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SUMMER 2013

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CONTENTS

PILATUS OWNERS AND PILOTS ASSOCIATION · SUMMER 2013 · VOLUME 16, ISSUE 2

DEPARTMENTS

FEATURES

FROM THE PRESIDENT: AND, FAREWELL....

As discussed in my second president's letter two years ago, your POPA board and advisors had just concluded a five-year planning retreat that streamlined our mission:

"POPA is all about **the Safety of the Fleet**. We are now concentrating our efforts to **Improve our Education Content, Enhance our Communication to Members** and **Increase our Membership".**

Our mission and their supporting strategies are being met. Over the past two years, membership is up 28%, we have a new website and magazine, this year's convention had record attendance and we have improved content throughout our mediums. Those who did not attend POPA 17 in Monterey, CA missed valuable information designed to make you an even better pilot than you already are.

It has been an honor to serve on the POPA board for the past six years. I have been fortunate to work with a talented and committed POPA board of directors: Joe Howley, Brian Cleary, Jack Long and Dan Muller. As mentioned at this year's convention, the five board members have 19,000 total flying hours with 8,000 hours in the PC-12. The catalyst that makes POPA work, however, continues to be Laura Mason, our Executive Director for the past 16 years. She remains knowledgeable, dedicated and tireless. Our advisors, critical to the process, are "in the game" and continue to keep the board focused on the practical. Becky Lorber, our Marketing Director for the past two years, has been a major contributor as well.

An organization can never stand still, and POPA, under its evolving leadership, is committed to improving its safety message and expanding its reach.

Particularly gratifying is seeing all facets of the Pilatus family (Pilatus (Stans), PilBAL, Dealers, PlaneSense & POPA) united behind the "Safety of the Fleet" mission and working in sync.

The state of your organization is strong.

Pete Welles

POPA … We Elevate the Pilatus Experience

FROM THE INCOMING PRESIDENT, JOE HOWLEY

Thanks to the leadership and vision of Pete Welles, POPA has grown to record levels both in terms of membership and attendance at our annual convention. He has transformed us into a valuable tool for our member pilots by focusing on safety through education. As POPA's new president, the foundation laid by Pete, Bob MacLean and others provide me a strong platform to continue to build on their success. Again, thank you, Pete, for a terrific presidency!

I am a 3,500-hour pilot with more than 1,800 hours in the PC-12/47 and 47e. I've lived in Connecticut for eight years with my wife of 23 years, Christine, and our three children.
I learned to fly 18 years ago in Morristown, N.J., and flew a Cessna 182, 210 and Caravan before acquiring my legacy aircraft in 2006. I currently fly a PC-12NG, N37HL. I have been a commodity trader for 30 years and am a partner in an energy hedge fund. Three years ago, I co-founded and continue to chair Patient Airlift Services, a volunteer pilot organization. We fly patients and family members to hospitals for free. We also fly injured military personnel from Walter Reed Medical Center to baseball games, working in conjunction with MLB.com. I fly about 300 hours per year, three quarters of it for PALS.

POPA ballots were sent out, and more than 60 ballots were received, all in favor of your current board members. During the Annual Meeting of the POPA Board, I was officially elected president, Brian Cleary as vice president, and Jack Long as secretary/treasurer. Rounding out our board are Dan Muller and newly appointed director, John Zimmerman.

Pete Welles and Bob MacLean will continue serving POPA as advisors. Advisor Ty Carter, who also served as president, has now retired from his position.

On behalf of all the directors and advisors, thank you for your confidence in us as we continue to Elevate the Pilatus Experience!

Joe Howley

POPA
PILATUS OWNERS AND PILOTS ASSOCIATION
SUMMER 2013 VOLUME 16/NUMBER 2

NEW & NOTABLE

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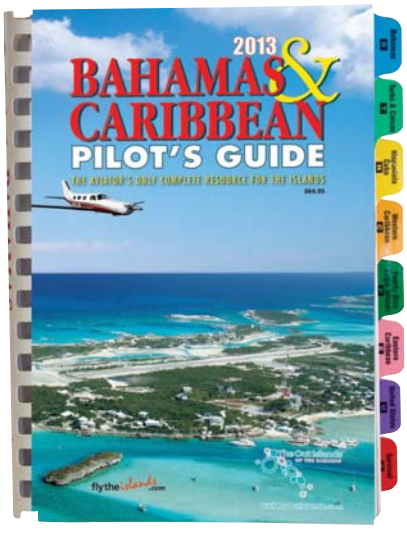
Backing up the data on your laptop or tablet or smartphone is like taking vitamins. We all know it's good for us but don't always get the job done. Enter the world's smartest back-up storage device. Set up the Pogoplug in 60 seconds, point it to all your computers and mobile devices and never worry about backing up again. You can rest easy knowing your vacation photos are being continuously backed up to your Pogoplug at home. Or what about needing a document or information from a file you left at home? Not a problem for Pogoplug. Log on, grab it and bring it to your present location. It's that easy. Find all the 411 at **Pogoplug.com**.

This is the chair

A lot of us carry folding chairs in our airplanes, chairs that come in handy on a number of occasions, from air shows to days at the beach. Take a look at quite possibly the world's best outdoor portable chair. The LoungePac has two coolers, speakers in the headrest, a removable tote bag, a foam pillow, a backpack and a 4-foot-diameter swiveling umbrella. Its lightweight, all-aluminum frame opens and sets up in less than 10 seconds. Now this is a chair. See a video with all the details at **LoungePac.com**.



2013 BAHAMAS & CARIBBEAN PILOT'S GUIDE

With exciting adventures starting just a half-hour off-shore, the Bahamas and Caribbean islands are true jewels for pilots to explore. Nothing makes those trips more memorable than lots of good pre-trip research like that which is available in the brand new edition of the 2013 Bahamas & Caribbean Pilot's Guide. The comprehensive book features overall maps of the islands, general information about entry and Customs requirements and airport pages with everything you need from frequencies to nearby hotels. Get the updated version from Pilot Publishing at **PilotPub.com** or 800.521.2120.

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IMC AT YOUR FINGERTIPS

IFR training hoods are bulky and awkward to wear in the cockpit. IFR glasses offer a good alternative, but you have to put them on and take them off over and over again. Now you can enter the clouds with a flip of a switch with eFoggers. These training glasses utilize aerospace-grade materials to immediately put you in hard IMC, making your training much more realistic. With its simple on/off feature, eFoggers from Sporty's allow you to spend your time in the cockpit learning, not looking for a hood. All the information about these new eFoggers is available at **Sportys.com**.

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PILATUS NEWSMAKERS

PC-24 MAKES ITS DEBUT

Amid a spate of rumors that the Swiss airframe maker Pilatus was developing a jet, the company used EBACE 2013 to take the wrappers off its new flagship PC-24 pure jet. The sleek new clean-sheet design is projected to have a max cruise of about 425 knots and, with four passengers, has a range of about 2,240 miles. The PC-24 is powered by two Williams FJ44-4A engines, each of which produce 15,124 kN of thrust.

Pilatus claims the new jet is the first business jet with the ability to use very short runways, paved or unpaved. A large cargo door is standard, and the PC-24 can be configured in a variety of iterations, from a 10-passenger commuter set up to the executive layout with six-to-eight passenger seats.

The flight deck boasts four 12-inch screens, featuring the SmartView synthetic-vision system, TCAS II, IRS, LVP and the option to complete flight-planning procedures on the screen itself in graphic form.

The sleek new clean- sheet design is projected to have a max cruise of about 425 knots and, with four passengers, has a range of about 2,240 miles.

Oscar J. Schwenk, chairman of the Board of Directors at Pilatus said, "Over 10 years ago, we started asking our PC-12 customers what they would like to see in the next Pilatus aircraft. The answers were always the same: Further and faster – while retaining the much-appreciated strengths of the PC-12, such as the ability to use very short runways. It was a huge challenge for our development team! We are all the more proud to be able to unveil an aircraft with exactly those qualities today: the PC-24."

The jet, financed entirely by company funds, is expected to make its maiden flight late next year, with both European and American certifications coming in 2017. Deliveries are expected immediately after certification.

Orders for the new jet are likely to open in 2014. The current retail price for the PC-24 is approximately $8.9 million.

NEW STATS JUST IN

The PC-12 fleet, with nearly 1,200 aircraft flown worldwide, has reached a major milestone for accumulating 4 million flight hours since the first aircraft was delivered in 1994.

More good news came from safety stats looking at PC-12 ops during 2012. The accident rate per 100,000 flight hours dropped to 0.74, down from 0.81 the year before. Fatal accidents per 100,000 flight hours also improved, from 0.32 to 0.30 in 2012. Covering 2, 958,834 flight hours, there were 22 reported accidents and only nine fatalities, testament to good safety training and pilot skill sets. The PC-12 has the best accident rate of the entire single- and twin-engine turboprop field.

LEGACY AIRCRAFT GET GLASS

Pilatus has just received a Supplemental Type Certificate from the FAA to install the Garmin G600 New Perspective avionics in all pre-NG PC-12 aircraft built between 1994 and 2008. The Garmin system pairs both the primary and multifunction flight display into a single 10-inch wide flat-panel LCD screen. The product comes with Synthetic Vision Technology, TAWS-B terrain alerting, Flight Charts and SafeTaxi software. Available as options are ChartView instrument approach plates, XM satellite weather overlays, onboard radar, traffic alerts and other data.

PILATUS PIONEERS WIRELESS AIRCRAFT DATA TECHNOLOGY

The new Connected Flight Deck and Wireless FastLoad System is a set of four innovative iPad applications that interface with a wireless gateway system onboard the PC-12 NG. The applications enhance the efficiency of data exchange between the aircraft, the pilot and maintenance personnel.

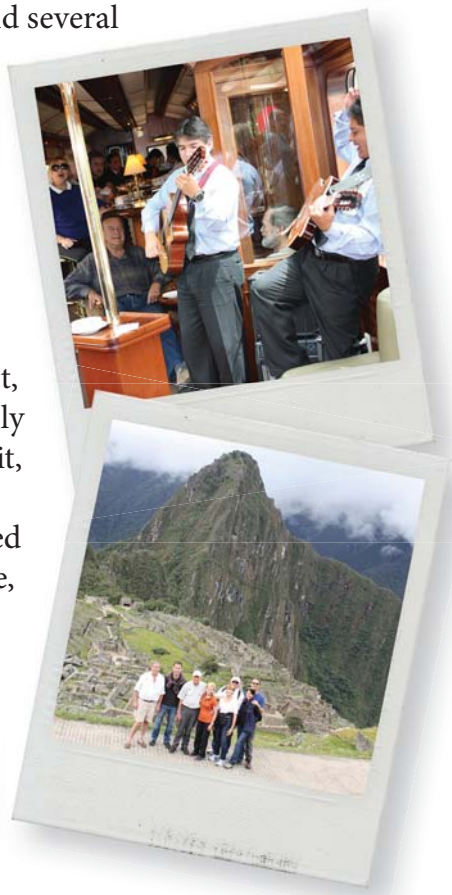
The FAstLoad application greatly reduces the time necessary to upload chart, navigation and terrain data transfers to the aircraft. The Flight Planning application enables pilots to create and edit flight plans on a tablet device and upload the new information directly to the aircraft. The Maintenance Download app wirelessly downloads and emails the PC-12 NG's condition and fault history databases to support facilities anywhere in the world. The Flight Path application allows pilots and passengers to see exact locations in real time while enroute.

