

## **Malibu Flight School**

**By Mark Spitzer**

Being your typical PA46 pilot/owner, every year I am faced with obtaining recurrent training. Every year I wonder: who are these instructors and how did they get to live the good life flying beautiful airplanes for a living? So I started asking them questions.

What I found out is that Malibu instructors are the crème de la crème of CFIs, and very interesting people. I focused on the personalities themselves, not on the schools that they run or are associated with, nor on their pilot credentials, and I didn't interview any simulator-based trainers because I wanted to limit myself to the people who will train you and me in our planes, and who specialize in the Malibu. So who are these guys and gals?

### **Meet John Mariani:**

*John Mariani, a former Engineering Specialist at Northrop Grumman, has been associated with Piper Aircraft Corporation for nearly 15 years (1976-1991) as an engineer (on the original PA 46 design team since project inception in 1979 to FAA type certification in 1983), test pilot and, finally, ground and flight instructor in the Customer Training Center. His qualifications include, besides a degree in Aeronautical Engineering, a Master of Science degree in Mechanical Engineering, ATP, seaplane and Flight Instructor licenses for single, multi-engine and instrument with over 9000 hours of flight time. John is also a Designated Engineering Representative for the FAA. He is available for initial and recurrent training (under Mariani Aviation Services) in the PA 46-310P, PA 46-350P, Meridian and JetProp DLX.*



*John, after all the training you've provided me, I never asked you, until now, how you became interested in flying? When did you get your private and in what airplane?*

I was the first in my family to become a pilot, and I am sure the flying "bug" was transmitted to me by my godfather through the Holy Water when I was baptized. He was a family friend and a former military pilot in the Second World War (he had been shot at a few times, including one instance in which he had to bail out). Looking back at my old family albums, I can see two- and three-year old Giovanni playing with, what else, airplanes of all kinds.



**A 3-year old Giovanni with his favorite toy, a Lockheed Constellation**

My first airplane ride was at the age of 10 in a Vickers Viscount (a British four-engine turboprop) from Rome to the island of Sardinia, Italy. This was at a time when stewardesses (they were not called flight attendants in those days) were really pretty and nice to the passengers, and passengers took showers and dressed up before boarding a flight. Even though the flight was less than one hour, I thought I had died and gone to heaven. I was sitting on the left side of the airplane, near the wing, and remember marveling at the running engines and how they could keep this big machine flying (I probably got the idea to study aeronautical engineering at that point).

The first airplane I ever flew was a Piaggio P-148 with a 190-HP Lycoming engine, a really neat two-seat, fully-aerobatic taildragger (we always flew with parachutes strapped on) with an Italian Air Force instructor (in a program available to high-school students to draw them to volunteer for Air Force service) in February of 1970. It really would not have taken much convincing on their part, since I was just about willing to cut off any finger of their choice to be able to fly.



**The Piaggio P-148, my first real-airplane love**

*I can't get that image out of my mind: where you come from, pretty stewardesses gave passengers showers before the flight... I can see how that influenced your decision to become a commercial pilot. Besides instructing, have you done any commercial flying? How many students have you signed off for solo?*

Years ago, I got this crazy notion that I could fly for a living, and I did just that for nearly two years as a production test pilot at Piper. After that, I managed the Executive Training Program at Piper, which aimed to attract non-pilots to buy a brand-new Mirage and be trained in it through their Private Pilot License and Instrument Rating. It sounds hard, and it was, since I had to spend a considerable amount of time with each of them (I essentially became a member of their family, including occasional baby-sitting) but, at the end of the training, even though they had an average of only 300 hours (all in their Mirage), they had accumulated a wealth of experience in practical decision-making, flown in most actual weather conditions, and knew their airplane inside out.

It was particularly satisfying, when sending these students for a checkride, that they knew their airplane (one of the most complex single-engine airplanes in the world) much better than the examiner. I had a couple of examiners tell me that they actually learned quite a bit during the checkride.

