



Pilatus Owners & Pilots Association



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***“POPA...
The Voice of the
Pilatus Community!”***

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THE PILOT IN COMMAND (P.I.C.) IS RESPONSIBLE FOR THE SAFE AND PROPER OPERATION OF HIS OR HER AIRCRAFT. IT IS THE RESPONSIBILITY OF THE P.I.C. TO OPERATE THAT AIRCRAFT IN COMPLIANCE WITH THAT AIRCRAFT'S PILOTS OPERATING HANDBOOK AND OTHER OFFICIAL MANUALS AND DIRECTIVES.

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From The President ...

Saving Lives - No longer a POPA undercurrent...

Within hours after the January earthquake disaster occurred in Haiti, Laura Mason, POPA's Executive Director became Commander and Chief of POPA Airlift Central. This duty wasn't part of her job description, but she immediately put her day-to-day work aside and jumped to the challenge.

Port-au-Prince airport was down, the military and commercial support systems were stymied, and the calls to POPA began. Recognizing that the PC-12 was the optimal aircraft for this mission, CARE, Grace Flight, CitiHope, Missions for Aviation for Humanity and others found Laura's number and began calling non-stop. That is not so remarkable in itself; but what is remarkable is that through our POPA website and our up-to-date email system that Laura maintains, those calls for help immediately translated into a series of non-stop emails and website postings that went out to you, our Members.

Word got out. More relief agencies started calling. Other pilot and ownership organization members began calling too. I was in constant touch with AOPA and other organizations relaying to them what we were doing. Laura and POPA quickly became known as the "go to" organization for air lift assistance.

But just having the infrastructure, the ability to receive calls for help and getting the word out is not enough. What made this a totally unique experience was the

character of our POPA members who responded. By February, close to 40 of our members had volunteered their time and planes to help. Our planes and pilots flew from as far away as British Columbia, Canada, California, the state of Washington, Texas, and many mid-West and Eastern states to answer the call. Many made multiple flights spending days flying to remote airports they had never flown to before, sleeping at the FBOs and at the airstrips, figuring out how to cross multiple borders and clear customs, and how to find fuel. As much as it was the airplane that was perfect for this mission, it was the willingness, skill, calculated risk taking, and sense of service and humanitarianism of our PC-12 Air Life Volunteers that really made the difference! And at POPA Air Lift Central was Laura, who worked tirelessly to connect our volunteers with the relevant relief agencies.

Never before have I had the privilege of being associated with an organization where so many of its members responded so quickly and unselfishly to an urgent call for help. This speaks not only to the character of our members, but to their airmanship. We are all about Safety and Operational Excellence. What better time to show the world what great pilots we are.

We've always had that undercurrent of humanitarianism. For years our members have been volunteering for organizations in need such as Angel Flight, Grace Flight, Veterans Airlift Command, Baja Bush Pilots, and the like. But never have so many responded so quickly and selflessly to such a calling.

Now that we are "out in the open," I and the Board salute those who answered this and previous callings! There is none higher than saving lives!

Join us at our Annual Convention the first week in Tulsa, OK where we will all have the opportunity to recognize those who served in the Haiti Airlift.

See you soon!

*Bob MacLean
POPA President*



Haiti Mission Report by John Arnold

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On Tuesday, January 12, 2010 at 21:53:10 UTC, Haiti really took it on the chin with their earthquake. Pilatus owners responded. Our Pilatus PC-12NG S/N 1010 N421PP made two separate trips with multiple missions each time, to fly supplies and doctors/nurses into and out of Haiti. We had amazing experiences along the way. We certainly weren't alone nor special. The airplane we saw the most, everywhere we went, was the PC-12. Our first trip to Haiti was January 17th-19th. Robin from C.A.R.E. called and said there was a short strip in Jacmel, Haiti that planes were beginning to use. However, not many models of planes could make the long trip from Florida with the necessary fuel to fly direct and then depart somewhere else to refuel with adequate reserves. Also, most planes couldn't carry meaningful payload that far and handle the short strip at the end of the flight.

As owners we decided to buy the Pilatus because of its efficiency, range, payload, ease of operation, durability, runway requirements, etc. This mission spotlighted these elements. During our respective purchase decisions it was a choice of trade-offs, but this was different. There was no decision; there was simply no other plane that could do the mission, nearly as well.

Jim Adair and I slept on chairs at Banyan at Fort Lauderdale Executive Airport (KFXE) on January 17th arriving around 11:30p.m. When our supply contact arrived the next morning around 7:00a.m., there was one other plane going to Haiti from Banyan....and it was a Pilatus N121RF owned by Dick Foreman. In fact he had been to Jacmel the day before. We flew the whole way to Jacmel and landed with about half tanks. Plenty of reserve. As we were finishing unloading in Jacmel, three other planes arrived together. All three planes were Pilatus's. There were four PC-12s on the ramp, side by side, and nobody else. It was just us four PC-12's and the U.N. troops. Remarkable! That's the way it went while we were there on our first trip.

My wife and I had a business board meeting in St. Kitts and thought since we'd be "in the neighborhood", that we'd stop in on the way back for some more runs into Haiti from Santiago on February 24th and 25th. This was our second trip. Of the three planes flying missions into Haiti from Santiago, two of them were Pilatus's. Déjà vu all over again! It was our plane and Joe Howley's Pilatus N755HF. Joe was flying all over Haiti with his son and a professional pilot. It was the same thing on the second trip; PC-12s. It occurred again and again. That tells a lot about the airplane.



The large aid organizations like the Red Cross, Doctors Without Borders, etc. have great capability. However, they take time to get ramped up and in place. The airplane assets they use to position themselves and their supplies require large airports to accommodate them. There were smaller airstrips and runways in Haiti that locals called upon to be used in desperation. Missionaries, orphanages and other aid groups dropped what they were doing and threw themselves into the relief effort. This occurred from Florida to the Bahamas to the Dominican Republic, to Haiti itself, etc. Their smaller size made them able to respond more quickly. It wasn't long until they discovered the capabilities of the PC-12 and they put the call out through Laura Mason....and POPA and the owners responded.

So many PC-12 pilots flew so many missions and they all have their own very interesting and worthwhile stories, I won't bore you with mine. Suffice it to say, I came away from my separate trips with a great deal of pride. Certainly the Pilatus PC-12 is a remarkable aircraft that can do very well, what others can't even consider doing in the first place. The airplane stood out. I'm proud to be a PC-12 owner and pilot.

As great as the plane is, it wouldn't have stood out if it wasn't offered and entered into service. That's where the PC-12 pilots and

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owners come in. I would guess the majority of PC-12 owners are business owners or executives. They are extremely busy people. Every time I saw a Pilatus I knew that someone had set their busy life aside, on a moment's notice, to help others in need.

Likewise, we saw many emails from pilots who didn't own planes, who were offering their services. They offered to fly with owners who wanted an additional pilot and they also offered to fly your plane if you were too busy. These pilots did exactly the same thing to help others.

I think all of us owners and professional pilots knew that if we didn't do this mission into Haiti, that it couldn't be done by others. There was nobody else to fall back on that early in the game. I'd like to hear how many PC-12s were entered into service. Laura tells me she knows of at least 38 PC-12 POPA Members aircraft that flew missions. Many of them also went more than once. In our little corner of the crises (Santiago to Jacmel) PC-12s ruled the roost.

The abilities of the airplane, the response of the pilots, and the use of POPA as a clearinghouse for aid (thank you Laura!) have also made me proud to be a PC-12 owner/pilot, and POPA Member. There are great people in our ranks. They personally rolled their sleeves up, set their busy lives and families aside, used their tools and talents, and simply dove in and made it happen. Way to go.

John Arnold

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Preparation for Annual PC-12 Training

by Bo Corby



Most people will agree that preparation for a colonoscopy is far worse than the procedure itself. That can also be true for annual recurrent training; evidenced by the fact that many of us have difficulty in preparing for the main event. Facing seemingly overwhelming tasks encourages procrastination or avoidance until it is too late to absorb information in the time remaining prior to training. There is an assumed premise by the training provider that a pilot attending recurrent training will have a basic understanding of aircraft systems on arrival at the training facility. When this doesn't happen, the value received for the training given is less than it could be. There is one constant in aviation training; the better prepared you are in the beginning, the more you will benefit from the training experience. Value for dollar spent is a goal we are all trying to achieve. Training is expensive and there is nothing worse than dropping thousands of dollars only to feel it was an exercise in futility required to fill a square; and that's where we go when we haven't done our part in preparation beforehand.

A good training provider will go to great lengths to please the customer with a consistent training product that encourages return business. But even this does not ensure maximum value for each training dollar spent because the effectiveness of a training course is limited by the knowledge, experience and proficiency of the person taking the training. A good instructor will very quickly discover the current knowledge and proficiency level of each student they will be working with and adjust the content to accommodate the rate in which information can be absorbed by the student. If the student is unprepared for the training process, the information flow will be considerably less than if the student is at their peak knowledge and proficiency level on course entry. The question is; how does one prepare for annual recurrent training in the PC-12 or any aircraft for that matter?

The best training providers develop a training plan for each course of instruction; so should every student prepare a "study plan" that will assist in information organization and retention. You can develop a study plan by answering three questions in the following categories:

What am I going to study?

When am I going to study?

How am I going to study?

What am I going to study?