The development of this wireless interface was a collaborative effort between Pilatus, Honeywell, Aspen Avionics and Jeppesen.

CIRCUMNAVIGATING SOUTH AMERICA

IT WAS A 14,000-NAUTICAL-MILE ADVENTURE AND VACATION. ■ By Dale Thuillez

We're at FL270 but the ground looks much closer. It was. We were over the glaciers covering hundreds of kilometers of the southern Andes Mountains. Suddenly, we approached the abrupt end of the mountain chain that we've flown along and over for several days, having stopped in Colombia, Ecuador, Peru and several cities along the length of Chile. And just 10 miles to the south was our airport at an elevation of 218 feet.



There was only one instrument approach, and the plane ahead was given that in order to lose altitude. It's a 31-mile roundtrip to the southeast and back. We requested a visual and, after several attempts, our request was granted. A Pilatus can get down pretty quickly when necessary. Other than our four-plane group, only one other plane was on the small tarmac. Looking back to the northwest, we could see the glaciers over which we had just flown. We were only 100 miles from our southernmost destination on the Magellan Strait, 5,759 miles from where I began in Albany, N.Y.

Our group assembled in West Palm Beach, Fla. (KPBI). We departed for Cayman Islands on Feb. 24, passing over Cuba on the way. For me, the flying was the adventure, but many of our layovers were a luxurious vacation starting with the Ritz Carlton in Cayman Islands. We completed our circumnavigation of South America with a stay in Grenada on March 29 and 30 at a beautiful, intimate place with separate cottages. On March 31, we flew back to West Palm Beach, a trip totaling about 14,000 miles.


MINAS
BAHIA
BEL BORBA

Every stop was very interesting, especially for someone like me who had not been to South America before. We had wonderful tour guides in Cartagena, Colombia; Lima, Cuzco and Machu Picchu, Peru; Santiago, Chile; Easter Island; Buenos Aires; Rio de Janiero; and Salvador de Bahia, Brazil. All the port cities were founded around 1530 to 1540. This is less than 40 to 50 years after Columbus made his first discovery. The lure of gold and the competition between Spain and Portugal drove them at what was then breakneck speed, considering that you had to sail in slow ships at certain times of the year and mostly walk everywhere. It was a cruel time for the Indians and later the slaves, but these early explorers were determined, if nothing else.

Machu Picchu was the highlight of the trip. This is a place we've all heard of and seen in pictures, but being there allows you full appreciation for the Incas who built this city in the clouds of the mountains and their capital in the valley where Cuzco is now. Their empire extended to parts of Colombia, Peru, Ecuador, Bolivia, Chile and Argentina. It lasted less than 100 years until they were conquered by what must have seemed like aliens to them: men with armor, firearms and horses.

Before that they had constructed buildings that still give rise to theories that it was done by some other culture because their work was so precise and so monumental. Look at the accompanying pictures. These stones weigh 20, 30, even 60 tons. No mortar was used, yet you cannot slip a piece of paper between the stones. And they've been standing for centuries, even after earthquakes. They were not just builders; they were also astronomers who tracked the planets and plotted the stars. They also had developed a complex religious system and hierarchical society.

Getting to Machu Picchu was a terrific event, in and of itself. After a bus ride to the train, we had two and a half wonderful hours on the Hiram Bingham, a train of the Orient Express. We had an observation deck at the rear of the bar car, a luxurious dining car and a great three-piece band. A delicious lunch was served on the way up and a gourmet dinner on the way back with lots of dancing and music all the way.

After Machu Picchu and our flight to Santiago, we flew commercially to Rapa Nui or Easter Island, not only the home of the moai (those unique stone statues of heads) but also the most remote, inhabited location on the face of the earth. The island is now predominantly populated by descendants of the original Polynesians who set off in small boats more than 1,000 years ago in search of a new home. Our guides were native to Rapa Nui. Our hikes, bike rides and walks around the island were archeo-

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logical adventures. We enjoyed two other adventure resorts; one in Calamas, Chile, at an oasis in the Atacama Desert and another in the stunningly beautiful Torre del Paine in Patagonia, Argentina. Although we were free to relax, sit at the pool, get a massage or whatever you please, these destinations were designed for the explorer so for those who wanted to walk, hike, bike, fish and go exploring, guides were available for whatever level of activity we wanted.

Our first stop in Argentina was at San Carlos de Bariloche, the Swiss Alps of South America. We went from exploring to relaxing in one flight. At a beautiful luxurious resort set amidst snow topped mountains, lakes and evergreen forests, I believe we were the only Americans there. Most visitors are from South America and Europe. Our group elected to play a round of golf on the resort's property. No electric carts here and lots of hills, but we all have a good time. And, not surprisingly, we again discover more great restaurants.

Our next destination is Buenos Aires, the primary city of Argentina and the home of the new pope. (Marty and Maureen Pope in our group got an especially warm welcome!) A terrific guide took us through the historic and modern parts of the city from the presidential palace of Juan and Eva Peron to a flowering metallic sculpture. One night we enjoyed a great tango show and dinner.

There are three major water falls in the world: Niagara Falls, Victoria Falls in Africa and our next stop, Iguacu Falls at the intersection of Argentina, Paraguay and Brazil. The falls were a short walk from the front of our hotel. We got a much closer look when we ride a boat right into the front edge of the cascading water. We got a cold shower but it was very exciting.

Pilots always ask about the weather on a trip of this length. We made 11 instrument approaches but none of them was to really low ceilings. The most challenging was the leg from Iguacu Falls to Rio de Janiero. We weaved around large buildups as we climbed to 28,000 feet. Even then, we were unable to get above all of it. Fortunately, the portion through which we flew was smooth and without ice. Then coming closer to Rio, we again had to deal with building cumulus. Our arrival procedure required us to pass through some. Luck was with us, and we missed the heavy rain. Copacabana Beach, Ipanema Beach, the Jesus monument on the mountaintop, and Sugarloaf Mountain are all things we have seen and heard of. We visited them all after strolling the Copacabana.

Another question I am asked by pilots is how we were able to manage these flights into so many different countries. I would like everybody to think I'm a genius but the reality is that all that mysterious work was done by a group known as Air Journey. They have been arranging trips such as these, in varying lengths and to myriad locations, for many years. Thanks to Air Journey, we are able to concentrate on the flying, eating and other tourist requirements. The Air Journey people take care of the flight planning, weather, hotels, restaurants, ground transportation, guides and everything else.

Most importantly, they ensure that the trip is done safely. We meet for a detailed flight briefing each evening before a flight. We have maps, flight plans, routing and up-to-date weather with radar, satellite, Metars, TAFS and Notams. We all use iPads and have downloaded everything from Jeppesen for South America. I started using the iPad a year and a half ago on our Africa trip and have become used to using it exclusively. At our briefings we can download to our iPads much useful information such as photos of every airport, routing, expected departures, expected arrivals, airport details, FBO locations, phone numbers, weather, winds aloft, Notams and permit information. One person from Air Journey accompanied us on the entire trip, ensuring that everything went as smoothly as possible.

Salvador de Bahia was our next stop. This was another discovery: A city I had never heard of with a population of 3 million people. Why? Oil. The place is booming. If you want a quick tour of the main square in the old city, check out Michael Jackson's video on YouTube entitled "They Don't Really Care About Us." The next day was a leg of 929 nautical miles to Belem, Brazil, on the coast, surrounded by the Amazon jungle. Belem is another growing city based on newly discovered oil. We just stopped here to spend the night before our two legs the next day to Rochambeau, French Guiana, and Grenada, West Indies, a total of 1,184 nautical miles. We crossed the equator again as we flew over the expansive mouth of the Amazon River. Then we relaxed at the Laluna Resort for two nights.

Two more legs, and we're back in the U.S.A. First, we headed to Aguadilla, Puerto Rico. Once we left there, we were all going to different locations in the U.S., and this location has the advantage that we can clear Customs and go to any airport we prefer in Florida (or anywhere in the US if you have the range), not just the required ones when coming from the Caribbean or the Bahamas. For me, I was off to Fort Pierce, Fla., and the next day back to Albany, N.Y. And my first flight after I get home was to my service center in Manchester, N.H., to get my engine flushed out after flying over all that salt water.

It was a great trip. I highly recommend it to anybody with a Pilatus. You have a tool that can literally take you anywhere on earth. You'll never regret taking advantage of it. With a Pilatus, you can even bring a couple of friends along. Bon voyage.


HIRAM

TURBU THE DEVIL YOU DON'T KNOW

DON'T LET ROUGH AIR RUIN THE TRIP FOR YOU AND YOUR PASSENGERS ■ By Bill Cox

Producer Dave Jackson and I were flying a borrowed Skyhawk above Maui, Hawaii, working on a video travelogue piece I'd written called "Flying the Islands of Paradise" for the '80s TV series, ABC's Wide World of Flying. We were shooting B-roll footage, bouncing through light turbulence over Lahaina, not ideal conditions for Dave, who was trying to balance a heavy Sony Betacam on his shoulder. Suddenly, without warning, the Skyhawk flew through a violent downdraft like none other I've felt in an airplane.

Dave's Betacam slammed into the roof so hard, I was surprised it didn't come apart. As it turned out, the camera survived undamaged. The headliner didn't.

The turbulence was only one jolt, but I knew the airplane had to have been damaged. As an aerobatic pilot, I've experienced up to seven Gs, and I knew our instantaneous shock had been at least that strong.

Of course, I was wrong. I flew the 172 back to Kahului Airport, landed as gently as I could, and we climbed out to check the little Cessna for warped skins, even removing some access panels. Amazingly, there wasn't a wrinkle anywhere. There'd been no damage.

If you fly with a G-meter on the panel through even the roughest air, you'll discover that turbulence almost never exceeds 2.0-2.5 Gs, much less the 3.8 G limit of the normal category. Damage from turbulence is extremely rare, no matter what the size or structure of the aircraft.

LENCE

Technically, turbulence is categorized as light, moderate, severe or extreme, and the only category that's likely to cause damage to an aircraft is the worst one, extreme. Encountering that level is highly unlikely unless you fly straight into the side of a fully developed thunderstorm.