All this gave me the idea of continuing to train in the PA 46 in early 1991, after I was no longer associated with Piper. Ron Cox and I became partners for Malibu/Mirage training at Aviation Training Management (Ron's company) in early 1991 and, even though we went our separate ways in April 2002 (when I started Mariani Aviation Services), we remain the best of friends.

Even though I always considered this PA 46 training as a hobby (my "day" job was engineering specialist at Northrop Grumman on military aircraft), it quickly grew to a full-time occupation, to the point that, in July 2005, I had to resign my "day" job to fulfill the demand for PA 46 training. Over the past 18 years, I have signed off about 30 solo students, and I have always taken particular pride and satisfaction in teaching primary students. However, my PA 46 training activity does not allow me now the time to teach primary students, regrettably. I might make an exception for my daughters or future grand-children, though...



**John Mariani as a test pilot on an early PA 46-350P Mirage**

***Do you have any kids and if so, did you teach them to fly? What about your spouse? Are you in a “flying family”?***

My wife Louisa is not a licensed pilot, but she can handle and land an airplane. She is a fearless passenger. We have flown together everywhere, including across the Atlantic. She is totally comfortable even in bad weather, and she always tells me that she trusts me anywhere, anytime and in any weather in an airplane, but not in a boat. This goes back almost 27 years ago, when we got caught by a major thunderstorm in the middle of an alligator-infested lake in Florida in a little dingy, to the point that we had to use our picnic cooler to bail the water out to keep the darn thing afloat.

Neither of our daughters (Tania and Jacqueline) are licensed pilots, but they have been flying since they were just days old, and they enjoy it tremendously. Tania is married and works as an Occupational Therapist, while Jacqueline is in Graduate School. Both are University of Florida graduates (two Gators in our house!).

I remember when I took Tania to do aerobatics for the first time when she was around 15-years old and, after the first loop, she asked me to do another one. I asked her if she enjoyed it, and she said she did, but on the next one she was going to keep her eyes open all the way through...



**Louisa and John getting ready to fly in (what else...) another good-looking Italian airplane**



**Our babies: Tania (left) and Jacqueline in one of our trips from long ago**

***John, how many hours of dual do you estimate you give per year and how do you fit flying in with your other job(s) and family responsibilities? What's your "real" job?***

Up to July 2005, I had been flying a yearly average of 400 to 500 hours per year, almost all of it dual instruction in all different types of the PA 46 (Malibu, Mirage, JetProp and Meridian). This activity occupied nearly every weekend (except the major holidays) since my "day" job was engineering specialist on military aircraft at Northrop Grumman. In addition, in the little free time I had left, I worked as an engineering consultant and FAA Designated Engineering Representative (I am a DER in Structures, Powerplant, Mechanical Systems, and Acoustics). I balanced all these activities and my family life (I am very fortunate to have a very understanding wife) for 14 years, and at times it was not easy. In July 2005, I finally realized that my training activity had grown so much and that I was booked so far in advance that my "day" job was actually interfering with my flying and other activities. Therefore, I resigned from my "day" job at Northrop Grumman at the end of July 2005 (gasp...) so that I could devote more time to my PA 46 training activity. Since I am essentially a one-man company, my biggest problem is time management. I regularly get booked a year in advance, and I still have to turn down one to two pilots a week (I apologize and hope to fly with these pilots at some point in the future).

For the past two years, I have also been the primary ground instructor for the Malibu/Mirage Safety & Training Foundation (MMS&TF) seminars, given all over the US. Mona Rathmel does an incredible job in organizing these seminars and, for those of you that have never attended one, they are a screaming good deal, provided you don't mind listening for 7-8 hours to this short Italian that speaks with an accent.