It would be easy to say "I'll study the Pilatus Manual", but in reality that is a goal too large and too vague to accomplish in light of the busy lifestyle many of us lead. Better to set your goal smaller...say, the chapters we are weakest in knowledge-wise. For example, pick two systems or subject areas that give you the most difficulty in understanding; restrict your study time to these subjects until you are familiar with the information and understand what you don't know about the subject. Most times identifying what it is you don't understand sets the stage for great training in getting those questions answered. Setting smaller goals makes them more

likely to be accomplished and provides a high level of personal accomplishment and satisfaction. If you finish earlier than your projected time line, and you feel like it or have additional time, do another one or two subjects. The key is don't set unreasonable study goals by making them too large! Small goals are easily achievable and tend to encourage a sense of satisfaction through accomplishment. You might even consider establishing a "system per month" plan, where each month is allocated an aircraft system for research and review. If you think a system is too simple, get further in to the background information, such as oxygen system. Yes, it is very simple but can be life preserving in an emergency. There's more to it than just turning it ON...research the effects of hypoxia, etc. Did you know there is a You Tube tape on two pilots in a Lear Jet who became hypoxic and were recorded on ATC tapes? It is frightening to hear and will hone your appreciation of the oxygen system. And, always try to develop questions for your instructor on things you are not quite sure about...it also serves as a great advantage for the instructor in the ground school portion because your question often leads into a systems discussion and assists the instructor in determining your depth of knowledge. If the instructor knows where you are in knowledge, he knows where to take you in the discussion for maximum learning efficiency.

In other words, "How do you eat an elephant Grasshopper?" "One bite at a time Master!"

In addition to systems information, we are required to become familiar with procedures and limitations. Again, think of these subjects as relating to systems information in that they are all intertwined. Starting the engine is a procedure that has limitations that involves a process (systems). Learning the aircraft is as simple as that!!

When am I going to study?

When to study also requires a plan and the best plan is to start early. We all understand this is easier said than done. Nonetheless, think of setting yourself up to study by providing "study opportunities" on a daily or semi-daily basis. Again, break it down into small parts that are easy to accomplish and don't require a lot of time. Accomplishing small goals is more satisfying and gives a greater sense of accomplishment. One example is to keep your Pilatus Manual on the night stand and every morning on waking up, read one paragraph of a particular system or section of the manual. On your way to work, try to think about what you read. You can do this before bed as well but in my experience, morning study is most effective, as after a long day, the manual is more effective as a sleep aid. Most important is making sure you limit your study to small chunks of time so the information can be absorbed and retained. Another technique is to place the Pilatus Manual in a location you pass frequently so it is easy to refer to for a few minutes during each day, acquiring information by "bits" until at some point; you have collected quite a reservoir of knowledge on the aircraft.

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And finally, How do I study?

How to study varies from person to person. Some of us learn better from the written word, and others may need pictures or someone to explain the information to them before they “get it”. These are called learning styles. However, in self study, you can create the type of learning style you need to retain the information. In place of someone explaining the information, we use our imagination to visualize or picture the event or teaching point we want to remember. For example, if you are trying to remember the ITT start limits for the engine, picture engaging the start switch, see the Ng rotating, hear the whine of the engine, feel yourself moving the condition lever to ground idle, see the ITT increasing rapidly towards 1000. Picture yourself moving the condition lever to cutoff/feather as the ITT accelerates towards the 1000 ITT limit. If you picture this enough, when it happens in the simulator or the airplane you will react instinctively with the correct procedure.

Another good study technique is to always start system study with a review of the normal, abnormal and emergency procedures. Read the section on the procedures first and then ask yourself what each procedure is trying to accomplish. Attempt to explain to yourself exactly what each switch movement is doing and how it is affecting the system. If you don’t know or can’t figure it out, add it to a list of questions to take to the instructor during the training session.

This brings us to our final point. The one thing you can do to upset an instructor is show up for training unprepared. If you don’t care about your training you can rest assured it will be noticed and he or she won’t be bending over backwards to help you. They will go through the motions but you will not receive what you could have received had you been prepared. No one expects any pilot to know everything but your efforts will be recognized and appreciated by the instructor. Pilots should always exit training with more than you went in with constant progress towards perfection, one step at a time.

I’ll end the article with a true training story that still makes me chuckle years after the event.

During the period when I owned and operated Simulator Training, Inc., a training center providing training services to airlines, governments and corporations, we happened to have a charter airline customer called Gulf Air, Inc. One of Gulf Air’s pilots, a delightful fellow named Joe Carraway (sadly, poor Joe has passed on) was checking out as Captain on the B-727. This was Joe’s first jet checkout and he was struggling somewhat with the Engine Failure on Takeoff procedure.

Gulf Air utilized Boeing Company procedures, which as with many manufacturers, are written by test pilots and approved by attorneys, where the main objective is to limit liability. These procedures, (modified to be simplified by many airlines) were lengthy and required the flying pilot to both perform and recite the procedure while flying the aircraft at the same time. This something we do every day as single

pilots in the PC-12. It is a bit more complicated when you have three crewmembers, all participating in the event. Multi-tasking to the extreme...

The challenge for most pilots in the three crew cockpit was converting the written words into action items in the heat of battle, keeping it orchestrated to appear calm, cool and collected. To learn the procedure, many would read and attempt to memorize the words of the procedure during the study period, then try to mentally visualize the written words during performance of the procedure; causing them to become tongue-tied in the middle of the exercise if a word was forgotten or, if they lost track of their place in the procedure while becoming distracted with aircraft handling ... not an uncommon event.

With Joe, we practiced the engine failure event about 3 or 4 times, each time Joe getting mixed up halfway through the exercise and losing his place. We’d reset to the takeoff position and try again. At one point, in obvious frustration, he turned and asked me to freeze the simulator. Joe shrugged his shoulders, shook his head and said “Bo, I’m having a problem with this Engine Failure procedure and I know what’s wrong”. I said, “Ok, Joe, what do you think the problem is”? He says, “Well, Bo, I ain’t got my hollers down”! I said, “Your hollers?” He said “Yea, I holler for the gear and I holler for the flaps and I holler for the power...and I’m getting it all mixed up” After regaining my composure from laughing so hard, I took Joe to the classroom where we dissected and simplified the written words into labeled columns separating the triggering words or actions from the calls or actions he had to make in response. For example:

Captain Duties in Engine Failure

| <i>Hear or At</i> | <i>Call</i> | <i>Do</i> |
|-------------------|---------------------------------------|----------------------|
| “80 knots” | “Checks | |
| “V1 Rotate” | | Rotate to 10 degrees |
| “Engine Failure” | “Check Essential” | |
| “Positive Rate” | “Gear Up” | |
| “1000 Feet” | “Flaps Up” | |
| “Flaps Up” | “ClimbPower/Engine Failure Checklist” | |

After showing Joe how to rewrite the procedure into a movie script and only learn the triggers and his lines, Joe saw he didn’t have to “holler” quite as much as he originally thought. He mastered the procedure and got back to the art of flying where he excelled.

There are many precious moments in training. Just take it one day at a time and do your best. To learn anything complicated... simplify.

Happy flying!

Bo Corby

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-Phil Rosenbaum



POPA President 2002-'07
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TOPOGRAPHIC MAPS

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THE AV8OR FAMILY



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BendixKing
by Honeywell

"From The Insurance Side"

By Lance Toland



Lance Toland Associates

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In the wake of the Haiti earthquake disaster, my firm received a flood of inquiries from owners wanting to fly there. The obvious, "Am I covered?" was generally met with "yes". But in some cases the answer was no. Your policy would need to be modified with underwriter approval.

All policies contain territorial limitations. These limits vary from company to company and depend on which policy form you have coverage placed on. For example, one insurance company who insures many new low-time transitional pilots policy limits travel to the "US 48 contiguous states, Canada, Mexico and the islands of the Bahamas". You would need to have approval and an endorsement expanding coverage to include Haiti as it is not part of the sovereign Nation of the Bahamas. However, most companies are writing PC-12 aircraft on their broad form policies, which generally incorporate worldwide territorial limits without the need to endorse. Always contact your aviation insurance specialist on any "out of the norm" operation you might consider, whether on a relief mission or not.

While on the subject of Haiti, my hat is off to all of you who met the call of need out of the kindness of your heart. Many of you are clients, and I have not had the opportunity to circle back which each of you and discuss your trip and experiences. I too headed down in my PC-12 on day three of the disaster. A friend's niece was a Physician's Assistant student staying in the Montana Hotel. She was also a missionary doing good in a land where there is so much need. Her body has just now been identified. A tragedy for their family; she would have been 20 years old the weekend after the quake.

My trip to find my friend's niece was supported by other POPA members, Win Baker who flies with me, and PC-12 owner Dr. Douglas Bournigal of the Dominican Republic. Douglas coordinated unbelievable needs for me before my arrival including two helicopters! He reached out to me as well the night before I departed and asked for anything I could get my hands on that was orthopedic. I in turn reached out to a lifelong friend Dr. Tommy Hopkins, an orthopedic surgeon. He arrived the morning of my departure with two pick-up truck loads of critical surgical supplies. He basically unloaded the local hospital, citing he could replace supplies the next day. I asked if he would catch any flak about unloading hundreds of pounds of expensive supplies. He replied he was Chief of Staff and he was used to taking flak! Tommy has taken a few trips with me, and figured I could stuff truck loads in the PC-12. Additionally, he had his brother, (a pharmacist) load us up with needed drugs and antibiotics.