Sadly, that does happen, and it's not always the pilot's fault, whether he's one of the world's best aviators or an amateur. Back in April, 2006, famous X-15 test pilot Scott Crossfield was killed when his Cessna 210A was torn apart in extreme turbulence over northern Georgia.

Pilots report turbulence at levels of moderate or worse about 65,000 times a year, and there are 5,500 reports of severe turbulence. Considering that hardly any aircraft comes apart from such rough weather, our airplanes must be extremely strong and durable.

The sure knowledge that your airplane isn't likely to disintegrate around you may be small consolation when you're driving through continuous chop in a cobblestone sky.

One of the most insidious forms of turbulence is also perhaps the rarest, Clear Air Turbulence, inevitably known by its acronym CAT. As the name implies, CAT is the most difficult to predict because it's invisible, and there's currently no electronic warning possible.

Clear Air Turbulence is thought to be generated by shifting jet streams, so by definition, it's primarily a high-altitude phenomenon, usually experienced above FL300. Problem is, the jet stream can sometimes dip well below 30,000 feet, and that makes it a threat for single-engine turboprops.

Until recently, the only method of approximating the location of CAT was to track the edges of the jet stream where the wind shears dramatically in velocity. A number of investigations into predicting Clear Air Turbulence have been launched by prestigious agencies such as NASA, MIT, NOAA and the National Center For Atmospheric Research in Boulder, Colo.

In addition to studying shear zones at the edges of jet streams, scientists are examining gravity waves and a variety of other methods of detecting CAT.

Two factors that generate more turbulence than any others are mountain waves of air curling up from the terrain below and thermal activity off the hot Earth. Single-engine turboprops' high cruise altitude tends to help insulate them from both factors. Few mountains are tall enough to generate severe turbulence at our normal cruising heights. There's nothing in North America above 20,500 feet (Alaska's Mt. McKinley) and nothing in the rest of the Western Hemisphere above 23,000 feet

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(Cerro Aconcagua east of Santiago, Chile). Similarly, thermal turbulence tends to dissipate with altitude.

Mountain-wave activity is similar to water flowing over rocks in a stream. Such atmospheric waves may tumble and roll, subjecting aircraft to severe turbulence, sometimes as much as 10,000 feet above the terrain and as far as 100 miles downwind from the mountains. Since the prevailing winds over the Rockies are usually westerlies, this can mean rough air far out over the flatlands of eastern Colorado where you'd least expect it. The swell of rising air may also arc far above the highest peaks. The jagged Rockies are infamous for such activity, one reason many private turboprops and jets without the ability to climb above FL350 sometimes prefer the southern east-west route over northern New Mexico.

Convective activity can also chop the sky into columns of rising air. This is perhaps the most common cause of turbulence, but it's typically only problematic in summer at 18,000 feet or less AGL. Different surfaces reflect the heat of the sun unevenly and result in updrafts of varying strength. Deserts and high plains are the most obvious culprits, but thermals can present problems anywhere, and the very variability of the Earth's reflective qualities helps to generate rough air. Glider pilots may actively seek out such strong free lift, but the updrafts can be major problems for pilots interested in a smooth ride.

Thunderstorms are a source of turbulence that most intelligent pilots will never have to deal with. That's because few aviators fly anywhere near them. There's nothing insidious about CBs. The hazards are all too obvious – violent up and down drafts, icing conditions, hail, lightning, even occasional tornados. They may not be nature's automatic death machines, but any pilot who knowingly operates inside a fully developed cumulonimbus is asking to become a statistic.

CBs feed on heat, and they can grow to 40,000 feet in the mid-latitudes and 50,000 feet or more near the equator during a hot summer afternoon. (Darwin, Australia, is considered the world's greatest thunderstorm incubator. In 1990, Darwin recorded a monster thunderstorm climbing to 72,000 feet. Not even the Concorde could top that.)

Entire books have been written about thunderstorms, most of which offer the same advice – don't go anywhere near them. Avoidance is usually a matter of climbing over or flying around. Over may not be practical, as a building T'storm may be able to outclimb you. Several years ago, while flying a Cessna Conquest I across the Gulf of Mexico, I watched a CB building straight ahead at almost exactly the rate we were climbing. We finally gave up trying to top it and elected to go around the monster.

Thunderstorms are a source of turbulence that most intelligent pilots will never have to deal with. That's because few aviators fly anywhere near them. There's nothing insidious about CBs. The hazards are all too obvious – violent up and down drafts, icing conditions, hail, lightning, even occasional tornados. They may not be nature's automatic death machines, but any pilot who knowingly operates inside a fully developed cumulonimbus is asking to become a statistic.

If you're planning to circumnavigate a big storm, plan to fly around the right side, terrain permitting. All such storms manifest low pressure with counter-clockwise flow. If you go with the flow, you may actually realize a slight push.

Honeywell Laboratories is working on a new 3D radar system that will look as far as 60 miles ahead and indicate lightning, hail and turbulence in real time. Previous radar systems only registered precipitation and became attenuated beyond the first wave of weather. The Honeywell system promises to provide early warning far enough out in front of the airplane to allow pilots to make intelligent deviations and smooth the ride.

Meanwhile, turbulence remains mostly unpredictable, but a pilot can do a few things to shortstop it. Several of the techniques are well-known. If your schedule will allow, fly as early in the day as possible, before the land heats up and sends thermals soaring into the middle sky, creating chop and generating cumulus clouds. Similarly, you can sometimes minimize the effect of thermal turbulence by flying as tall as feasible.

Most turboprops can manage altitudes in the low RVSM range, and much of the time, that should lift you above the chop. Even thunderstorms take awhile to build above 30,000 feet.

Don't be afraid to ask for help from the controller. Center may have reports of the ride ahead, and pilots flying the same track may provide early warning of the ride quality. Don't be hesitant to jump on one of the air-to-air frequencies and ask any pilot out ahead of you about his flight conditions, even if he's at a higher flight level.

You may not be flying a Boeing 767, but most pilots will be happy to give you a weather update on the prevailing chop. If the ride becomes too rough, you can always ease power back to maintain Va where no control movement can overstress the airplane.

Similarly, don't hesitate to report any significant turbulence to center so they can warn other pilots of the hazard.

If your normal route takes you across the Rockies or Sierra Nevada, infamous breeding grounds for turbulence, you might consider rerouting to avoid direct overflights. You may be surprised at how little distance you'll add to Great Circle routes. In transiting the U.S. dozens of times in the flight levels, I've often criss-crossed both ranges, and I'll sometimes route south over Santa Fe to avoid the rough air above high Colorado.

Finally, at the end of your flight, there's always a possibility of wind shear, most often encountered at low level. Wind shear can be closely related to strong convective activity such as thunderstorms, but it may be generated by a number of other weather phenomena, topographical as well as meteorological. In its worst form, it's a strong, often invisible, downburst close to the ground, and it can be a very real hazard during approach.

The FAA does have Doppler radar installed at a number of airports around the country to monitor wind shear, but Doppler simply warns of current conditions near the ground rather than predicting future turbulence. A number of agencies are working on predicting wind shear, but that's currently a future world.

Pilots of single-engine turboprops have the distinction of flying the most efficient and reliable airplanes above the planet, operating over the weather in smooth air and sunshine practically all the time.

Or not.

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THE WHAT, WHY AND WHEREWITHAL OF THE P&W PT6A

IN HALF A CENTURY, PRATT & WHITNEY'S PT6A TURBOPROP ENGINES HAVE BECOME THE STANDARD BY WHICH OTHER TURBINES ARE MEASURED. ■ By Bill Cox

Engine reliability takes on a whole new importance when it's applied to airplanes. Aircraft of any type are notably unforgiving of any oversight, error or misjudgment, and they also demand an entirely different level of reliability.

We're all eager to get to our destination when driving our cars, but the only major consequence of an engine problem on the highway is usually a minor inconvenience. Think about it: When was the last time your car's engine failed completely for a reason other than running out of fuel?

In an auto, any reasonably wide shoulder will suffice to let you pull out of traffic and call a tow truck, but most aircraft need runways to return safely to earth, and runways often aren't available.

For that reason, it's a good thing that modern four and six-cylinder piston engines provide reliability that auto manufacturers can only dream about. A 2,000-hour TBO on a 150-knot single-engine airplane provides about 300,000 nautical miles between overhauls but even that is not good enough. Turboprops do almost ridiculously better, many running as long as 3,500 hours between overhauls. Apply the same math to a 150-knot aircraft, and distance between overhauls jumps to well over half-a-million miles.


HARTZELL

Turboprop Engines

Yes, it does cost more to fly in a turbine-powered aircraft than to drive a Toyota Prius, a Chevrolet Corvette ZR-1 or even the nicest of Ferrari Berlinettas but, as the clever Shoei motorcycle helmet salesman said when I'd just bought a BMW motorcycle and was looking to buy a mid-level helmet, "How much is your head worth?"

For that reason, pilots are willing to spend large amounts of money to insure reliability in the sky. Pratt & Whitney Canada of Longueuil, Quebec, builds what is arguably the world's most reliable aircraft engine, and they've been doing it for half a century. This year marks the 50th anniversary of the first delivery of a P&W PT6A turboprop engine.

Development of the turboprop goes back even farther. The basic concept of the gas turbine engine is credited to Hungarian inventor Gyorgy Jendrassik in 1937, though he never installed his working model in an airplane. Englishman Frank Whittle designed one of the first Rolls Royce Trent turboprops in 1941, and that engine did fly. (Whittle later went on to conceive the Rolls Royce Dart jet engine that powered the first Gloster Meteor fighter.)

Development of the PT6A engine was initiated in the late 1950s in an effort to create a follow-on to the piston P&W Wasp radials that dominated warplane installations during World War II. Wasp radial engines of various sizes from 985 to 4360 cubic inches were installed in everything from trainers and fighters to reconnaissance aircraft and bombers. (The ultimate piston power plant was the Lycoming XR7755, an incredibly complex, four-row, 7,755-cubic inch, 36-cylinder radial with 72 spark plugs. It weighed in at 6,130 pounds, produced 5,000 hp and, big surprise, was never installed in an airplane.)

The first two turboprop engines of the PT6A series were mounted in a Beech 18 for flight test in 1961, and full scale production began in 1963. Though pure jets were commonplace at the time (airline and military aircraft had long since converted to jets, and Bill Lear was to deliver his first Lear 23 only a year later), turboprops were still a relatively new concept.

No one could possibly have imagined that the PT6A would go on to sell more than 41,000 units (so far), accumulate some 335 million flight hours and be installed in 100 different types of fixed-wing and rotary wing aircraft.