***Congratulations on the move away from the "day" job. That's a hard move to make.***

***Your technical training and participation on the Malibu design team are obviously what has made possible the famous Mariani Pre-flight. For those that don't know, this is the walk-around inspection in which you explain in detail the care and feeding of the PA46, how to save money with preventative maintenance and how to check for hidden problems. On the flying side, how did you end up being an insurance approved instructor for initial and recurrency PA46 training? Do you now do all types of PA46 training? If not, what's your specialty? [Note: by "PA46," I mean all versions of PA46]***

Having had the good fortune of being involved in the PA 46 design from the very start, and having provided extensive training in these airplanes, I was in a good position to develop a training syllabus that was easily approved by all the major insurance companies when I started training on my own. I am approved by all the major companies for initial and refresher training in all PA 46's (Malibu, Mirage, JetProp and Meridian).

***Would you describe your typical initial PA46 training course? Where do you like to do the training?***

I do emphasize knowledge of airplane systems and limitations, and flying with precision. Flying, while tremendously fun, is a serious undertaking, and quite intolerant of ignorance and sloppiness. I also try to identify and eliminate any bad habits that the pilot has accumulated over the years (and believe me, I have seen many). In this respect, new pilots have some advantage over the "old timers". At the end of the training, I want my pilots to have an increased level of confidence in their own skills, while recognizing the airplane's (and their own) limitations.

My typical initial training requires 5 days. Of these, 2.5 days are for ground school, while the remaining 2.5 days are for flight training (10-15 hours of flight time). Sometimes, the insurance company requires additional flight time, which of course requires additional days.

I conduct training in Vero Beach, Florida (my home-base), all over the US, and anywhere else in, literally, the world (I trained pilots in Canada, South America, Europe, Africa and Australia). The location of my training is really the choice of the pilot/owner. All my initial training courses are usually conducted at the pilot's home-base, for the simple reason that the pilot is not yet insured to fly the airplane.

***How many initials do you do per year? How about recurrency instruction?***

Before the end of July 2005, I trained an average of 90-100 pilots per year, as a part-time (usually weekend only) activity. Of these, 8-10 per year were initials. Since resigning from my “day” job at Northrop Grumman at the end of July 2005, my training activity level has increased considerably. Even though it is now a full-time occupation, I still consider flying and teaching as my main “hobby”, and not really “work”. Hopefully, I might also be able to find some free time to pursue my other long-neglected hobbies of rifle/pistol target shooting and building models of old ships (enough of airplanes...).

***What’s your training style and what do you like to emphasize in recurrency training, assuming the pilot is basically competent in all the basic areas?***

The most important feeling that a flight instructor can convey to a student is one of confidence borne out of knowledge and skill, and this is what I first owe my students. During flight training, I very seldom touch the controls unless I really have to or if I have to demonstrate a maneuver. This is especially important to flush out any bad habits that the pilot might have accumulated over the years, and that includes bad judgment habits as well. I do insist on flying with precision (holding assigned altitude and heading within tight tolerances is, in my opinion, one of the first signs of a competent pilot) and I like to challenge my students to eliminate sloppiness from their flying. However, this always has to be done in a tactful, professional manner. In my opinion, if an instructor gets mad at his student or raises his voice, his function as an instructor is effectively over, and the student has every right to terminate the lesson right there and then.

At the end of any training, I consider to have fulfilled my mission as an instructor if I have measurably increased my student’s level of skill, knowledge, and judgment (possibly the most elusive).

While all the above sounds demanding, I also consider all the pilots that I train as my friends as well, and I still correspond with many of them long after they sold their PA 46 and moved on to other types.

Indeed, many times (such as recently while looking at an incredible sunset over Moosehead Lake at your place in Greenville, Maine, or at the beautiful mountains around Telluride, CO), or at the stark outback of Australia, I have to tell myself: *“I fly and teach in one of the most beautiful airplanes on earth, with the latest, state-of-the-art equipment, in these incredible places, with the nicest of people, and actually get paid to do all this. How could I be so fortunate...”*

***Well, thank you for calling us the “nicest people.” I think also that whether we are dreaming of the PT-6 conversion, or the Pilatus, or of quitting the day job, all of us are pretty fortunate. Getting back to business, for the PA46, what do you think is the right balance between simulator training and flight training?***

First of all, per the FAA definition, there is no PA 46 “simulator”, but rather only “training devices”. In a true “simulator”, the fidelity to the actual airplane is so high that you can get a type rating for a large, complex airplane without ever leaving the ground (that’s how airline and corporate pilots train). The bad news is that this type of simulator costs millions of dollars, and none of them are available for small, general aviation aircraft.