On arrival into the Dominican Republic, Dr. Bournigal arranged to get the supplies to a clinic run by local Catholic doctors on the border with Haiti by truck. We flew critical surgical supplies and antibiotics in both helicopters to the clinic, which was overwhelmed with injuries. The supplies

were greeted as if we had dropped out of heaven and went into immediate use. That morning there were 17 amputations performed on injured patients, with a flood of more wounded coming. The problem was the injuries were infected. Many would die of sepsis after surgery. This motivated me to contact several CEOs I know. Miraculously, the next day I had tons of medical supplies headed for these remote clinics on-board a Fleet of Falcon Jets...Unbelievable! On to Haiti in the helicopters was sad; the obvious fate of my friend's niece's was sealed on arrival at the Montana Hotel. Visits to other area clinics were equally upsetting and overwhelming due to the disaster's immense toll on human life.

One final commentary. Every PC-12 flight made flying relief in any form made a difference. Without the capabilities of our fine machine, and random acts of kindness many more lives would have been lost. Collectively we performed where governments and other well-funded relief organizations failed. There is no degree of gratitude that I can express. I am proud to have been involved, alongside all of you, who met the call of desperate need.

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AVIATION SALES

The Value of A Comprehensive Safety and Training Plan

By Jeff Rhodes

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Following a recent article on training that I wrote for the Pilatus Owners and Pilots Association magazine, I received the following interesting question. My thoughts on the subject follow the question.

I am a contract PC-12 pilot with over 3,000 hours in Pilatus legacy and -NG aircraft, having been a former demo pilot for Pilatus Business Aircraft in Colorado. A large portion of my flying is for customers in a corporate pilot capacity, but the remainder is spent as a post-SimCom instructor for new Pilatus owners or their pilots to meet insurance-mandated experience requirements. I also provide instruction for customers who desire additional training between their annual SimCom recurrent sessions, which is where I am seeking your expertise.

The question I have is whether insurance companies recognize this additional training and reduce the customers' premiums as a result. I don't provide an insurance-approved syllabus, nor do I desire posing as a recurrent training option in lieu of SimCom. I firmly believe the simulator provides great value in the training portfolio. I also firmly believe in-aircraft training can provide lessons the simulator cannot.

My incentive is certainly the marketing tool such an arrangement would provide - a couple of days flying with an instructor like myself could save the customer thousands in annual premiums. Insurance companies benefit by seeing their clients receive additional training that would not occur otherwise.

Thank you for your time and thoughts.

Shane Jordan
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Yours is a question that we in the aviation insurance business are asked to address, in some form or another, frequently: "Will I get premium credit from my insurer for training more than the minimum required?"

To begin answering the question, first a short primer on how aviation risks are structured, underwritten, and quoted. Insurance coverage for US general aviation risks is provided by about 13 aviation insurance underwriting companies. Each has a specific "appetite" and accepts or refuses risks of a certain variety. For example, some markets are more willing to quote transitioning pilots in turbine aircraft than others. Some companies will insure piston helicopter risks, some will not. Some companies can provide very high liability limits, while others only have the capacity for lower limits. For most general aviation risks, there exists usually about four or five

insurers that will offer viable quotes for coverage. The insured is then left to decide between those insurers. Appetites shift and change and the number of companies providing coverage on certain types of risk increase and decrease from year to year based on losses and on perceptions of risk categories.

Pricing for the insurance coverage for any type of aircraft operation runs within a range of premiums. From year to year that range shifts up or down, largely based on the number of markets seeking to write that particular type of business. As an example, let's say that an owner-flown turboprop operator's coverage can be written for \$15,000 to \$25,000 this year. Two years ago that range was more like \$18,000 to \$30,000. Next year, if losses stay near normal, and the same companies are quoting as are currently in this market segment, then perhaps the range will move down to \$13,000 to \$21,000. However, if there is a rash of accidents (even one or two can change the market), or if one or two insurers decides to exit or back away from this market segment, then the range might go back up some. If we were to have a "major event" like a 9/11 or even some sort of high profile accident (A Gulfstream accident in 2001 claimed the lives of 13 paying customers and changed the underwriting landscape for years), then rates could jump significantly – 20 or 30 or even 50% is not unheard of.

The movement of this premium range is largely out of any individual's control. Reinsurance capacity is largely based upon worldwide loss ratios, and no matter how well you train or how well you maintain your aircraft, you can't do much about the airliner accident in West Africa, or the Gulfstream crash in Aspen. No – The 10% premium decrease you got this year probably wasn't due to your broker's brilliant marketing of your account; it was due to the fact that overall losses were low and insurance capacity was high – a buyer's market.

What we can affect is where our risk falls within this year's premium range by making ourselves more attractive to the insurance marketplace, and, to some extent, we can do our part to reduce the chance that we contribute to the loss side of the market's loss ratio.

This is where training comes in – or, more specifically, a well thought out, written safety and training plan. The quick answer to your question, is no – insurers don't give you some kind of premium credit if you hire an instructor to brush up your skills mid-year.

What if – though – we purposefully built a written training plan for our owner-flown turboprop operation? That plan may include simulator training, post simulator operations with a mentor pilot, a mid year flight review with an experienced instructor, a maintenance seminar, unusual attitudes or aerobatics instruction, a weather observer and

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forecasting class, or other training relevant to our typical operations. What if this well written and purposefully designed plan was presented to the underwriters prior to their quoting our risk and documented each year as we remarket the renewal? With other serious training, might some underwriter agree to 16 or 18 months between simulator sessions, if that is what your plan deemed appropriate? Might they more easily transition new pilots into your cockpit? Might they be willing to negotiate lower premiums to keep your account, even as their appetite begins to wane for your type risk? Might they be willing to keep your account, even as your pilot's age advances? Might they be willing to offer higher limits of liability coverage sooner than they otherwise would?



Jeff Rhodes is an aviation insurance specialist who has a rich personal and professional background in aviation. He has experience in professional aircraft management and flight school management. He is an instrument rated private airplane pilot and active glider pilot. Jeff earned a bachelor's degree in management from Georgia Tech. He has been approved by the Georgia Insurance Department as an instructor of aviation insurance continuing education courses. Jeff is divisional vice president of CS&A Insurance's Atlanta Division and is president of CS&A's Junior Board of Directors.

As you can see, proactive training and a proactive training plan, rather than just taking what the insurance company is offering this year, does pay dividends toward your overall insurance cost. While it may not be a direct premium credit with instant gratification, I would encourage aircraft operators to get "on top" of their risk management planning. Employ risk management consultants – not insurance shoppers – that will help you take advantage of your thoughtful planning and help you reduce your long-term cost and maximize the value of your insurance packages.

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Fire In The Sky

By Christine Knauer

18

The FAA updates its advice to pilots

What would you do if you discovered an in-flight fire smoldering behind the panel? What if you smelled smoke coming from the cabin? What if a passenger's laptop burst into flames? Even if you're well versed in emergency procedures and have the steeliest of nerves, the prospect of a fire onboard can ignite a fair dose of fear. In case of such a rare but critical moment, the Federal Aviation Administration (FAA) recently updated its advice to aircraft operators.

What if a laptop or iPod catches fire?

When it comes to laptops and other portable electronic devices, lithium (disposable) and lithium-ion (rechargeable) batteries can malfunction, overheat and catch fire. In June 2009, the FAA released a safety alert for operators (SAFO) outlining the issue and how to extinguish an ignited device.

According to the safety alert, "overheating may be caused by shorting, rapid discharge or overcharging. Overheating results in thermal runaway, which is a chemical reaction within the battery causing the internal temperature and pressure to rise. The result is the release of flammable electrolyte from the battery and, in the case of disposable lithium batteries, the release of molten burning lithium. Once one battery cell goes into thermal runaway, it produces enough heat to cause adjacent battery cells to also go into thermal runaway. This produces a fire that repeatedly flares up as each battery cell in turn ruptures and releases its contents."

Based on testing, the FAA recommends using a Halon, Halon replacement or water extinguisher to snuff out the fire and prevent its spread to additional flammable materials. After extinguishing the fire, douse the device with water or other non-alcoholic liquids to cool it and prevent additional battery cells from reaching thermal runaway.

Do not cover the device or use ice to cool it. Ice or other materials insulate the device, increasing the likelihood that additional battery cells will reach thermal runaway. Of course, do not attempt to pick up or move a smoking or burning device.

Metallic lithium, typically found in AA-size lithium batteries, is extremely flammable and cannot be extinguished with the typical hand-held extinguishers found on board transport aircraft. However, the amount of metallic lithium in each AA-sized lithium battery is very small and will consume itself in less than one minute. However, the lithium cells will spray molten lithium as they burn, causing severe harm.

What if there is a fire behind the panel or in the cabin?

During installation, wires can be damaged, bundled with incompatible wire types or positioned incorrectly near equipment that heats up. Like most things, wire deteriorates over time and the casings become brittle. Extreme heat and cold and vibration take their toll, too, as does contamination from aircraft fluids.

With miles of wiring sandwiched behind the ceiling, sidewalls and panel, it's possible a fire could smolder out of sight for quite a while before being detected. Be alert to the clues such as unusual readings on electrical components, an odd odor or burning smell, several avionics system failures or a tripped circuit breaker. Along with the obvious dangers of a fire, insulation and other materials can give off toxic and incapacitating fumes while burning. Recognizing the issue early is critical.