Today, the Pratt & Whitney PT6A series has become the standard of the industry, known for lightweight, high power and outstanding reliability. Various PT6A dash numbers power all four of the modern, certified, single-engine, General Aviation turboprops, delivering shaft horsepower ratings between 500 and 1200.

The Piper Meridian, Socata TBM-850 and Pilatus PC-12 employ PT6As rated for 500, 850 and 1200 hp respectively, and the Cessna Caravan utility aircraft uses an 867 shp P&W from the same series. It's fairly obvious that manufacturers all over the world have embraced the PT6A as the turboprop of choice. The engines serve in a variety of missions, from airline and cargo to agriculture and utility markets.

Question is, how many pilots flying behind a PT6A truly understand what they're paying for and how a turboprop engine works? Most aviators serve a long apprenticeship in piston power plants before stepping up to turbines, so they're usually very familiar with the principles of reciprocating engine operation. Fewer pilots without military or airline experience appreciate the characteristics of the turboprop.

Gas turbine engines operate on the same basic principles as piston engines: air intake, introduction of fuel, compression, combustion (or power) and exhaust. The engine collects outside air, compresses it, adds fuel, ignites the resulting mixture and the thrust produced turns a free-spinning propeller.

The P&W PT6A performs exactly the same process, despite the fact that it's a reverse-flow turbine. As the description implies, the engine is mounted backwards in the nacelle, so the power-delivery section is in the front where it can drive the propel-

what other aircraft want to be when they grow up.

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ler. This avoids the weight and additional complexity of a long shaft running forward from the back of the engine.

The typical P&W PT6A engine consists of two sections. Air is typically introduced through a scoop beneath the cowling into the gas generator section; then, it's channeled through a series of compressors, through a reverse-flow combustion chamber and finally through a single-stage turbine that powers the compressors at 45,000 rpm. The resulting hot gasses then flow into a separate power section containing a single-stage turbine rotating at 30,000 rpm.

Finally, a planetary reduction gearbox at the front of the engine converts the high-rpm, low-torque output to low-rpm and high-torque. This turns the propeller within a narrow range, usually between 1,900 and 2,200 rpm, through a conventional constant-speed mechanism. What gases are not used to drive the propeller are exhausted through two side-mounted ducts in the power-turbine housing, providing a small amount of additional jet thrust (usually less than 600 pounds).

In other words, the PT6A takes in air, introduces fuel, ignites the compressed mixture and uses the power generated to drive the propeller, not too dissimilar from a standard piston engine.

The major differences are in the details, however. Every turboprop pilot understands that gas turbines burn more fuel than pistons, but they may not appreciate how much. Specifically, a typical PT6A burns about .58 lbs/shp/hr compared to .42 lbs/hp/hr with a typical Continental TSIO-550.

That means turboprops can demand 38 percent more fuel to produce the same power. That's partially offset by the fact that jet fuel is typically less expensive in most parts of the world than avgas. It's also more readily available. In many areas of the South Pacific, Europe and Asia, avgas supplies are shrinking as more aircraft operators convert to airplanes that burn jet fuel. It's a circular function. As demand for avgas decreases, the oil companies disdain refining 100LL in favor of producing higher volume jet fuel, supply shrinks, more operators switch to Jet A and the cycle repeats itself.

In fact, however, that may be a moot point since piston engines can't do the same job as turboprops. The largest piston engines are rated for usually no more than 400 hp, often not nearly enough to lift single-engine turboprop models. Though some small turboprops mills are rated to produce 350-400 shp, most gas turbine power plants generate at least 500 shp. If you need to produce big horsepower in the bottom six miles of sky, turboprops are the only way to go.

Turboprops have other benefits. Despite its more profligate fuel use, the turboprop PT6A accomplishes the mission with only about two dozen moving parts, whereas the piston mill demands literally several hundred to get the job done. By definition, that means the probability of failure increases exponentially with a piston engine.

Light weight is another benefit of gas turbine engines. A typical Continental TSIO-550C installed in a Cessna Corvalis TTx weighs in at 500 pounds and delivers 310 hp. In contrast, a P&W PT6A-66D can produce up to 850 shp and weighs only about 390 pounds. That's a primary reason single-engine turbines feature long noses — to help balance the CG.

Part of the premium price you pay for a turboprop engine goes for a precisely machined, perfectly balanced engine constructed of high temperature, lightweight parts, usually formed from exotic alloys. Except for the price tag, that's hardly a negative.

Pratt & Whitney PT6A turboprop engines continue to power the majority of propeller-driven business aircraft, both singles and twins, around the world. For 50 years, they've proven to be the most reliable, trouble-free engines above the planet, and it's a safe bet they'll hold that title well into the future. POPA

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AIRCRAFT AND TAX DEDUCTIONS AVOIDING COMMON PITFALLS

RECORDKEEPING IS REQUIRED BY LAW IF YOU'RE LOOKING FOR TAX SAVINGS.

■ By Jonathan S. Levy, Esq.

The tax law has long recognized the transportation and communication efficiencies afforded by the use of General Aviation aircraft as a legitimate business benefit that can justify the deduction of aircraft expenses. However, as aircraft are recognized to be assets with a substantial potential for taxpayers to overstate their business use of the property, certain additional rules have been imposed to limit deduction to cases where the business use is clear. Among these rules are the recordkeeping substantiation rules, the passive activity rules and the personal use computation rules. This article serves as a primer to alert aircraft owners to these issues and assist them in avoiding landmines and maximizing the deductions available.

PRUDENT RECORDKEEPING: THE FIRST HURDLE TO DEDUCTIBILITY

The recordkeeping substantiation rules present, perhaps, the most common obstacle that an aircraft owner under IRS audit will face in supporting aircraft deductions. These rules are not unique to aircraft, but apply to the deductibility of any piece of transportation equipment (e.g., automobile, boat, aircraft) or any travel expense. They apply regardless of whether the taxpayer traveled to the destination in a company aircraft, on the airlines, by automobile or through some other means of transportation. However, in the General Aviation context, the rules take on heightened significance due to the much larger expenses on the line. Simply put, it is not enough that the aircraft be, in fact, used in business travel for the deduction to be sustained. If the records are not in order, deduction is not allowed. The tax law requires that specific records be kept to demonstrate the aircraft use. These records need not be voluminous, but they must meet certain specifications.

By being aware of the exact requirements, aircraft owners can easily put in place procedures that will meet them. As part of recordkeeping compliance, aircraft owners should maintain a log of all aircraft use, identifying flight legs, departure and arrival locations, and flight hours on a per-leg basis. Aircraft owners should also document all aircraft expenses, maintaining receipts to allow computation of total aircraft cost on an annual basis.

For each aircraft trip, the owner should maintain a record of the destination of travel, the business done at the location, and the business benefit expected to be received. For multi-day trips, records should be maintained showing the number of travel days dedicated to business activities. For all travelers flying on the aircraft, the owner should further document what role each had with regard to the business at the destination. Documentation should be contemporaneous, and these records should be maintained at least for the period of time that the tax return is subject to audit – usually until three years after the filing of the tax return or its due date.

With the routines and practices in place, assembling these records on a trip-by-trip basis need not be onerous or time-consuming. Having these records on file will protect an aircraft owner from the most common obstacle faced during audit. On numerous occasions, the tax court has made clear that it will not estimate a percentage of business use for an aircraft or other piece of transportation equipment; rather, if adequate trip-by-trip records are not present, the court will disallow deductions even in cases where it believes the taxpayer's testimony that the property was used, at least to some extent, for business purposes.

DECLARE YOUR BUSINESS: FILING PASSIVE-ACTIVITY GROUPING ELECTIONS

The passive-activity rules arose out of the Tax Reform Act of 1986 and have the effect of categorizing income streams into distinct types, most significantly, the "active" and "passive" types. The active category typically includes any wage income and income received from non-rental trade or businesses in which the taxpayer is continually engaged. Passive activities include rental activities and activities where the taxpayer does not dedicate sufficient work hours to be deemed to "materially participate."

The passive activity rules can have significant, unforeseen consequences for aircraft owners because it is common in structuring aircraft acquisitions for the property to be acquired in an independent company and then leased to the individual principal's primary, active business. This raises the possibility that the leasing activity may be viewed as a rental, and the aircraft thus considered passive, with the consequence that deductions resulting from the aircraft will not be available to offset income earned from

the primary business. The passive activity rules are complex and involve detailed case-by-case analysis. Generally speaking, however, in such a related company rental situation, it is often appropriate to view the aircraft company, and the active business that it supports, as a single unit for purposes of passive activity rules. This can lead the aircraft company to take on the character of the main active business.

Traditionally, such grouping has been a simple matter that could be explained to the IRS during audit, or even first raised during litigation in court. However, new rules that went into effect in 2011 require that the taxpayer declare the grouping at the time of filing his/her original tax return for the year (that is, an amended return may not be adequate). Failure to file the grouping election can preclude the individual from later asserting that the two companies should be viewed as a single unit. It is therefore essential for any individual with an ownership stake in this type of multi-company leasing arrangement to consult with their 1040 tax preparer to assure that the appropriate elections are being filed with their tax return.

EVERY PASSENGER MATTERS: NEW 2013 PERSONAL-USE RULES

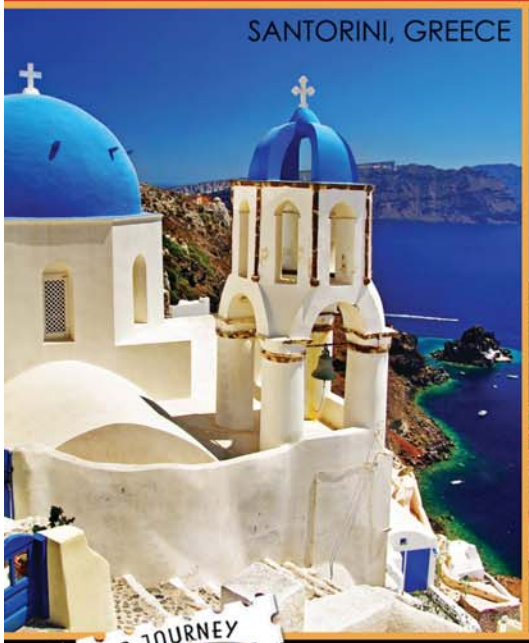
The aircraft personal use rules have changed significantly with the 2013 tax year, as a result of regulations promulgated by the Department of Treasury on Aug. 1, 2012. The effect of these rules is to treat the cost of each aircraft flight as allocated per-capita among the flight passengers. This is in stark contrast to the traditional "primary purpose" method, which allocated expenses to non-business, tag-along passengers based on the actual additional cost imposed by their presence — a notable distinction because the cost of carrying an additional passenger on a business flight that was scheduled to occur anyway tends to be de minimus.