A “training device”, however, is another matter. It can certainly be used as a procedures trainer, provided that the device is properly maintained and manned by a competent instructor, but it simply does not have the level of fidelity to produce a fully-qualified pilot, not to mention that the avionics equipment in the simulator is usually different from what you have in your airplane. When the “device” is poorly maintained and develops some unique quirks, it can actually lead to negative learning, with the pilot learning procedures to overcome these quirks, procedures which are not at all applicable to the actual airplane.

In my 18 years of teaching in PA 46’s, I never once felt handicapped for not having a “training device.”

***I know it is hard to generalize, but what would you say is the biggest area for improvement you see in your average PA46 pilot? Do you have any thoughts about improving the overall safety record of the PA46?***

There are mainly two major areas for improvement:

1. The first is airplane knowledge, which includes airplane systems and limitations. These are very complex airplanes and, although all the systems are straightforward, they have to be learned. This knowledge, coupled with a minimum of deductive thinking, will prevent the pilot from making some pretty dumb decisions when things go wrong (that's really what separates the men from the boys). The excuse that I usually hear is "*I am not mechanically inclined and therefore I have no interest in these things.*" Well, you should force yourself to develop an interest, and to learn not just the "how," but also the "why." Likewise, knowledge of the airplane limitations, and the real consequence for exceeding them, is also essential. I have to believe that, armed with this knowledge, no sane, rational pilot would fly himself and his family to an untimely death in an overloaded, out of aft CG airplane, at high speed and in severe convective weather. One accident due to lack of specific airplane type knowledge is one too many. I will say it again (another shameless plug): attend one of the MMS&TF seminars every year. You will learn something and perhaps make new friends, including that short Italian with the funny accent...
2. The second area for improvement is much more basic, and can be summed up as "stick and rudder" skills. There are pilots that have very low "feel" for the airplane and are always concerned as to "what is the airplane going to do to me if I do something different." While every pilot should always have a healthy respect for his airplane, it is not good to always fly "on the edge" because of lack of confidence in one's skills. Flying is a dynamic, oftentimes unpredictable activity, and the pilot must have the skills (and confidence in those skills) to cope with ever-changing situations (stronger than anticipated crosswinds, the requirement to fly an approach 20-30 knots faster when a Boeing 747 is breathing down your neck, and on and on). How do you improve these skills and increase your confidence? Go for an advanced rating, learn how to takeoff and land in a taildragger, take an aerobatic (or at least spin-recovery/unusual attitude recovery training) course. These are just some of the ways.

***John, do you have a good flying story that you would like to relate?***

I could probably write a book about flying stories (as I am sure most pilots can). Two in particular come to mind:

Many years ago, I was providing aerobatic instruction to a student from Italy. He had been doing great with all the maneuvers up to that point and was very eager to learn. I was about to demonstrate a split-S (half-roll to the inverted position followed by a descending half loop to right-side up). After I explained the maneuver to my student, there was a long silence, followed by his question "***Can we skip this? I think it's going to hurt...***" I reassured him that this maneuver was not going to be any worse than others we had performed, to which he replied "***I really don't want my a## to be split!***". I laughed so hard I had literally tears in my eyes.