What to do:

- *Stay calm and continue to fly the aircraft. Your first priority is getting your aircraft on the ground safely. As soon as you suspect a fire, alert ATC of your emergency situation.*
- *Look for any tripped circuit breakers and turn OFF their associated components. If you can identify a component that is potentially involved and not essential to a safe landing, but its breaker is not tripped, pull the breaker(s).*
- *Do NOT reset any breakers. It can recreate the problem possibly leading to a fire.*
- *If you can't immediately identify the problem, turn OFF the master switch first, then individually turn off all the other electrical components. You will lose lighting and certain flight instruments once the master switch is off.*
- *Use a fire extinguisher to put out any flames.*
- *Prepare to land as soon as practical, even if it means an off-airport landing. If you are flying in instrument meteorological conditions, try to reach VFR conditions.*
- *Once you're safely on the ground, write a detailed description of the incident in the aircraft's maintenance log or discrepancy sheet, noting which components were in use when the problem started. The more detail you provide, the faster the problem can be found and fixed.*

The issue with circuit breakers

In recent years, safety experts have focused on the hazards of tripped circuit breakers. Last December, the FAA released a Special Airworthiness Information Bulletin (SAIB) regarding tripped circuit breakers, inspection and maintenance of systems, and aging wires. The bulletin called out the potential risk of resetting an opened circuit breaker, recommending that no pilot should reset any circuit breaker more than once.

The National Transportation Safety Board (NTSB) identified the problem in a July 2007 accident report. "Circuit breakers are installed on aircraft to protect wiring. When current flow in a system exceeds a predetermined value for a period of time, the circuit breaker activates, or "trips," to stop current flow through that system by breaking the electrical circuit. Historically, it has been common practice to reset a circuit breaker on an airplane one time after the breaker trips. [But,

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this procedure] does not consider the cumulative nature of wiring damage and that the removal of power only temporarily stops the progression of the damage. The aviation industry has begun to recognize the potential hazards of resetting non-critical circuit breakers even once.”

In the report, the NTSB also noted general aviation operators have been given inaccurate advice or been led to believe that certain fire safety advice doesn’t apply to them, saying that “if general aviation pilots, maintenance personnel, and operators had a more thorough understanding of the potential hazards of a reset circuit breaker (as outlined in AC 120-80), they would be less likely to reset a tripped circuit breaker without knowing what caused that circuit breaker to trip.”

The FAA responded by releasing December’s SAIB that recommends owners and operators:

1. *Mark circuit breakers that are ESSENTIAL for safety in flight.*
2. *ESSENTIAL circuit breakers should be reset in flight ONLY ONCE:*
 - a. *after at least one minute;*
 - b. *if there is no remaining smoke or “burning smell”;* AND
 - c. *the affected system and equipment is NEEDED for the operational environment.*
3. *DO NOT reset any non-essential circuit breakers in flight.*
4. *Revise the preflight checklist to delete “Circuit breakers-in” if applicable and insert: “Check circuit breakers and if a circuit breaker is not set, DO NOT reset the circuit breaker if there is a related maintenance malfunction.”*

What does the FAA consider essential? For a day, VFR-only approved aircraft, there may be NO essential functions that require electrical power. However, it may be necessary to supply power for certain communication capacities.

When operations are under IFR conditions for 14 CFR Part 91 or Part 135 operations, the FAA considers the following systems as essential for safety:

1. *Any electrical loads unique for the airplane characteristics and needed for continued safe flight and landing for the intended operations.*
2. *If needed to comply with 14 CFR Part 23.1323 and 23.1325, one airspeed indicator with a heated pitot tube and an altimeter with either a heated static pressure source or an alternate static pressure source.*
3. *The magnetic compass and any display necessary for continued safe flight and landing that is sufficiently illuminated for night operation.*
4. *One navigation system installation appropriate to the ground facilities.*
5. *One communication installation system.*

6. *One gyroscopic pitch and bank indicator.*
7. *One clock.*
8. *Any display for the powerplant parameter necessary for continued safe flight and landing.*

While on the ground, it’s important that no one ever resets a circuit breaker without first exploring why it tripped in the first place, unless instructed by the maintenance manual. Resetting a circuit breaker on the ground leaves a false sense that the issue has been resolved and may result in the aircraft being re-dispatched. As the FAA points out a “relatively inexpensive replacement of a faulty wire, or a circuit protection device, could prevent a much more costly repair or a total loss in the event of a fire or accident.”

Following these updated recommendations along with diligent practice of emergency procedures could help ensure that a fire in the sky isn’t more than a captivating story you tell over evening cocktails.

Christine Knauer, a freelance aviation writer, has more than 13 years experience writing for and about aircraft and avionics manufacturers, flight service centers, aviation technology and industry-related issues. A contributing editor for Avionics News, her articles also have appeared in Twin & Turbine Magazine, AutoPilot Magazine, American Bonanza Society Magazine, International Federation of Airline Pilots Association New Technology Journal and other industry publications.

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"I wonder what will happen when I..." Press and (hold down) The Pusher Interrupt Switch?

By John Morris

The continuing saga of what happens when we get bored and think we have it all figured out.

Either while enroute or on short final, we might try the "I wonder what will happen when I..." SPT [Special Pilot Trick] procedures. The procedure in question for this article is use of the Pusher Interrupt Switch.

The answer to the question is easy, it will interrupt the Stick Shaker-Pusher if the system activates-inadvertently! It will also activate the CAWS/CAS amber PUSHER annunciator after a 3-second delay. So what else is there to know since we are smart? End of short story-see ya.

Of course, this is not the end of the story. Some drivers like to use the Pusher Interrupt Switch while on short final to avoid the possibility of an inadvertent Stick Shaker-Pusher activation. The Stick Shaker-Pusher activation can cause a rather "firm" landing/bounce, or worse. And since we are smarter than the engineers, it must be a system abnormality/fault, right? We will correct for it by use of the Pusher Interrupt Switch as a normal procedure – not approved but used by some as a SPT.

I will first describe the reason for, and the components of, the Stick Shaker-Pusher system. During early development of the PC-12, Pilatus discovered that under certain Flap/

High Power settings the PC-12 was exhibiting unfavorable stall characteristics that would not comply with FAR Part 23.201 "Wing Level Stall" [problem was excessive wing drop and altitude loss]. So it was decided to develop an artificial stall (Stick Shaker-Pusher system) well above the actual aerodynamic stall (for any configuration) that not only satisfied the FAR requirement but also included, as a result of the tested system, additional labeling as spin-resistant.

The Stick Shaker-Pusher System consists of a Stick Shaker actuator, Stick Pusher servo/capstan and the Stick Pusher computer. The Stick Pusher computer receives input signals from two Angle-Of-Attack (AOA) transmitters, an engine torque transducer (different from the EIS torque signal), Flap System, PUSHER Test Switch, PCL switch and PUSHER INTR switch (either control yoke).

- *The Stick Shaker Actuator is attached to the central control column to "shake" the pilot/copilot yoke when activated (approaching stall)*
- *The Stick Pusher servo/capstan is attached to the down elevator cable. When activated (stall) will "pull" the elevator downward and is designed to be overcome with a control column force equivalent to ¾ yoke travel or 70-90 foot pounds via a mechanical slip clutch.*

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- *The PUSHER INTR Switch is for inadvertent activation of the Stick Pusher (system). The Pilot's PUSHER INTR Switch will disable the entire PUSHER function (total release while held down) while the Copilots PUSHER INTR Switch will disable the pushing function only (while held down) but the clutch will remain engaged.*

The Stick Shaker-Pusher System “stall” is defined as Pusher Activation, nothing else. The System stall, by design, is several knots above actual aerodynamic stall for all configurations. As we should know as PC-12 drivers the Stick Shaker *will* activate >10 Kts above the System stall speed for a given configuration. The Shaker only requires one of the AOA inputs reaching its activation point (based on configuration) while the Pusher requires both AOA's reaching their activation points (again based on configuration), and in agreement, to activate.

Normally, when the Stick Shaker activates this can be defined as an approaching stall and we should have sufficient time to react, as in reduce angle-of- attack/add airspeed. Are we supposed to land, or approach to land, while having the Stick Shaker active?

So, back to the use of the Pusher Interrupt Switch before landing. What will happen if you hold it down? First of all the Stick Shaker will still work-luckily. And we might assume that the Stick Shaker is active while you are disabling the Stick Pusher, since it will only stop the “Push” if you reach the System “stall” right before touchdown. Sounds like a plan-eh? Have you seen the Pilatus video of a mid-power, aerodynamic stall?

I believe the greatest problem of thinking about using the Pusher Interrupt Switch is not understanding that when I mention configuration it is not just the flaps but the torque as well. Ever wondered why you must advance the torque above 5 PSI when doing the pre-flight Stick Shaker-Pusher System test? Engine torque is used as an input to help define activation points along with Flap settings and Angle-Of-Attack. The easiest way to think of it is: Less torque/more sensitive to Stick Shaker-Pusher activation vs. More torque/less sensitive to Stick Shaker-Pusher activation. If you get the picture you should then get the idea the engineers had developing an “artificial stall” system.