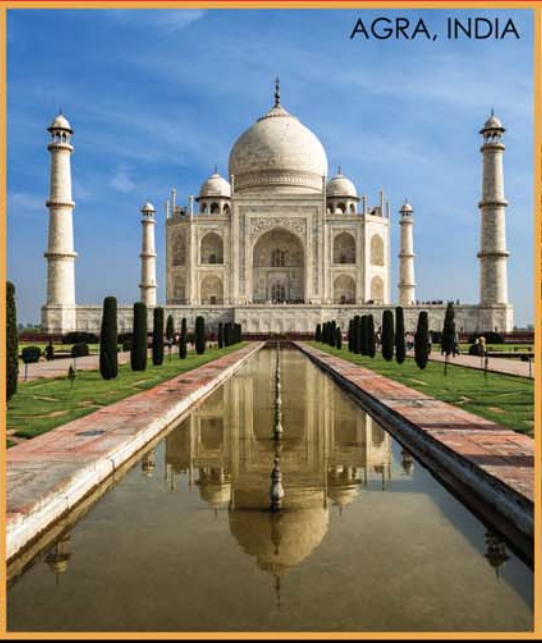
Under the new rule, which applies to all taxpayers in 2013 and forward, the general procedure is, for each flight, to determine the percentage of passengers who are onboard for personal entertainment purposes, and not deduct that percentage of the flight's cost. This is true even when the flight would have been flown without the entertainment passengers along. There are limited exceptions for passengers who are not high-ranking or owners in the company, and for cases where the passengers either recognize income for the flight, or pay for their travel (although FAA rules often prohibit such payment).

CONCLUSION

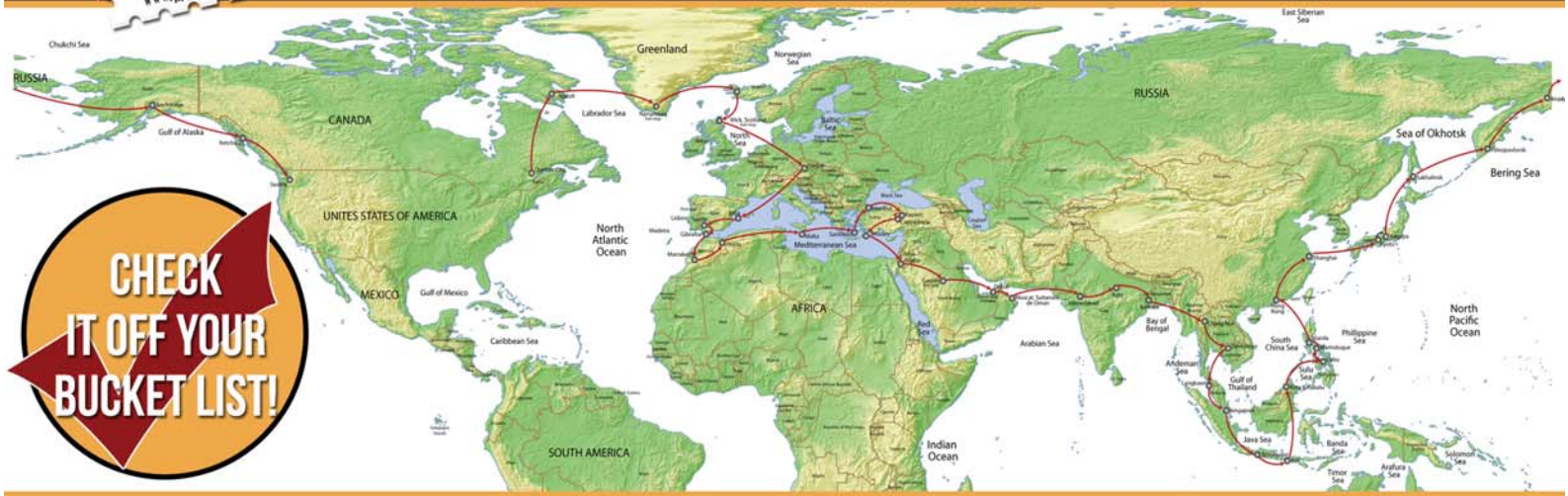
The utility of General Aviation aircraft to businesses seeking efficiency has long been accepted by the tax law, just as it is well understood by businesspeople throughout the country. However, careful attention to the details of tax compliance is necessary if the deductibility to which businesses are entitled is to be realized. This article provides a general introduction to three important issues, but only covers a small portion of the field. Always consult a qualified advisor.

ULTIMATE FLYING ADVENTURE





AROUND THE WORLD IN YOUR PC-12



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APPS FOR BUSINESS TRAVEL

By John D. Ruley

As pilots, most of us share the joy of flying but very few turboprop hours are logged for fun, and there are no $100 hamburgers in this class of airplane (though there may be more than a few $1,000 steak dinners!) Turboprops are mainly flown for business purposes. With that in mind, this month we feature one new aviation weather app that may increase the odds of successfully completing a trip, plus a family of apps (and a couple of hardware add-ons) that can change your iPad from an electronic flight bag to a pretty effective little business computer when you're on the ground. That little business computer is so effective that this column is being written and edited on my trusty iPad 2!

I'm going to start, though, with a hardware add-on that helps with (though it doesn't entirely solve) one big problem with using an iPad for aviation: What happens if you drop it on the ramp? Last month, while exiting a car, my iPad slid off the driver's seat, and hit a concrete garage floor. The result was a crack from one corner of the display to the other. Amazingly, it still worked but clearly needed either repair or replacement. I opted for a repair, which cost under $200, and the result looks like new — but this also pushed me to find a way to protect the iPad.

When it's not strapped to my leg, my iPad is now surrounded by a ZAGGkeys PROfolio Plus, a combination case and keyboard. When closed, it completely protects the iPad, with plastic covering the front, back and sides (except for small cutouts allowing access to the power connector and USB port). Opened, it turns the iPad into a small but quite effective notebook computer, with a backlit keyboard suitable for touch-typing. The keyboard connects via Bluetooth, so no wires are involved. I've now had mine for close to a month and have needed to charge its internal battery only once. The PROfolio Plus retails for $129.99. I got mine at Best Buy.

Of course, getting a physical keyboard on the iPad is only half the battle. While a keyboard makes writing emails a bit easier, writing longer documents (including this column) or doing other business work requires appropriate software. I'm delighted to say that Apple has the answer to that: A version of their iWork productivity software suite that runs on the iPad. The suite consists of three apps: Pages, the word processor I'm using to write this column; Numbers, a spreadsheet; and presentation software called Keynote. These are surprisingly full-featured programs that support a wide range of fonts, embedded images, spell checking and even change tracking. Best of all, they are compatible not only with the Macintosh version of iWork, but also with Microsoft Office.

I don't want to mislead anyone: Some users will miss some features, and there are compatibility issues (some fonts are substituted when converting from Microsoft Word to Pages and back), but used in combination with a hardware keyboard, these apps have allowed me to stop carrying a Windows notebook with me on trips. And you can't beat the price: Pages, Numbers and Keynote will set you back all of $9.99 each at the App Store.

I've found one more app to be essential in turning my iPad into a substitute for a traditional notebook PC: Letter Opener solves an annoying problem with the iPad's Mail app. If you're using Mail to connect with a Microsoft Outlook server, some attachments (especially those involving multiple files) turn up as a useless "WinMail.dat" file that Mail can't open. Add Letter Opener and those attachments become available. The free version has been sufficient for my needs, dealing with Office documents, images and PDF files. An extra $3.99 buys a premium version that converts between Outlook's calendar, address book and note features and the equivalent functions on the iPad. Look for Letter Opener at the iPad App Store.

Of course, the reason for using productivity apps on an iPad is to keep from having to lug around another computer in your flight bag, which brings us back to aviation. If you're reading this column, you're a pilot (or owner) of a turboprop single. In past columns I've covered quite a few aviation-oriented apps that offer pre-flight weather briefings. While the exact features of those apps vary, the truth is that

until now all of them basically provided the same data from the National Weather Service, via DUATS (most apps require you to enter your DUATS user name and password during setup). But DUATS is mainly oriented towards pilots of piston-engine airplanes operating at low altitudes. It does offer high-altitude route briefings and wind charts up to 30,000 feet, but critical information including tropopause height is difficult to infer from DUATS charts, and DUATS graphics are pretty much limited to U.S. airspace.

If you've gotten weather from a computer at a U.S. FBO, it probably came from WSI, a private weather forecasting service. WSI now has an iPad app that presents most of the same information. What makes this interesting for turboprop pilots is that WSI offers some unique information, including high-level significant weather and Flight Plan Guidance charts that show jet streams, high-altitude turbulence, convective activity and tropopause height. Many of these charts are animated. You can play loops that show not only what to expect but how it will likely evolve over a 24-hour period, and they're available not only for the U.S. but also for a wide range of global locations. Charts can be saved for offline viewing, provided you have enough memory (at least 100 MB) so that you can see them in-flight, and the app syncs up with WSI's web-based internet software.

Now the catch: WSI's app (called Pilotbrief Optima for iPad) is free, but after a 14-day trial period, you'll need a subscription, which runs $39 per month for the U.S. or $58 per month for world-wide service. That's pretty steep when you can get NWS weather via DUATS for free. But if you find yourself frustrated with the limitations of DUATS briefings, I urge you to give WSI's app a try. It can be downloaded from the App Store.

On a more mundane note, traveling by air frequently means spending the night in a hotel room, often with an early-morning departure, which means depending on the front desk for a wake-up call or figuring out how to use the clock radio in the room. One way around that would be to carry your own clock radio but our whole goal this month has been to maximize productivity without adding weight. So how about an app that turns your iPad into a clock radio?

There are actually several. I've been using Alarm Clock Radio from Raizlabs. It turns the iPad display into a large digital clock and allows you to wake to your choice from more than 25,000 channels on the SHOUTcast internet radio service. It's a free download from the App Store.

Finally, one more iPad hardware add-on that helps in the cockpit and out: 3M's $19.95 Natural View anti-glare screen protector adds a layer of protection and makes the iPad display much easier to view in bright sunlight. It's a little tricky to apply, but works quite well on my iPad 2. For details, browse TinyURL.com/3M-screen-protectors. POPA

John D. Ruley is an instrument-rated pilot, freelance writer and recent graduate of the University of North Dakota Space Studies graduate program (Space.edu). He's also a volunteer pilot with LigaInternational.org, which operates medical missions in northwest Mexico, and Angel Flight West (AngelFlight.org), which offers free air transportation to medical patients. You can reach him at jruley@ainet.com.

WEEKENDERS

GOTTA GET AWAY

FLY ON IN TO GOLD RUSH HISTORY

Columbia freezes the Mother Lode in time.

