauges, then the real thrill of flying begins. I treat each flight as a unique challenge; it's me and the machine against the elements. I try to get within 0.1 miles of each waypoint (though my US instructor would deem this to be a bit sloppy) and to fly within two degrees of course; easy with the autopilot but not so when flying manually. The aircraft is fitted with a throttle lever alarm that sounds if they are pulled back too far when the wheels are up. How useful

**Above: Geronimo has the kind of shoulder room that turns Seminole owners green with envy**

**Above right: large door makes cabin entry over the wing easy**

**Right: front seats fold far forward, and leg room in the back is of Club Class proportions**

**Below: power and feathering checks will be familiar to anyone who's flown the Aztec**  
**Bottom: fuel crossfeed system - Alaskan heater is too powerful for British use**



you might say, just a like a terrain proximity alarm, but there's a microswitch somewhere in the system that is set too high, and no-one can find it. So to descend you either throttle back and put up with a really distracting squeal or you leave the throttles where they are, drop the undercarriage and descend at about 700 fpm. The only other alternative is to lower the nose and descend at about 170mph, which is fun but unnervingly close to VNE of 180mph.

So what are the problems with owning a vintage twin? Well, not that many really. As it's on the N register, spares are easy to get in the US and they're usually much cheaper than here in Europe. I was quoted £230 for a fuel filler cap in UK recently and found one in the US for £80, including the trans-Atlantic UPS bill. Diamondaire in Montana are pretty good at keeping me in the air and there's no sales tax in Montana either. The engines are still in common use here in Europe and, in 10 years, the longest I have had to wait for a spare part was four weeks. Instruments and avionics are maintained in Gloucester, Cranfield and a few other places and there are a lot of FAA certified maintenance engineers and repair stations both here in the UK and across Europe. Maintenance costs and insurance are the same as a G-reg aircraft but the trust company has to be paid about £400 a year to manage the ownership details. Unless you are a US citizen the only way to own an N-reg is through a trust company. There are several about in both the UK and Europe.

When I bought N4422P I had a CAA PPL with IMC and Night Ratings. On this licence I could only fly her in the UK and then only in daytime VMC. After a commercial-air flight to



Karsten Paik

**Top: many people mistake the Geronimo for a Twin Comanche**  
**Above: almost like an Aztec, but the Geronimo is smaller and the tail is unique**  
**Left: the early Apache has 150hp engines and performance was not sparkling**

Frankfurt an FAA examiner signed my FAA application and eventually I had a US licence based on my CAA qualifications, so now I could fly outside the UK as well. But with this versatile aircraft the IMC rating was definitely not good enough. With only some 15 hours training I didn't feel competent enough to use this aircraft to its full potential. I still couldn't fly to the Channel Islands, for example, in VMC on top. Special VFR in the Jersey Zone (which is Class A airspace) meant I still had to scabble around in poor visibility, low cloud and clag, just to stay clear of cloud and in sight of the surface, when a few hundred feet higher there was brilliant sunshine. Despite all

my earlier efforts I was still no better off than I was all those years ago and so a friend of mine, who was an FAA instructor, persuaded me attempt an FAA IR.

Well, I don't have a CAA IR so I can't compare the two directly, but some 150 instrument hours later I have flown many ILS, NDB and SRA approaches competently and mostly without incident. I fly regularly in IMC

**Below: 120mph cruise takes 15 US gph; long range tanks carry her 1,000 miles**  
**Below right: Geronimo - 'one of those aircraft whose proportions are exquisitely right'**



both in and out of controlled airspace and, if the truth be really told, I prefer flying on instruments now. That's not to say I don't look out of the window any more but it is to say that my flying is now so much more accurate than it ever was before.

Some say that the FAA IR is the poor man's IR. Well, I can't comment on that either but I can say that it was not at all that easy. True, the formal theory syllabus was shorter but instead it required a lot of computer based learning at home in the evenings; the exams were both demanding and nerve-racking and with 70% passmarks. I'm told that the big difference between the two authorities is that the FAA focuses more on the practical aspects flying rather than complex theory. I think the whole FAA approach is fundamentally different; the FAA IR is only a PPL IR until more tests and exams would qualify you as a commercial pilot and then on to type conversions as required.

My instructor was merciless; not only was he a display and aerobatic pilot, but he must have passed out top of the class for zero tolerance. He made me fly until I got it right – not once, but every single time, without fail. The tolerance for engine failure was five degrees in course and 100 ft in altitude; we had to do it many, many times.

My exam, when it arrived 17 days later, was gruelling in the extreme. It lasted eight hours altogether and neither before nor since have I been so comprehensively tested. It was exhausting.

I feel proud of my achievement. I feel privileged to fly airways from time to time but, most of all, I feel much more competent than I ever did with the IMC rating. I don't take risks, I plan the flight more comprehensively than I did before and I use my new skills to keep me out of trouble, not to get me into it.

So, in the end it was neither a Spitfire, a Lancaster nor a Hawker Hunter but, to me, my Geronimo is all three rolled into one; she is simply a magnificent flying machine. The total



cost of the IR was just over £4000 and even if Brussels takes it all away from me, it will all have been worth every penny. ■