It is possible to approach a landing within normal angles and suddenly have a combined Stick Shaker-Pusher event just above the runway-been there, done that – both planned

and unplanned. The best way to avoid this is to be aware of wind shifting causing “inadvertent –pilot induced- yoke movement” and rapid, reduced power adjustment, causing a sudden “PUSH”. Why do you suppose that there is a slip clutch as a part of the Stick Pusher servo/capstan? It is not just for 3 feet above the runway but it will suffice if you are holding the control yoke normally. Fabulous landing gear for not so fabulous landings.

Finally, while on the subject of the slip clutch and the Stick Pusher. The procedure for Inadvertent Pusher, POH - Section 3.13.1 is:

1. *Control wheel - HOLD against pusher action*
2. *PUSHER INTR switch - PRESS and HOLD*
3. *PUSHER SYS circuit breaker - Pull*

NOT Hold the PUSHER INTR switch in anticipation of something that should not happen if operating the PC-12 correctly.

“A Safe Pilot is Always Learning”

John Morris

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Formerly with SimCom Training Centers-Orlando for 14 years. Began teaching the PC-12 in 1999, PC-12 Program Coordinator from 2000-2007.



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Automated Weather

– A few things you may not know

By Scott C. Dennstaedt

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Whether in the form of a METAR or by the ground-to-air radio broadcasts, we use surface observations to make many routine operational decisions during any particular flight. As we listen to the broadcast prior to taxi, it provides us with an altimeter setting and will likely determine the runway we use for departure. When approaching an airport, it will help us determine if we'll be flying a visual approach or need to execute a standard instrument approach procedure. And when Mother Nature is at her worst, it will let us know when we should skip the airport altogether and fly to our alternate destination.

Surface observations are one of those data points that pilots often take for granted. The truth is that they play a monumental role in many of our most routine decisions. They are not just used by pilots; surface observations also provide air traffic controllers and weather forecasters with a reasonable depiction of the weather conditions at an airport. Even with something as ubiquitous as a surface observation, there are some nuances you should understand.

Pilots at all experience levels should be familiar with the two primary automated observing systems deployed at many airports throughout the United States. This includes the Automated Surface Observing System (ASOS) and the Automated Weather Observation System (AWOS). Both of these automated systems consist of a collection of electronic sensors that measure the environment, and then process the data to create an observation once every minute.

It's All About Sampling the Atmosphere

While many high-impact airports throughout the U.S. still rely on a trained weather observer to construct the routine or special observation (SPECI), automated systems supply them with uniform and objective data for the observation. However, automated systems measure only the weather that passes directly through the sensor array so it is not able to report what's happening outside the airport's runway complex. Weather observers can certainly augment the observation to add these details.

At airports without a trained observer, pilots must completely rely on the "raw" automated observation. This observation, however, isn't as raw as you might think. In order to provide a representative observation, the automated hardware must continuously collect the sensor's real-time data over a period of time. The automated system applies an algorithm, to the collected data to extrapolate the weather to cover a wider area.

When the weather is sampled over a specified period it will tend to "smooth out" the conditions, but also will account for the normal meteorological variations that we see in the weather. Each of the various weather elements shown in the table below identifies the required sample times for its algorithms and provides a summary of where the data are considered valid.

PARAMETER PROCESSING RADIUS

| | INTERVAL (MINUTES) | VALIDITY (MILES) |
|----------------|-----------------------|---------------------|
| SKY CONDITIONS | 30 | 3-5 |
| VISIBILITY | 10 | 2-3 |
| PRECIPITATION | 10 | 1-2 |
| FREEZING RAIN | 15 | 2-3 |
| TEMP/DEWPOINT | 5 | 5 |
| WIND | 2 | 1-2 |
| PRESSURE | 1 | 5 |

For example, 30 minutes of data provides a fairly reasonable description of sky conditions. This means that the system will detect and process all the clouds (if any) passing over the sensor in the past 30 minutes. To account for the latest sky conditions, the result is biased by double weighting (counted twice) the last 10 minutes of data. Using the last 30 minutes of data in this way will allow the system to determine the height and sky cover included in the surface observation and becomes a reasonable estimate of the sky conditions over a three to five statute mile radius around the airport.

Beware of Rapidly Changing Weather

Even though an ASOS creates a completely new observation every minute, automated systems must have adequate sensor samples to develop an accurate observation. Therefore, in rapidly changing conditions, pilots should expect that most of the weather elements from the automated observations to trend slightly behind the actual weather. For example, if skies are clear and a sudden broken sky appears on the sensors, ASOS will take only two minutes to report a scattered deck of clouds even though a trained observer may report a broken sky cover. It'll take a total of 10 minutes before the observation system will catch up and indicate a broken layer.

This may or may not trigger a SPECI. It depends on the height of the broken layer. In other words, a sudden broken ceiling at 600 feet has a significant operational impact and will generate a SPECI since the flight category changed from VFR to IFR. But it will take nearly 10 minutes before the SPECI is issued.

Each minute an ASOS processes the most recent 10 minutes of visibility sensor data to obtain a representative value. When visibility drops suddenly (in one minute) from 7 statute miles to 1 statute mile, the ASOS needs about 4 minutes before the 10-minute mean values reach the 3 statute mile criteria. This criterion forces SPECI to alert pilots to a significant change in visibility in this instance. A total of 9 minutes will pass before the ASOS will report the 1 statute mile visibility.

On the other hand, when the visibility rapidly improves from 1 mile to 7 miles, the ASOS generates a SPECI four minutes after reaching the 1.5 statute mile threshold. In about 11 minutes, the ASOS will report 7 statute miles. The system is intentionally designed to raise surface visibility more slowly than to lower it. This provides a margin of safety and buffers rapid changes when visibility is widely fluctuating over a short period.

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Hourly and special observations are the only ones created by human observers. In contrast, ASOS relentlessly measures the weather and could inundate pilots with more frequent special observations than a human observer when the weather is changing rapidly. Thus, the system is purposely throttled to only provide SPECIs at 5-minute intervals to limit the number of observations that can be transmitted during the hour. An even slower response is seen at controlled airports where only the hourly and special observations must be prepared and broadcast on the Airport Terminal Information System (ATIS). At uncontrolled airports pilots can also receive the 1-minute weather by calling the voice phone link or by the ground-to-air radio broadcasts.

The FAA has recently created a Google map presentation online of the locations of all automated weather systems across the country. This includes including the frequency and phone numbers for each ASOS and AWOS currently in operation. Go online and visit http://www.faa.gov/air_traffic/weather/asos/.

The Lockout Period

If you pay attention to the issuance time on METARs, you will notice that many are issued a few minutes before the top of each hour. This allows the observation to be transmitted and ingested into other computer systems such as numerical weather prediction models. Some models get executed at the top of the hour or shortly thereafter. Starting at 47:20 past the hour, the ASOS begins to make its routine observation. By 53:20, the hourly observation has been prepared and edited and should be ready for transmission.

This period of time between 47:20 and 53:20 minutes after the hour is known as the lockout period. During this period, the ASOS is prevented from issuing any other reports including SPECIs. The ASOS still continuously monitors and records the weather during the lockout period; however, it just can't issue a formal surface observation. This does not affect the 1-minute weather you receive by calling the voice phone link or by the ground- to-air radio broadcasts, but it will affect any formal observations that get transmitted.

Can I trust automated observations?

All observations, whether automated or taken by human observers, should be used with care. Pilots must be aware of how long ago the observation was taken, under what conditions, and whether or not they are special observations. Even though automated systems are totally objective and maintain a certain uniformity among all sites, it does not mean they match what a pilot sees out the windscreen.

ASOS may occasionally report cloud decks lower than what is actually encountered. Sometimes precipitation, lower cloud fragments or fog triggers these lower values. Pilots have said that these "lower" reported values often indicated the height below which they had to fly before gaining enough forward visibility to see an airport and land. The key lesson here is to evaluate all reports closely before dismissing them as inaccurate.

Even though the visibility sensor is designed to objectively represent the visibility of the atmosphere over a wide range of weather conditions, day or night, it occasionally reports a visibility more optimistic than what a human perceives. During the day, the human eye can be overwhelmed by bright light reflected in clouds, light precipitation, fog or haze. Many pilots will resort to wearing sunglasses to obtain some relief from the glare.

The ASOS visibility sensor is not as sensitive to this condition and sometimes reports a visibility approximately twice as high as what an individual may determine. Be alert for these bright conditions and expect a more optimistic value from the automated system.

What will automation not provide?

We can easily become complacent when it comes to automation. We learn to trust automation and sometimes don't acknowledge that it has real limitations. Therefore, to finish this discussion, it is just as important to know what automation will not provide.

Automation systems can only report the weather that passes through the sensor array. They do not provide a horizon-to-horizon evaluation of the weather. This means that weather in the vicinity of the airport will not be measured. A rain shower that passes just to north of the airport, for instance, may reduce visibility in that immediate area but will not be reported by the automated system.

Next, the automated system only reports clouds that are below 12,000 feet. This means that an overcast cloud deck at 15,000 feet will be reported as clear. Effectively, a clear sky report from an automated station means clear below 12,000 feet. For airports with a human observer, this report can be augmented to include clouds above 12,000 feet.

Automated systems can only report one precipitation type at a time. For instance, if freezing rain and snow are detected, snow is reported. Certainly weather observers can edit the observation before transmission to include additional precipitation types.