PHOTOS BY MICHAEL SHARPS • BY MICHELLE CARTER

Got the itch to step back into the 1850s and pan for gold in California's Mother Lode? Or at least get an authentic feel for this unique time and place in the history of the west? Well, now you can fly into the well-maintained Columbia Airport (O22) with its 4,600-foot runway, tie down, cross the parking lot and follow a quarter-mile trail that will take you right into the heart of Columbia State Historic Park, a living Gold Rush town featuring the largest single collection of existing Gold Rush-era structures in the state.

Columbia's story is a familiar one. After gold was discovered at Sutter's Mill in 1849, brothers Thaddeus and George Hildreth succumbed to gold fever and joined the frenzy. And, unlike thousands of others, the Hildreths DID strike gold in the rich — and fairly accessible — quartz veins of the Mother Lode in March 1850. Within weeks, Hildreth's Diggings sprouted a full-fledged town of several thousand with all the accouterments of community life. Renamed Columbia, the town thrived after surviving three disastrous fires and birthing two competing irrigation systems to provide something even more valuable than gold in these parts — water!

By the mid-1860s, the easily mined placer gold was gone, and most of Columbia's 6,000 residents moved on. But about 500 found the oak-studded foothill community just east of Sonora (The Queen of the Southern Mines) to be a pleasant place to stay and make a home. Because many

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209.532.1479
CityHotel.com

FALLON HOTEL
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SierraRep.com

of the buildings in the heart of town had been rebuilt with locally made red brick and iron moldings, residents began to recognize its unique history. It became a California State Historic Park in 1945 and now is a gem in the park system that's open every day of the year.

A family day trip will offer stagecoach and antique fire engine rides, panning for gold, merchants dressed in 1850s attire, bowling in an antique bowling alley, blacksmithing, locally made sarsaparilla and a calendar full of special events. But plunk down $4 for an overnight tie-down and you can stretch your visit into a great couple of days. Two hotels and a B&B, all in their original structures but spruced up with modern comforts, offer in-town lodging. Food options run from the white tablecloths and leather-bound wine lists of the City Hotel and Columbia House to Columbia Kate's Bakery.

Perhaps the best in-town treat is the Fallon Theatre where the Sierra Repertory Theatre Co. produces nine shows from March to December. The 2013 productions include the Buddy Holly Story and Oklahoma! During intermission, the Fallon House Ice Cream Parlor is the place to be.

Should you decide to range a bit farther afield, Enterprise will bring a car to the airport, and you can wander through Angel's Camp to visit the site of Mark Twain's Most Celebrated Jumping Frog of Calaveras County, the wineries of Murphys, the dazzling beauty of Sonora Pass and Pinecrest Lake or the ski runs of Dodge Ridge or Bear Valley.

Perhaps the most awe-inspiring part of the trip to or from Columbia would be the chance to take a half-hour detour and overfly Yosemite Valley which remains just as majestic as it must have been when naturalist John Muir climbed a granite peak and took it in for the first time just a few years after the Hildreths started panning for gold in Columbia.

FOLLOW THE FOOTPATHS OF LEWIS AND CLARK

Design your own Voyage of Discovery! BY MICHELLE CARTER

You've got to love a backcountry experience loaded with names like Colt Killed Creek, Bear's Oil and Root Camp, Indian Grave and Smoking Place. Toss in quotes from the 1805-06 journals of Lewis and Clark — "I have been wet and as cold in every part as I ever was in my life." — and the local color is eye-popping.

For this soul-searing immersion into the hidden heart of the West, sling your hiking boots and backpack into the plane and head for the Missoula, Mont., International Airport (MSO) and connect with Gia and Wayne Fairchild at Lewis and Clark Trail Adventures who will pick you up and launch you on your pre-planned camping, hiking, biking, rafting or canoeing get-away.

Using the Missouri River and the trails of the Corps of Discovery as their map, the Fairchilds lead visitors along the paths and rivers that opened their secrets to the explorers who sought a passage to the Pacific at the behest of President Thomas Jefferson.

LCTA will haul you out to the remote Lochsa Lodge next to the U.S. Forest Service station in Powell, Idaho, where you can take off on a rugged (or more moderate) one-, two- or three-day hike on the Lolo Trail. That's where you'll find those colorfully named sites from the Voyage of Discovery.

When you get to Spirit Revival Ridge with a view of the Wieppe Prairie, you may be as thrilled as Meriwether Lewis who wrote, "Set out this morning a little after sunrise and continued our route … for six miles when the ridge terminated and we, to our inexpressible joy, discovered a large tract of prairie country."

For adrenaline rushes, it will be hard to beat white-water rafting trips on the Lochsa River, multi-day wilderness trips on the Salmon River of No Return (love the name!) or family-friendly rafting on the Alberton Gorge of the Clark Fork River.

If meandering is more your meme, LCTA canoes are waiting on the banks of the Upper Missouri River to take you under the celebrated sandstone White Cliffs with picnics or overnights at Eagle Creek and Slaughter River, both original Lewis and Clark campsites. The Missouri trips meet in Fort Benton, Mont., and begin paddling from Coal Banks Landing, 45 miles downriver. (You may find Great Falls, Mont., (GTF) International Airport more conve-

IF YOU GO...

MISSOULA INTERNATIONAL AIRPORT (MSO)
5225 Highway 10 West
Missoula MT 59808
406.728.4381
FlyMissoula.com

LEWIS AND CLARK TRAIL ADVENTURES
912 E. Broadway
Missoula MT 59802
P.O. Box 9051
Missoula MT 59807
800.366.6246
TrailAdventures.com

LOCHSA LODGE
115 Powell Road
Lolo, MT 59847
208.942.3405
LochsaLodge.com

nient for this adventure.)

The Fairchilds have based their business in Missoula — just a stone's throw from the famed Traveler's Rest site, where the Lewis and Clark expedition gathered strength before surmounting the Bitterroot Mountains on their first crossing and before splitting up to map different routes on their return trip.

The location of their office, at the base of Mount Jumbo near the banks of the Clark Fork River, has prompted the Fairchilds to offer a walking tour of Missoula along the river and downtown that features narratives on Lewis and Clark history, the early settlement of the Missoula Valley, Native American stories and the geology of glacial Lake Missoula.

Two hundred years after the first Voyage of Discovery, you have the chance to create your own. LCTA's ready to lay out the opportunities.

FLY-IN TO FLY OVER!

Swiftsure Yacht Races fill Northwest waterways.

PHOTOS BY BRENDA JACQUES • BY MICHELLE CARTER

It's probably a given that pilots who are accustomed to speed and grace in the air appreciate it in other settings as well. If yacht racing quickens your pulse a beat or two, the annual Swiftsure International Yacht Races in the Strait of Juan de Fuca between Washington State and British Columbia offer a chance to tickle both your fancies.

The Royal Victoria Yacht Club has been drawing some of the fastest sailing vessels from around the world every Memorial Day weekend to race from Victoria Harbour out to the Swiftsure Light at the mouth of the strait and back. Next year's 71st annual event will offer races of five different courses and lengths May 23-26.

The opportunity to see these spectacular yachts in full rig from the air, with the majestic Olympic Peninsula as a backdrop, will attract pilots from all over, and little Sekiu Airport (11S) on the American side of the water has planned its annual fly-in and benefit barbecue as a chance to share the experience.

But Swiftsure, the premiere long-distance sailing race in the Pacific Northwest and its on-shore festival, is a unique draw. The first recorded sailboat racing in the Victoria area was in the late 1850s between boats of the Royal Navy and the early colonists. Interest in the sport swelled and, by 1930, a long-distance race was proposed from Cadboro Bay around the lightship on Swiftsure Bank at the entrance to the strait. Forty-five boats were entered in this now-classic race by 1960.

Should you decide to view the boats from harbour-side — where a whole weekend of land activities are planned — you could hop across the water (and the U.S./Canadian border) to Victoria International Airport where you'll have to clear Customs.

Or you could take to the water yourself. Tie-down at Sekiu or Fairchild and take a 90-minute ferry between Port Angeles and Victoria. It's $32 round-trip.

But the delight is in the fly-over — as long as Swiftsure doesn't turn out to be "driftsure" when drizzle and fog shroud the entire event. It has happened a few times over the past 70 years, so check the weather before you head for the Northwest. POPA

IF YOU GO...

SEKIU AIRPORT (11S)
Sekiu WA 98381
360.417.3456
May 25 Fly-in information:
Gary Fernandes 360.963.2485
AirNav.com/airport/11S

SWIFTSURE INTERNATIONAL YACHT RACE
c/o Royal Victoria Yacht Club
3475 Ripon Road
Victoria B.C., V8R 6H1 Canada
250.592.9098
2013.Swiftsure.org

BLACK BALL FERRY LINE
101 E. Railroad Ave.
Port Angeles WA 98362
360.457.4491
CohoFerry.com

SIMCOM® TRAINING CENTERS Q&A

By Ted Otto

SPRING 2013 QUESTIONS AND ANSWERS

Question #1: What is required of the 47 and 47E if a landing is made with the a/c weight in excess of 9,921 pounds?

Question #1 Answer: ***An overweight inspection is required because the maxium landing weight is 9921lbs.***

Question #2: When is the oxygen-system shut-off valve required to be on?

Question #2 Answer: ***The oxygen system shut off valve is required to be on prior to engine start and throughout the duration of the flight.***

Question #3: How long does the cockpit voice recorder retain data?

Question #3 Answer: ***The latest 120 minutes of recorded audio data is retained from the pilots audio panel and the cockpit area microphone.***

Question #4: Is there an altitude limitation on the VCCS and, if so, what is it?

Question #4 Answer: ***In the legacy PC12 there is a 25,000' limitation. In the PC12E it is automatic.***

SUMMER 2013 QUESTIONS

1. What does the red Cabin Pressure CAS message mean in the PC-12E?
2. What does the red CAB PRESS CAWS warning light mean in the PC-12.
3. What items are turned on when selecting PROBES on?
4. What percentage of oxygen is available when the pressure gage reads 1000 psig?

Ask Lance Toland

ARE YOU COVERED?

YOUR AIRCRAFT'S INSURANCE POLICY IS APPARENTLY OPEN TO INTERPRETATION

By Lance Toland

Several recent events with PC-12s have resulted in loss of engine oil. In one the oil was found on the ground, and the other involved an emergency descent into DIA from FL200. Interesting questions arose as to what role if any insurance would play in recovery from damages to the engine or worse.

The ground preflight found the oil leak and the culprit turned out to be the torque limiter. Basically high-pressure low-volume oil was leaking through a seal that was retained by a cap and two screws that were factory safety wired and sealed. Both retaining screws had wallowed out their respective threaded bores, possibly from an over or under torque at assembly, and allowed an internal seal to seep engine oil at high pressure. On a long trip, this could lead to an engine shutdown, possible engine damage and consequential losses on landing off-airport.