Around 1989, when I was managing the Executive Training Program at Piper (teaching a non-pilot to fly in his/her brand-new Mirage, to Private Pilot License and then to Instrument Rating), I was about to first solo a student pilot in his Mirage. Following my normal practice, I took the student to a remote, low-traffic airport (in this case, Immokalee, IML, in Southern Florida), and brought my portable VHF radio to act as his "controller" on the ground while he was flying around the pattern. Everything was going great, with me directing my student from the side of the runway. Suddenly, I saw two police cruisers, blue lights flashing, coming at full speed in my direction. I looked around to try to figure out where the excitement was, when I realized ***I was the excitement!*** The cruisers stopped at my sides, and four officers surrounded me, their hands on their guns. They asked me what I was doing and, after telling them, they requested that I

tell my student to land. After my student landed and came to a full stop near us, they conducted a thorough inspection of the airplane, in addition to questioning the pilot to make sure that our stories matched. Satisfied that we were telling the truth, they apologized and let us continue. Apparently, they had assumed that we were drug-runners and that I was directing a drug drop with the 2-way radio (not an uncommon event in South Florida in those days). On the return flight to Vero Beach, I told my student ***“You know, you missed a golden opportunity to take your revenge on me. All you had to do was say “NOT ON YOUR LIFE!” when I asked you to land.”***

***What do you really love the most about the PA46?***

Having had the privilege to be a member of the engineering team that developed and certified the original Malibu in the late 70's and early 80's, I will always have a soft spot in my heart for this airplane (and all its derivatives).

It is really a magic carpet that has taken me safely (and in comfort) to nearly every state of our country and many places of the world (Canada, the Caribbean, South America, Europe, Africa, Asia, and Australia).

I know, machines are not supposed to have a soul, but this one, for me, comes very close...

***What do you think the PA46's greatest weakness is?***

I firmly believe that the greatest weakness in this airplane is an unprepared pilot. This is what all the instructors teaching in these airplanes are striving to correct. One accident, especially one involving a fatality, is one too many, and we all pay the consequences for this. Let us not forget that this airplane was nearly grounded in the early 90's because of what eventually was determined to be inadequate pilot training as the root cause. Let us also not forget that it was entirely thanks to the MMOPA (whose membership should be “mandatory” for every PA 46 pilot) efforts that the reputation of this airplane was re-established.

***What is your opinion on two of the age-old PA46 operational controversies? (1) LOP versus ROP, (2) Full power climbs or cruise power climbs?***

This is one of those loaded questions (“*Honey, do you think this dress makes me fat?*”). Seriously, though, it is an established fact that running 50°F lean of peak reduces CHT's by about 25°F than running at peak, while providing lower internal engine stresses (due to peak pressures moved away from the pistons Top Dead Center – TDC). Since the biggest enemy of any engine is heat, it is a logical deduction that properly-conducted LOP operation, besides being the most efficient, also results in improved engine life. In the heyday of piston-powered airliners, such as Constellations, DC-6's, and DC-7's, LOP operation (or on the lean side of peak power) was the accepted, and indeed recommended, way of increasing engine life and airplane range (just ask my friend Henry Van Kesteren).

However, before LOP operations can be conducted, certain conditions have to be met, like no induction and exhaust leaks, correct magneto timing, balanced fuel delivery with closely matched fuel/air ratios to each cylinder (such as provided by GAMI injectors), and, most especially, accuracy of engine instrumentation (TIT, CHT's, and fuel flow).

I do not recommend full-power climbs into the flight levels, due to the difficulty of maintaining reasonable (below 400°F) CHT's. I strongly believe that the flight levels are a harsh environment for any piston engine due to cooling requirements, and that flying the piston-engined PA 46's at no more than 65% power and only in the high teens/low twenties is a good way to make that engine last.

During the Second World War, at the zenith of piston-engine technology, piston-engined aircraft were operated many times above 30,000 feet, however the pilots had a couple of good incentives: 1. Higher was safer when someone was shooting at you from the ground, and 2. Uncle Sam would readily provide a new engine if you trashed the one(s) installed in your airplane

(engine TBO's in those days were measured in **hundreds**, not thousands, of hours, under the best of circumstances).

In the final analysis, a significant step forward in making the engine last, besides what I have outlined above, is to minimize the variable of pilot's technique in the operation of the engine. This is what has been made possible by the FADEC-equipped (Full Authority Digital Engine Control) piston engines now becoming available and by a turbine engine such as the PT6A (a wonderfully simple engine compared to any piston powerplant).