Lastly, the system is not designed to report virga, tornadoes, funnel clouds, ice crystals, snow pellets, ice pellets, drizzle, freezing drizzle and blowing obstructions such dust or sand. All of these elements can be provided at locations that employ a trained observer. Often with drizzle, freezing drizzle, ice pellets or a mixture, you will see the automated system report an unknown precipitation type (UP). Nevertheless, automated reporting is in its infancy so it's likely new sensors will be added to measure some of these other weather elements in the future.

Scott C. Dennstaedt is an active instrument flight instructor and former NWS research meteorologist. You can contact Scott via e-mail at scott@avwxworkshops.com. To learn more about aviation weather, please visit Scott's website at <http://avwxworkshops.com>.

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IRS EXPANDS AIRCRAFT TAX EXAMS - HOW SHOULD YOU PREPARE?

BY ADVOCATE CONSULTING LEGAL GROUP, PLLC

28

The Internal Revenue Service appears to be taking increased interest in aircraft owners' income tax returns. It may be a result of bonus depreciation, enhanced expensing, or targeting high income taxpayers; but regardless of the trigger, exams appear with increasing frequency and greater depth of review.

THE LAW AND JUDICIAL PRECEDENT GENERALLY REMAINS UNCHANGED.

Of course, an aircraft is not unlike any other business tool. Its acquisition and operating expenses are allowable provided they are ordinary, necessary, and reasonable in amount. The aircraft expenses must also be directly related to the active conduct of a trade or business, or for the production of income. Depreciation deductions are statutorily determined and are generally accelerated over a five year period regardless of the economic useful life of a particular make or model of aircraft. This is particularly beneficial to Pilatus PC-12 operators who have historically enjoyed some of the best residual values in the industry.

HOW DOES THE SERVICE ATTACK DEDUCTIBILITY?

The Service has an arsenal of tools to challenge tax deductions of a bona fide business airplane. Some of the most common attacks relate to:

- 1) Is the business use properly documented – have you accounted for all of the hours – do your logbook entries contain contemporary business explanations – do hours match your maintenance records?
- 2) Is the primary purpose of each trip business – if there are personal guests onboard, how have they impacted the tax deductions or taxable income of the users – is the personal use entertainment, or non-entertainment?
- 3) If the aircraft is held in a separate entity – is that entity a business and did the owner materially participate in it – if the aircraft entity supports another entity can the two entities be grouped?
- 4) Does the owner have basis, and is he sufficiently “at-risk” to take income tax deductions? Should his deductions be limited either to basis or for at-risk reasons? Aircraft purchased with borrowed funds in an S corporation often encounter a basis problem because the aircraft is depreciated more quickly than the debt is amortized. This issue does generally not arise in the case of a limited liability company because debt generally passes through to basis of limited liability company members.

AND LATELY CERTAIN NEW ISSUES ARE ARISING:

- 5) Is the taxpayer at risk for debt that is personally guaranteed when the maker is primarily responsible? We have heard recent arguments from the Service that because the taxpayer is only secondarily liable he may not be at risk. We strongly disagree, but the battle continues.
- 6) Aircraft held in single-purpose entities may not be grouped with all entities they support for purposes of determining passive activities and hobby losses. Industry experts recognize there are many valid business, liability, regulatory, and tax reasons for ownership of an aircraft in a single purpose entity. However, income tax considerations often require grouping the primary business with the single purpose entity to ensure qualification as a business asset with material participation by the owner. The Service appears more willing to challenge grouping qualifications in recent examinations.
- 7) You could get there cheaper by using commercial transportation. Fortunately, significant pro-taxpayer judicial precedent exists in this area. Nonetheless an agent will generally be able to find an alternative commercial flight, or perhaps a bus ticket, that could get you there at a lower cost. Existing law looks to what is commercially reasonable, and that includes general aviation; however, we must remain vigilant for any potential attack in this area.

ACTION PLAN – PREPARE TO BE EXAMINED

We in the industry recognize the importance of aircraft as a business tool; but to outsiders it may not be so obvious. We would suggest you prepare to defend your cherished tax deductions through the following:

- 1) Keep complete records of both use of the aircraft and the business purpose of each trip.
- 2) When acquiring an aircraft, document the business purpose of the acquisition and how it is best suited for your business needs.
- 3) When acquiring the aircraft, analyze the proper ownership structure and make affirmative elections to group for purposes of passive activity and hobby loss.
- 4) When financing the aircraft, be certain to comply with both basis and at-risk rules.
- 5) Take the income tax deductions you are entitled to, particularly depreciation. The basis of your aircraft if reduced by allowable depreciation whether you choose to take it or not.

(Continued on Page 29)

(Continued from Page 28)

- 6) Seek expert advice from a lawyer who understands aviation. Regulatory and liability issues permeate business and tax issues in this area of the law; an accountant should not go it alone.

For further explanation of documentation requirements, grouping opportunities, personal use of the aircraft, and justifying business deductions, please visit www.advocatetax.com.

Jonathan Levy, Esq.
Louis M. Meiners, Jr., CPA



Advocate Consulting Legal Group, PLLC is a law firm whose practice is limited to serving the needs of aircraft owners and operators relating to issues of income tax, sales tax, federal aviation regulations, and other related organizational and operational issues. For further explanation of these issues please visit www.advocatetax.com. They may be reached at 888 325-1942, or loum@advocatetax.com.

IRS Circular 230 Disclosure. New IRS rules impose requirements concerning any written federal tax advice from attorneys. To ensure compliance with those rules, we inform you that any U.S. federal tax advice contained in this communication (including any attachments) is not intended or written to be used, and cannot be used, for the purpose of (i) avoiding penalties under federal tax laws, specifically including the Internal Revenue Code, or (ii) promoting, marketing or recommending to another party any transaction or matter addressed herein.



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Reykjavik, Iceland... Going to Europe or Coming Back... It is the Place to Stop

By Theirry Pouille - Air Journey

For the past 12 years we have organized a number of journeys to Europe around the world and to Iceland most of them do stop in Reykjavik. And let me share with you Air Journey secrets to enjoy a stop in that place. Iceland has been on top of the news lately since their bank industry was offering high return on any deposit made in a local bank and unfortunately this high return could not be sustained and when panic set in people started to withdraw their money there was not enough cash available in Iceland's bank to answer the request. The



story is still being printed at this time in newspapers and magazines. Advantage for us travelers is that the Icelandic Kroner has lost a good part of its value and makes traveling there a lot less expensive than it used to be.

The population is about 320,000. The largest city is Reykjavik which is home to at least two-thirds of the population. We need to keep in mind also within the recent news that Iceland is located on the mid-Atlantic ridge which means it is volcanic and geologically active on a rather large scale. Because of the Gulf Stream surrounding Iceland the climate is temperate related to its latitude and the environment is habitable. History traces back to the first settlement in 1874AD and in the next few years the Norse, Celtic, Norwegian and Danish came in and out of the country. Right now the culture is based on the Norse heritage. It is a technologically advanced society. During World War II, Iceland joined Denmark giving it neutrality. When Denmark was invaded by the Germans, Icelandic Parliament decided that they would assume a Danish king duties about 1 month later the British armed forces moved in Iceland and then in 1941 the occupation was taken over by the US. 1943 the Icelanders voted to become an independent nation. One of the interesting things about Iceland is that it gathers more than 80% of its energy through geothermal and hydro power providing all of Iceland's electricity. They import oil to be used for transportation and the fishing fleet.

Amazingly, the next time you go if you pay close attention, you will see some gas stations offering hydrogen to refuel their fuel cells.

The flying ins and outs of Iceland

The most well known airports are Reykjavik which used to be the international airport and Keflavik which used to be the US air force base built by US military during the Second World War. To the north of the island you will find the airport of Akureyri and a number of air strips along the coast which can be used and which make Iceland a very pro-aviation visiting country.

Reykjavik (ICAO code BIRK) is located on the west coast of Iceland. There are a total of six runways most of which are open to general aviation as well as some local domestic flights and cargo flights. They do offer an ILS approach. The airport is situated 207' above ground and most of the approach is above water.

The second most popular airport for international service is Keflavik which also offers an ILS approach as well as a radar approach. If you miscompute your weather understanding, at least the radar operation will be able to bring you down to the runway. The next airport is in Akureyri (ICAO code BIAR) which is Iceland's second largest city. Planewise it is a rather interesting approach. They offer a LOC DME where you basically have a step down through a fjord and you see both sides pretty close to you as I did the first time in the back seat in a CJ. I was holding my handheld GPS on the terrain page and the level of comfort with red on both sides of the flight path in the soup makes you wish the people up front know what they are doing.

When I was there last summer, we had a little glitch with a Garmin 1000 and a couple of times while the weather was VFR the controller told us that we were slightly off course.



(Continued on Page 33)

When we visited with him in the tower after landing, he confirmed to us LOC DME approach is certainly the most controlled approach in Europe making sure that airplanes are not doing any deviation on the set flight path.

If you do go there, you should take the time to visit the tower. There is a very nice gentleman there who over the years was first a control tower operator in Reykjavik before moving on to the Icelandic transatlantic traffic and especially the approach in and out of Reykjavik. More than one time he has heard the last word of people crossing the Atlantic and coming short of their destination.



Egilsstadir (ICAO code BIEG) offers an ILS approach on their runway 4 with a 200' above ground minimum and is a customs airport. Egilsstadir is a popular alternate for Reykjavik. There is ILS approach and a long runway but it has uncontrolled airspace. While there is a controller, they only provide information and traffic advisories.