From an insurance perspective this was pretty straight-forward. First of all, the engine only had 570 hours since new and was under warranty. Had the part failed (and was recovered and identified as the culprit) a products-and-completed-operations loss could be subrogated against Pratt and Whitney as well as Honeywell for all damages. End of story.

On the second aircraft, things were somewhat different in scope. This aircraft had a new engine and a new propeller installed some 20 hours before losing oil at altitude. The pilot made an emergency landing with the engine pulled back, but the engine registered low oil pressure, which was out of limits for a prolonged time and required a complete teardown inspection — to the tune of $350K+. The post-landing inspection of the engine and propeller revealed an improperly installed prop shaft seal that was damaged on installation by a local IA. This resulted in a rapid loss of engine and gearbox oil.

Question: Are these events covered by insurance? All aviation policies exclude mechanical breakdown in various ways, are very clearly worded for the most part and do address wear-and-tear issues. It should be noted here that ingestion and FOD (excludes domestic FOD) are defined and in most cases covered, subject to a deductible.

In order to fully appreciate the maze you will find yourself in with these issues, one needs to look to aviation case law. Some recent and very compelling cases are specific to mechanical breakdown and yield

different opinions as to an insurer's duty to pay for it. In a landmark Florida case "Little Judy" reveals Florida's Supreme Court's view on mechanical breakdown exclusions.

The complaint alleged that "the repair and replacement of a certain temperature-pressure regulator and engine-oil cooler in the aircraft's No. 2 engine was negligently and improperly completed and that, as a result, said engine overheated and failed internally during a test flight which took place on Dec. 27, 1971, resulting in total loss of the engine."

The aircraft was insured under an all-risk policy. The insurer rejected the plaintiff's claim for loss of the engine, on the basis of an exclusionary provision rendering the coverage inapplicable "to damage which is due and confined to wear and tear, deterioration, freezing, mechanical, structural or electrical breakdown or failure, unless such damage resulted from other damage covered by this policy."

In this case, in which it was established that the mechanical breakdown or failure of the engine was traceable to or the result of negligent work of a mechanic, the trial court held the exclusionary provision was applicable, and granted summary judgment in favor of the insurer. The plaintiff owner appealed.

On consideration of the record, the appellate court concluded the holding of the trial court was correct. It was shown that the loss was due to mechanical failure of the engine. The fact that the failure was traceable to negligence in its repair or to improper repair or assembly of the engine did not make it other than a mechanical failure.

In a great many, if not most instances the mechanical failure of an engine can be attributed to some act of commission by improper or negligent work thereon, as occurred here, or to negligent omission to inspect and repair or replace parts where needed, or other neglect in the care of the machine. The exclusionary provision was properly held to be applicable in this instance.

So as you can see the Florida courts stood squarely behind the insurer's exclusion upholding the lower courts summary judgment. The claim went unpaid, plus the owner incurred many thousands of dollars in legal fees.

ALL IS NOT LOST FOR THE OWNER OPERATOR!

In 1993, a Mr. Koch purchased a 1986 Cessna Citation S/II aircraft. Over a two-year period, the aircraft's instruments never indicated that either of the aircraft's two

In a great many, if not most instances the mechanical failure of an engine can be attributed to some act of commission by improper or negligent work thereon, as occurred here, or to negligent omission to inspect and repair or replace parts where needed, or other neglect in the care of the machine.

engines exceeded the maximum allowable temperature. However, in June 1995, the pilot began to notice that the right engine was running approximately five degrees hotter than the left. By September or October 1995, the right engine was operating 85 degrees hotter than the left engine.

In November of 1995, Koch was notified that the aircraft engine had "a badly cracked stator," that an "HT turbine wheel was damaged beyond use," and that there was "heavy rubbing on all of the blades." It was reported to Koch that the engine damage resulted from an improperly installed high-turbine seal ring that allowed excessive heat to escape.

At all relevant times, Koch had insurance on the aircraft under an "all-risk" policy issued by Company XXX. Koch submitted a claim under the policy, seeking compensation for the money he had spent to repair the engine damage. In a letter to Koch, the senior claims adjuster for XXX acknowledged that the damage sustained by the engine "resulted from the mis-installed high-turbine seal ring," and that "because the high-turbine seal ring was mis-installed, it failed to perform its intended function." Nevertheless, the adjuster stated that XXX was denying the claim based on an exclusionary provision which precluded coverage for physical damage caused by (a) wear and tear, (b) deterioration, or (c) mechanical breakdown of equipment, components or accessories installed in the aircraft.

Koch filed a complaint for declaratory judgment seeking a determination that the policy issued by the defendant XXX provided coverage for the damage to its aircraft engine. After a bench trial, the trial court entered judgment in favor of Koch. The trial court determined that the damage to the engine was caused by the negligent installation of a seal ring in the engine during maintenance work on the aircraft and concluded that this peril was not excluded from coverage under company XXX's "all-risk" policy.

The trial court found that the engine damage at issue was caused by the negligence of a third party, Cessna. Specifically, the trial court determined that Cessna improperly installed a seal ring in the engine during maintenance work and that this ultimately resulted in engine damage over a two-year period. Cessna's aircraft mechanic in charge of the repairs made to the aircraft, testified that the mis-installation of the HT seal ring prevented the engine from operating as designed. He indicated that the misplaced seal ring did not allow the components in the engine to expand and contract in the normal dimensional planes in which the manufacturer designed them to move. This caused the stator to warp and crack and caused damage to other engine components. The foregoing evidence revealed that Cessna was negligent in installing the HT seal ring, and that this negligent act set into motion the chain of events which caused the engine damage sustained by Koch. Therefore, the trial court's determination that the engine damage was the result of the negligence of a third party is not erroneous.

Nevertheless, Company XXX claims that its policy contains a provision excluding coverage for the engine damage by pointing to the following exclusion:

This policy does not apply to physical damage caused by and confined to (a) wear and tear, (b) deterioration or (c) mechanical or electrical breakdown or failure of equipment, components or accessories installed in the aircraft, unless such physical damage is coincident with and from the same cause as other loss covered by this policy.

The state Supreme Court set forth the following general principles of insurance policy interpretation: Ambiguous provisions in insurance policies are construed in favor of the insured. This is particularly true with unclear provisions that limit or exclude coverage. Where provisions limiting coverage are not clearly and plainly expressed, the policy will be construed

most favorably to the insured, to further the policy's basic purpose of indemnity. This strict construal against the insurer is driven by the fact that the insurer drafts the policy and foists its terms upon the customer.

The insurance companies write the policies; we buy their forms or we do not buy insurance.

When insurance policy language is clear and unambiguous, however, it should be given its plain and ordinary meaning. Under state law, an insurance policy is unambiguous if reasonable persons cannot honestly differ as to the meaning of the policy language. One way of determining whether reasonable persons might differ is to see if the policy language is susceptible to more than one interpretation.

Company XXX argues that because the damage to the aircraft engine was caused by wear and tear and mechanical breakdown, the exclusion provision applies even though the negligence of a third party caused the wear and tear and mechanical breakdown.

Koch responds in part that wear and tear and mechanical breakdown were not the cause of the loss but the result of a loss. Specifically, Koch argues that the evidence shows that the negligence of a third party was the cause of the engine damage and that the alleged mechanical breakdown and wear and tear were merely the result of this negligence. And the owner reasons, because the negligence of a third party is the cause of the loss and not specifically excluded from coverage, the damage is covered under the all-risk policy.

The exclusion provision at issue, viewed in the context of the entire policy, is not meant to apply regardless of any possible negligent antecedent occurrence, which in turn causes the engine to sustain mechanical breakdown or abnormal wear and tear. This interpretation is consistent with the general principle that exclusions from insurance coverage are to be strictly construed, and any ambiguities are to be resolved against the insurer in favor of the insured.

The policy language does not clearly and unambiguously exclude coverage for third-party negligence which sets in motion excluded perils. We find that mechanical breakdown or wear and tear can be either the cause of a loss or the effect of a loss. Thus, mechanical breakdown and wear and tear are relevant for purposes of the exclusion, only if they

As you can see through this lengthy reading, there are many twist and turns with many companies' claims philosophies. Now multiply this by 50 different states dissenting, combined with 15 aviation-insurance companies with totally different exclusions, and you have a recipe for great concern.

are causative factors in the loss. Although excessive wear and tear or "mechanical breakdown" may have occurred as a result of the negligence of Cessna, it was the negligence (a covered peril) which was the cause of the loss for purposes of the exclusion. Therefore, the exclusion relied upon by Company XXX is not applicable.

In further support of this construction is the well-established principle that "where one construction of a contract would make it unusual and extraordinary, but another, equally consistent with the language, would make it reasonable, just, and fair, the latter construction must prevail." Under the interpretation urged by Company XXX, where an excluded peril such as wear and tear or mechanical breakdown operates to any extent in the chain of causation so that the resulting loss would not have occurred but for the operation of the excluded peril, the insurer would have no obligation to provide coverage even though an insured peril such as negligence was the clear cause of the loss.

The exclusion, as read by Company XXX, would erase many obvious losses that would be otherwise covered by an all-risk policy. After all, what damage to an aircraft engine would not, at least to some extent, be caused by or result from some "wear and tear" or a "mechanical breakdown"? Such a result cannot reasonably be said to have been envisioned by the parties. The appellate court's conclusion that the evidence in the record supported the trial court's findings of fact, and these findings support the trial court's conclusions of law. Therefore, the trial court judgment determining that the owner was entitled to coverage for the engine damage to its aircraft was not clearly erroneous. The appellate court affirmed the lower court. Company XXX must pay the claim.

As you can see through this lengthy reading, there are many twist and turns with many companies' claims philosophies. Now multiply this by 50 different states dissenting, combined with 15 aviation-insurance companies with totally different exclusions, and you have a recipe for great concern. So the next time you get a solicitation from someone touting lower premiums saving you many dollars, you might hold and look deeper. Is a reduction in cost all they have to offer? Before you drink their Kool-Aid, remember this line from one of my favorite poems;

Drink deep or taste not the Pierian Spring:
there shallow draughts intoxicate the brain.
And drinking largely sobers us again.
— Alexander Pope

CONGRESS LEAVES THE DOOR OPEN FOR AVIATION

By Harry Daniels, CPA, CFP, PFS, CVA

It took all the way until Jan. 2, 2013, to get the 2012 American Taxpayer Relief Act (ATRA) but, for aviation, it was well worth the wait. The act contains many provisions, some new and some reinstated or modified. If you plan to purchase a plane (new or used) or if you are planning to make upgrades and modifications, ATRA will be your ticket for 2013.