***Did you ever have to handle an in-flight emergency in a PA46 or other plane?***

I must have some Irish blood in me, since I have lived a relatively charmed flying life. In my many years of flying, I have had plenty of abnormal situations (in PA 46's and other models) caused by mechanical or ATC failures, such as failure of the hydraulic pump followed by an emergency gear extension (twice in actual IMC), loss of alternators, slow loss of cabin pressure due to a disconnected bleed air line, some smoke in the cabin due to a "fried" radio, stuck wastegates, an Italian controller vectoring me right into a thunderstorm over the city of Turin, totally clueless Indian controllers, and many, many more. However, I never had a truly immediately life-threatening event such as a total engine failure at low altitude or an in-flight fire. In fact, I only declared an emergency once: during a test flight in a brand-new Piper Seneca due to an indication of an unlocked nose gear. I did so to get the crash/rescue equipment ready on the ground in case the indication turned out to be the real thing (which it did not).

As I always tell my students, hope for the best but always prepare for the worst or, put another way, paranoia leads to a long life in airplanes. Never hesitate to use the magic E-word when the situation demands it!

I did, however, have two close calls which were entirely the fault of John Mariani, and not the result of systems failure: the first was many years ago during an inadvertent freezing rain encounter in a little Cherokee I was delivering. The forecast was correct (as it usually is), but Dummy had just to go out and take a look, and it required everything I had just to keep the airplane flying and land at the nearest airport (Okmulgee, OK), with a lot of unpaid overtime from my Guardian Angel, I am sure.

The second was being knocked unconscious during a HALO (High Altitude Low Opening) parachute jump when I was a teenager. This was caused by the reserve parachute (worn as a chest pack in those days, with a metal panel holding the altimeter and stopwatch) not having been tightened enough by Dummy before leaving the airplane and hitting me in the chin (and producing a nasty cut) when I opened my main chute at low altitude after a long free fall. It knocked me out cold for quite a few seconds, and, when I came to, I noticed with a lot of relief that the main chute had completed the opening sequence with no malfunction, and I also noticed all the blood dripping from my chin cut.

In both of these events, the only one to blame was John Mariani, and they taught me some valuable lessons, namely to keep much closer tabs to that swarthy little Italian when we are together in an airplane.



**A much-younger John Mariani getting ready to jump out of a perfectly good airplane**

***Does a PA46 insurance-approved instructor need to get recurrent training? If so, where do you go?***

Those who cannot fly, teach...

Seriously, flying and teaching in these airplanes every week brings, by default, a fairly high level of proficiency (at night, I dream PA 46 V-speeds and procedures for in-flight emergencies, usually in color). It is important, however, to be evaluated by another competent Instructor to make sure that no bad habits are forming. To accomplish this, I get a Flight Review every year from other qualified Instructors (usually in a PA 46). As an Instructor, I also attend a Refresher Clinic every two years to renew my certificate.

***Do you do any other type-specific insurance-approved training? What about the P210, TBM or Pilatus?***

I am qualified in the PC-12, but at the present time I have no time to teach in it. I have flown the TBM 700 several times, but I am not formally qualified in it. The PA 46 series occupies all of my training time right now.

***Thanks John. See you soon.***

## **Conclusions?**

So, how did the Malibu instructors get to live the dream flying Malibus and getting paid for it? Pretty much just like the rest of us, working hard, dreaming the dream, and taking the risk of walking away from the boring "day job." Bravo.

Obviously the Malibu instructors are more similar than different. One big similarity is the belief that the weak link in the PA46 is "the pilot." The insurance companies certainly agree. The Malibu, especially when flown often mainly IFR on autopilot, tends to make us button managers to the detriment of our stick and rudder skills.

There is also a strong endorsement of the MMOPA Safety Seminar series. From my own experience, I can say that there has been a dramatic improvement in the seminars. Bottom line: we have a lot of good choices. Finally, thank you Dick, Ron, Mary, Tom and John, for taking the time for these interviews.