The reason I mentioned these four airports is that by experience if a fog bank should roll over Reykjavik and Keflavik, usually the airport to the north, Akureyri, or east, Egilsstadir, would be open and be able to handle any request. Prior to your next transatlantic crossing you should make yourself comfortable with these four airports and be ready with Plan B and Plan C in your flight bag.

Documentation

All of the approach plates for the different airports of Iceland can be found in the Jeppesen Transatlantic Trip Kit. It is a worthwhile investment.

The other piece of information that is very important is that Iceland has their own dedicated weather reporting station and for reason unknown to me at this time, their TAF and METAR are not showing the same information as what you would find on the same system in the US. One of the advantages of the Iceland weather website is that there is a long TAF forecast which is not offered at this time in the US. On their webpage you will see TAF for nine hours in front and TAF for 24 hours.

The website address is <http://en.vedur.is/weather/aviation/taf/>. Their website also offers a web camera so that you can get on the moment visualization of the weather. They do have prognostic charts for Europe coming from the US office and transatlantic they have satellite photos which are coming from NOAA based information. They have weather radar which is something we always like to look at as pilots. Again before making a transatlantic crossing, take the time to familiarize yourself with all that is available on the Icelandic weather website.

There are a total of 25 airports in Greenland. We only use Reykjavik as the airport of entry coming from Europe or Greenland because we always receive fantastic service and



they do have a cute customs and immigration person on staff. The FBO we use is called BIRK Flight Services (phone: + 354 552 1611) and they can be found online at <http://www.birk.is/w/handling/>.

You need to call ahead of time to announce your arrival. Icelandic airspace is very large and is called Reykjavik OCA. The control sign is Reykjavik Control. If you stop at the Reykjavik airport do take the time to visit the building where all of the transatlantic crossing traffic is handled. It is really a visit worth your while.

Accommodations

Iceland has a lot to offer so let's concentrate first around Reykjavik. If you do ferry your plane in and out, the first choice is the Hotel Loftleidir. It is right across from the BIRK FBO - a mere 50 yards away. If you ask for a room facing the airport, you will be able to keep an eye on your plane during the night.

During the month of June you will not have nighttime because the sun - being so close to the Polar Circle - barely sets before arriving again. If you decide to venture downtown, there are many different very nice hotels. Radisson has a couple of them available. One is downtown close to the seashore and the other is halfway between the airport and downtown - a mere 10 minute taxi ride. Both offer Swedish comfort with large rooms,

(Continued on Page 34)



Reykjavik, Iceland...(Continued from Page 33)

comfortable furniture and Icelandic food. Over the years our hotel of choice has been Hotel Borg because of its location downtown as well as its accessibility to a number of restaurants and all the downtown activities.

There are also a good number of restaurants available and we've been using with great success a place called Einar Ben (+354-511-5090) over the years. This past summer we found a very unique place called Fish Company (+ 354 552 5300) which was also very good. Hotels in Akureyri include the Hotel Kea and the Hotel Nordurland (+354 462-2600). Both are 4 star and are centrally located downtown. In Egilsstadir there is the Hotel Herad.

Activities range from bird watching to whale watching, icecap riding through snowmobile or 4 wheel drive tours. There is also arctic rafting, a visit to the Gullfoss waterfall, geysirs, and most important of all, the Blue Lagoon.

Our next Journey to Iceland departs on June 2. We still have space available.

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Opportunities to Participate:

Wednesday, April 21, 2010, 6:00 pm EST or
Thursday, May 6, 2010, 1:00 pm EST

This course is free for all POPA members. It will last approximately 45 minutes with time for discussion and questions. For registration or more information on this course or our recurrent PC-12 training program, please contact the Alpha Flying Training Department at 603-501-7612 or training@alphaflying.com.

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SPRING 2010 QUESTIONS

Question #1

Is operation of the de-ice boots required for flight?

Question #2

What items are included in the FINAL CHECK?
Make sure you check the latest revision.

Question #3

What are the fine pitch blade angles, and what will happen if we exceed the minimum angle in flight?

Question #4

What trims are required to function for flight?



WINTER 2009 ANSWERS!

Question #1

When is it recommended to have the PC-12 de-iced?

ANSWER

The POH states that the aircraft must be clear of snow, ice and frost adhering to the lifting and control surfaces prior to take off.

Question #2

What are the conditions required for the Gear Warning System to activate?

ANSWER

Flap warning will activate when more than 15 degrees of flaps are selected, power less than approximately 10 psi and airspeed less than 130 kts and all three gears are not down and locked. NG Owners can add low power and radar altitude less than 200'.

Question #3

When must the autopilot be disengaged on an ILS approach? (There is a different answer for the NG).

ANSWER

The autopilot must be disengaged at 200'. NG owners must disengage at 400' unless there is a co-located DME, then it's 200'.

Question #4

On Series 9 and Series 10 PC-12s, the left and right pilot tubes provide information as to what instruments?

ANSWER

The right side provides information to the left side instruments, and the left side provides information to the right side instruments.



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PILATUS

2010 POPA Convention!

Our 14th Annual POPA convention will be held this year at The Renaissance Tulsa Hotel and Convention Center. The host FBO is Christiansen Aviation, located in Tulsa at the Richard L. Jones, Jr. Airport, approximately 15-minutes from our host hotel. KCAC will be our host service center this year, and will on-hand if you need them. Aircraft flying into Tulsa (Richard L. Jones (KRVS) will be met and escorted to the POPA Welcome area. Upon arrival, shuttle service will be available for the quick trip to The Renaissance. Enterprise and Hertz rental cars are available through Christiansen should you require a car.

Our agenda is planned to be of interest all POPA Members. We have Keynote Speakers on both Friday and Saturday. Friday the convention will open with Tom Horne, AOPA's Pilot Magazine Editor-at-Large, and Dr. David Strahle, referred to as the "Father of Datalink" will open the convention on Saturday. NBAA's President Ed Bolen will be joining us as a Guest Speaker Friday evening at the Tulsa Air and Space Museum.

We will hear about the WAAS environment, optimizing the Pratt & Whitney PT6A performance, and from the military on their unique use of the PC-12. SimCom will present "The Complacency Ghost," dealing with abnormalities/emergencies in the cockpit should they occur. We will also hear from Pilatus Aircraft's Chief Test Pilot, William Murray "Muz" Colquhoun on PC-12 Flight Testing. "Muz" will cover some of the most challenging PC-12 certification issues. You won't want to miss this one! Finally, Pilatus representatives from Stans and Broomfield will be heard from presenting their business update and year in review.

Back by popular demand....AFTERNOON BREAK OUT SESSIONS! On Friday, choose from a presentation of lessons learned from the pros at Alpha Flying; optimizing your Garmin 530/430 Avionics presented by Ron Zasadinski, or using the Honeywell Primus Apex System. Saturday's break-out sessions include a presentation on weather radar, the very popular-standing room only Panel Discussion on Legacy Fleet Avionics Upgrades, and PiBAL's Chief Pilot Peter Duncan, reflections and tips on flying the PC-12NG.

And what would our annual convention be without the Cockpit Companion Course (conducted by Ken and Ted Otto of SimCom Training Centers). The course will be taught as Legacy and NG specific. The Otto Pilots are guaranteed to entertain and even teach!

This year, we are pleased to announce the formation of the POPA Hero Squadron. Hero (Humanitarian and Emergency Response Operations) will be an on-going effort within POPA to coordinate and support future efforts. We would like to recognize those who utilized the PC-12 in support of their fellow man. More information on the Hero Squadron is included in your registration packets.

Convention Host Lowell Sando, the POPA Board, and your Executive Director Laura Mason, are all working to make this an event you won't want to miss. We hope you'll join us. Register now. Bring your pro pilots with you. Our agenda has something for everyone.

We look forward to welcoming you to Tulsa...

Laura Mason

POPA Executive Director

PILATUS 2010 CALENDAR!

| | |
|---------------|------------------------------|
| 04/13-18 | Sun-N-Fun - Lakeland, FL |
| 06/03-05 | POPA - Tulsa, OK |
| 06/15-17 | SOFIC - Tampa, FL |
| 07/14-17 | ALEA - Tucson, AZ |
| 07/26 - 08/01 | EAA Airventure - Oshkosh, WI |
| 09/15-19 | Reno Air Races - Reno, NV |
| 10/19-21 | NBAA - Atlanta, GA |
| 10/23-27 | IACP - Orlando, FL |
| 10/27-30 | MMOPA - Amelia Isle, FL |
| 11/11-13 | AOPA - Long Beach, CA |

Press Releases...

40

Media Release
Stans, 5 January 2010

A PILATUS PC-12 NG FOR PHILANTHROPY

Pilatus is pleased to announce that noted philanthropist and leading general aviation advocate Thomas Haas has recently taken delivery of a factory new PC-12 NG.

Widely recognized in aviation circles, Mr. Haas is a current Board Member of the Air Safety Foundation for the Aircraft Owners and Pilots Association. This well known non-profit foundation works to improve aviation safety, preserve community airports, and to encourage people from all walks of life to get involved in aviation and learn to fly.

Mr. Haas plans to use his new PC-12 NG for a range of charitable foundation work as well as personal and business travel. In addition to his work at the Air Safety Foundation, Mr. Haas also serves as Chair of The Corporation of the William Penn Foundation, an organization dedicated to improving the quality of life in the Greater Philadelphia area.

Speaking from his New Hampshire base, Mr. Haas was clearly impressed with the scope and variety of mission capabilities that his new PC-12 NG offers, "During our evaluation, my team and I examined critical factors including performance, safety record, direct operating costs and environmental impact. The PC-12 NG quickly moved to the front of our short list as no other aircraft could accept the key conditions we placed upon this aircraft acquisition. We look forward to a long relationship with Pilatus Aircraft and the team at Pro Star Pilatus Center".

Thomas Bosshard, President and CEO of Pilatus Business Aircraft, added "We feel very fortunate to have Mr. Haas as our customer, and are especially proud to know his PC-12 NG will be supporting his generous charitable work and general aviation advocacy in the years to come."

The single-turbine powered PC-12 NG is popular as a cost effective and responsible solution for business travel. Companies striving to operate as quickly and efficiently as possible have found it to be an ideal tool to increase productivity. Its low acquisition and operating costs combined with a large cabin, standard cargo door, and ability to fly into short and unimproved airfields, uniquely distinguish the PC-12 NG from other aircraft.

Media Release
Stans, 26 January 2010

PC-12NG DELIVERIES REACH A NEW HIGH

Pilatus is delighted to announce a record-breaking year for PC-12 deliveries. The company delivered 100 PC-12 NGs in 2009 worldwide, surpassing delivery totals for any production year since the PC-12 program began.

"Achieving 100 deliveries in a single year is a significant milestone for Pilatus and the PC-12 NG production program and reason to celebrate," said Ignaz Gretener, Vice President General Aviation at Pilatus Aircraft, Ltd. "This would be true in any year, but the fact we did it last year is simply outstanding."

The PC-12 has consistently been one of the top selling models of turbinepowered aircraft, and Pilatus has conservatively increased production over the years, delivering 90, 92, and 97 of the type in 2006, 2007, and 2008, respectively. The company's steady approach has allowed it to carefully grow yet stay appropriately lean.

The single-turbine powered PC-12 NG is widely recognized as a powerful yet responsible business and special mission aircraft. Its low acquisition and operating costs and large pressurized cabin offer unique capabilities that operators worldwide are using every day to travel quickly and efficiently in the new economy.

PILATUS

Media Release
December 20, 2009

2010 PC-12 NG Cockpit to feature cursor control device

Pilatus Aircraft Ltd is pleased to announce that the 2010 PC-12 NG cockpit will feature an innovative new Cursor Control Device (CCD) as standard equipment.

Mounted on the pedestal between the crew seats, the new CCD system features an ergonomic palm rest with a conveniently positioned trackball, scroll wheel, and buttons for making selections on the PC-12 NG's two large multifunction displays. The CCD provides a further option for cursor control in addition to the current joystick mounted on the multifunction display controller in the lower center of the instrument panel.

With its Primus Apex avionics system, the PC-12 NG is uniquely suited to integrate a CCD and will set a new standard in its class of aircraft with ease of use and integration typically only found on intercontinental business jets. The comparison is apt because the Primus Apex software was derived from the Primus Epic system and it shares its INAV (interactive navigation) interface. INAV's powerful software enables pilots to control their flight plan, moving map, weather, traffic, and aircraft systems using simple point-and-click actions.

"Imagine using a computer today having to enter all your information using buttons or concentric knobs," said Dietmar Bretscher, Pilatus's Head of Engineering for Corporate & Utility Aircraft. "It would be a challenge until someone handed you a mouse."

The PC-12 NG was the first aircraft to feature the technologically advanced Primus Apex avionics system. It is mated to an airframe and engine that delivers low acquisition and operating costs, a large cabin, standard cargo door, and ability to fly into short and unimproved airfields, making the PC-12 NG a unique solution for a wide variety of transportation needs.



**Alpha Flying, Inc. Announces
Advanced PC-12 Training Course**

PORTSMOUTH — September 1, 2009 — Alpha Flying, Inc. is pleased to announce that they are now offering an Advanced PC-12 Training Course for owner/operators.

Company History

Alpha Flying, Inc. (AFI) flies the largest fleet of PC-12s in the world and has over 105,000 flight hours and 14 years of experience with the aircraft. They operate PC-12/45, PC-12/47, and PC-12/47E aircraft and their affiliate, Atlas Aircraft Center, Inc., maintains them. They have been performing all initial, upgrade, and recurrent training for their own pilots for the last 10 years, which has resulted in finely honed training materials that they are now sharing with PC-12 owner/operators.

Course Information

The course has been carefully designed to cater to owner/operators with experience in the aircraft. It is an opportunity for tailored one-on-one training geared towards the specific pilot and aircraft.

The ground training course will cover PC-12 systems and avionics, CRM, checklists, weight and balance, PC-12 flight profiles, operational tips and procedures, and summer and winter operations. The flight training portion will include a minimum of 6 hours of training during which all normal VFR and IFR maneuvers, abnormal procedures, and selected emergencies will be practiced. AFI's goal is to ensure every pilot attending the course is trained to proficiency.

Interested Pilots

The course will take place at AFI's facility in Portsmouth, NH (KPSM) starting October 2009. The course schedule will be tailored to each individual. Any pilot wanting to attend Alpha Flying's Advanced PC-12 Training Course should contact the Alpha Flying Training Department at pilottraining@alphaflying.com.

For more information, contact:
Lara Jaugust, Director of Training
603-501-7612
ljaugust@alphaflying.com



News, Announcements, Notes

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RECENT POSTS FROM THE POPA FORUM...

A sampling of various topics being discussed.

- *APEX Electronic Checklist...*
- *Headset Noise...*
- *Looking for a Electronic Drum Altimeter...*
- *FMS Update Procedure...*
- *Tips on travel in Mexico...*
- *Pilot System Malfunction...*
- *Web Application for FMS Logs...*
- *De-Icing the PC-12...*
- *Airworthiness Directive - Fire Extinguishers...*
- *APU Recommendations...*

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Vist your Members Forum in the  
POPA website today!

[www.pilatusowners.com](http://www.pilatusowners.com)

## WELCOME NEW MEMBERS

|                                                 |                                                            |
|-------------------------------------------------|------------------------------------------------------------|
| #225<br>N69FG                                   | Frank Gangi<br>Brookline, MA                               |
| #410<br>N679JB                                  | Robert Duprey<br>West Grove, PA                            |
| #439 - N439WC<br>#519 - N561ST<br>#819 - N434JA | Steve Walters<br>Meridian Air Group<br>Charlottesville, VA |
| #535<br>N535MK                                  | Michael Krupa<br>North Hampton, PA                         |
| #1054<br>N524RD                                 | Robert Deinarowicz, Jr.<br>Stroudsburg, PA                 |
| #1123<br>N52MW                                  | Larry Brons<br>Aurora, OR                                  |
| #1135<br>N135X                                  | Warren Brown<br>Houston, TX                                |
| #1136<br>N136PE                                 | Alan Boan<br>Greenville, AL                                |
| #1156<br>N156HS                                 | Jim Schunneman<br>Houston, TX                              |
| #1158<br>N158NX                                 | Gregory Hodgen<br>Enid, OK                                 |
| #1167<br>C-FPNG                                 | Mel Grimes<br>Lampman, Saskatchewan, CN                    |
| #1170<br>N709PC                                 | Newton Thomas<br>Baton Rouge, LA                           |
| #1178<br>N5955R                                 | Sam Peacemaker<br>Spokane, WA                              |

**POPA is looking for  
Magazine Cover Photos!**

\*\*\*\*\*

**If you have a photo of your PC-12  
that you would like to be on the cover  
of our quarterly magazine, please  
send your pictures to the  
POPA Home office at  
[popapc12@aol.com](mailto:popapc12@aol.com)**

# ***POPA Board***

## **President**

**Bob MacLean**

**Phone: 508.341.0696**

*macleanb61@earthlink.net*

## **Vice President:**

**Pete Welles**

**Phone: 443.690.1357**

*pw@mindspring.com*

## **Secretary/Treasurer:**

**Lowell Sando**

**Phone: 408.782.3003**

*lowellsando@msn.com*

## **Board Member:**

**Joe Howley**

**Phone: 203.312.3055**

*joe.howley@rbssempira.com*

## **Board Member:**

**Brian Cleary**

**Phone: 203.770.7701**

*bcleary@cbgi.com*

## **Board Advisors:**

*Ty Carter*

*Mike Haenggi*

*Phil Winters*

*Piotr "Pete" Wolak*

*Phil Rosenbaum*

## ***POPA Administration***

### **Executive Director**

**Laura Mason**

**Phone: 520.299.7485**

**Fax: 520.844-6161**

**Cell: 520.907.6976**

*popapc12@aol.com*

## ***Non-Profit Status***

The Pilatus Owners & Pilots Association has been granted exemption from income tax under Section 501(c)(7) of the United States Internal Revenue Code. The Internal Revenue Service (IRS) has classified POPA as a "social club" and has assigned Employer Identification Number EIN #31-1582506 to our Association. Annual dues are not deductible as a charitable contribution, but members will likely be able to deduct annual dues as a business expense. Consult your tax advisor for details.

## ***POPA***

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***Suite #120-Box #114***

***Tucson, AZ 85750***

***www.pilatusowners.com***

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