Yes, you should pay attention to the estate tax provisions and to the increased tax rates for high-income taxpayers, but for aviation and other businesses making equipment purchases, the retention of the 50-percent bonus depreciation on new equipment and the increased Section 179 deduction limits is a tremendous blessing.

Thought No. 1: For 2013, when you combine the 50-percent bonus depreciation along with the regular depreciation, you can claim depreciation deductions equal to 60 percent of the cost of a NEW aircraft. Consider the purchase of a new aircraft for $2 million: Your depreciation deduction would be $1.2 million. If you are in the 40-percent tax bracket, your tax savings is a cool $480,000. This means the IRS has just paid for about 25 percent of your new plane.

For two years, Congress said the Section 179 depreciation deduction for 2013 was going to be cut back to $25,000. We were happily surprised when Congress reinstated the Section 179 deduction at the old 2011 amount of $500,000 for 2013.

Thought No. 2: Another surprise was the reinstatement of the $500,000 amount for 2012, even though there was nothing you could do for 2012 since the law was passed on Jan. 2, 2013. Or so it seems. What Congress managed to do by retroactively inserting this change to include 2012 was to give those who had made equipment acquisitions (in excess of the limits at that time) the opportunity to get a surprise tax deduction windfall for their 2012 equipment purchases that exceeded the expected Section 179 deduction of $139,000. Payday!

Bonus depreciation applies only to new equipment. Section 179 applies to new and used equipment. Several other restrictions limit Section 179 deductions, so think ahead. And, yes, you can combine bonus depreciation and Section 179 depreciation as long as you stay within the limits.

Section 179 has a $2-million limit for qualifying equipment purchases. Assuming you push right up to the $2-million purchase limit with the cost of your new plane, combining bonus depreciation and Section 179 depreciation can push the first year total depreciation deduction to as much as $1.4 million or 70 percent of the cost of your new aircraft. Congress has smiled on those needing to buy equipment in 2013.

Thought No. 3: The $2 million is the technical limit for Section 179. However, nothing is stopping you from buying a new plane at any cost and taking a 60 percent depreciation deduction in 2013.

Used airplanes are in the game too. If you buy a used plane, you can elect to deduct as much as $500,000 under Section 179 plus the regular depreciation for the first year. Just remember, total equipment acquisition costs cap at $2 million. Think about a used plane that costs $500,000. If you can meet all of the other stipulations and terms of Section 179, you can write off the entire cost of the used plane – all 100 percent of it.

If you need to make modifications or upgrades to your plane's interior or exterior or possibly your avionics, these will qualify for the favorable depreciation deductions. Power-plant modifications that boost your plane's performance will also qualify for these deductions, but keep in mind the very favorable new regulations on what you have to capitalize and what you can expense as a repair-and-maintenance item.

In order to claim these deductions, you must acquire and place the equipment in service in 2013. As it stands now, these deductions will either expire at the end of 2013 or be substantially reduced in 2014. But again, Congress was very favorable to aviation. If you are buying a new aircraft but cannot physically get it manufactured and flying by Dec. 31, 2013, you may be able to qualify for a special exception that will allow you to take delivery of your new plane in 2014 and have the 2013 depreciation rules for the airplane carry over to 2014. These rules are tough, but you can use them to protect yourself. Just protect yourself right.

These rules are there for your use. Spend some time with your tax professional and make sure you do it right. You do not want to give away that $480,000 tax savings.

O. H. "Harry" Daniels Jr. is a CPA, a CFP licensee, and a certified valuation analyst. He is a partner with the firm of Duggan, Joiner & Company, Certified Public Accountants and can be reached at 334 N.W. 3rd Ave., Ocala FL 34479, telephone 352.732.0171, fax 352.816.1370, email OHD@DJCoCPA.COM. Daniels has held his license as a private pilot since 1991. This article is available for reprint upon request.

IT CAN'T BE *MY* FAULT!

RESPONSIBILITY AND AUTHORITY REMAIN THE REALM OF THE PILOT-IN-COMMAND

■ By John Morris

For quite some time, it has been the national pastime to avoid direct personal or professional responsibility for a mistake, an incident, error in judgment, etc. Someone or something else *always* caused — or helped cause — it to happen because we would never make that mistake or error ourselves!

Flying-related mistakes, incidents, accidents and errors work almost exactly the opposite. In most cases the pilot-in-command is directly accountable for the majority, if not all, of the fault until proven otherwise. And, in most General Aviation related cases, little or no additional information will be available to alter the investigative mindset so, therefore, it MUST be the pilot's fault.

It has been labeled "pilot error," "human factor" and the more current "controlled flight into terrain," aka CFIT. Early on, it was very direct fault wording, but it has been modified and softened over time. Whatever the phrase, the investigative end result usually comes out looking like it's the pilot's fault. Until otherwise proven, it should be the pilot's responsibility, period. No finger pointing at some other place.

Why? Because from the decision to head out to the airport, until after the landing and engine shut-down, the responsibility ultimately rests with the pilot (or crew). As I see it, and teach it, the life I save is my own, as well as anyone else who happens to be with me. Making smart, safe, correct decisions does this. MY responsibility. It always seems to end up with decision-making.

For each flight, we are required to receive and review weather briefings, review all relevant airport information for the planned flight, and re-familiarize ourselves with the aircraft being used for any changes or discrepancies since last flight. Annually (or bi-annually), we are "refreshed" regarding regulations, systems and emergencies of the aircraft that we operate. All these pre-flight actions should make our decision-making for a safe flight easier. And they do — to an extent.

What is not mentioned often enough but is No. 1 to flying is what I tell everyone whom I work with: When all else fails or seems to be going in the wrong direction, FTFA (Fly the Flipping Airplane)!

As pilots, we make informed go/no-go decisions based on the current, timely information available. But do we not also make the decision to go/not-go, based on confidence in our equipment — things such as aircraft systems, on-board weather radar and Nexrad displays, autopilot, performance, plus personal piloting skills and the Air Traffic Control system? Absolutely!

Can that confidence get us in trouble?

What is not mentioned often enough but is No. 1 to flying is what I tell everyone whom I work with: When all else fails or seems to be going in the wrong direction, FTFA (Fly the Flipping Airplane)! In other words, at the end of the day, you/we are responsible for THIS flight, so do whatever is necessary to be safe and stay out of trouble. This can be as simple as recognizing that an aircraft system or avionic is not doing what you believe it should be doing. Or it can be awareness of outside influences, such as an ATC instruction that does not appear to be a good idea, a deviation request (traffic/weather) that ATC is delayed in responding to, or not getting a request received due to other radio traffic. Do what MUST be done, for safety (FTFA). It is far easier to fill out paperwork, if requested, later than the alternative.

It can't be MY fault!

There are two Federal Aviation Rules that apply and are actually quite clear.

Numero Uno FAR (actually .3 but .1 and .2 have been retired) THE granddaddy of FARs:

FAR 91.3: Responsibility and authority of the pilot-in-command.

(a) The pilot-in-command of an aircraft is directly responsible for, and is the final authority on, the operation of that aircraft.

(b) In an in-flight emergency requiring immediate action, the pilot-in-command may deviate from any rule of this part to the extent required to meet that emergency.

FAR 91.123: Compliance with ATC clearances and instructions.

(a) When an ATC clearance has been obtained, no pilot-in-command may deviate from that clearance unless an amended clearance is obtained, an emergency exists, or the deviation is in response to a traffic alert and collision-avoidance system resolution advisory. However, except in Class A airspace, a pilot may cancel an IFR flight plan if the operation is being conducted in VFR weather conditions. When a pilot is uncertain of an ATC clearance, that pilot shall immediately request clarification from ATC.

(b) Except in an emergency, no person may operate an aircraft contrary to an ATC instruction in an area in which air traffic control is exercised.

(c) Each pilot-in-command who, in an emergency, or in response to a traffic alert and collision-avoidance system resolution advisory, deviates from an ATC clearance or instruction shall notify ATC of that deviation as soon as possible.

FAR 91.3 is self-explanatory. An Air Traffic Controller's first responsibility is safe, air-traffic management for the National Airspace System. When able, they will gladly assist pilot requests, but their priorities are not the same as the pilot's. That is what FAR 91.123 is about.

An unfortunate example that is directly related to this article and the investigative mindset toward final pilot responsibility is the recent NTSB report relating to a fatal TBM accident in Morristown, N.J., December 2011. The report concluded that, along with the unforecast severe icing, the accident was caused by the pilot's "failure to use his command authority to depart the icing conditions in an expeditious manner, which resulted in a loss of airplane control."

The condensed version is that the pilot communicated with ATC to request an altitude change (higher) due to icing, but ATC was delayed in responding to the pilot's request. Interestingly, this is the first instance in a long time that I can recall that the NTSB used the command authority (FAR 91.3) rule as part of the outcome.

It's always easy to Monday-morning quarterback any incident/accident, so here I go: Was the pilot possibly overconfident in his aircraft's performance ability to fly in the icing conditions by asking for a climb instead of descent? Was he aware of this possible weather before launching into/flying towards the weather area?

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- JSSI AIRFRAME PROGRAM COVERAGE

For more information please contact us:
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Scan the QR code with your mobile phone to see how we can stabilize your budget.

It can't be MY fault!

The PC-12 definitely resides in the high-confidence arena. Much has been said about its design and capabilities. However, this can also create overconfidence, which can be dangerous. I will use as an example the only (airframe) system that I believe may qualify for overconfidence, the Stick Shaker/Pusher System. Why? The system was not intended to protect from sudden upsets, as can be the case in a wake vortice, wind sheer or other unexpected and sudden stall-type events. Eventually it may become active well into the event, but initially it will not. And if that is the case, then other flying skills may be needed as well to recover from the upset, skills that, in hindsight, should include avoiding these possible thrills by better decision-making.

I have written in previous articles, and I talk during every training session, about the Pusher system activating on short final, usually due to a combination of actions including wind shifting, causing unexpected, sudden results. So confidence in this particular system to alleviate the pilot of primary responsibility is false. The system was designed to keep the aircraft from entering a spin as a result of a stall and the subsequent recovery. The pilot had to first STALL the aircraft to get to the system to activate. Usually pilot induced, period.

There are other examples relating to equipment and performance but the idea is that knowledge is very helpful, but we have to remember the primary message: Safety of all on board.

It does come down to the pilot as the "fault" unless proven otherwise. Outside circumstances, such as ATC, can contribute to an event but the pilot should not allow that or anything else to interfere with a safe, successful flight.

Smart decision-making includes factors that cannot be touched or taught. Have you ever had ATC routing that was going to cause close-in IMC weather deviations towards your destination but you could see VFR weather in the general area? Ever given thought to asking for lower than flight level altitude and canceling IFR, in VMC with flight following, of course? ATC would appreciate one less bird to deal with in their airspace under IFR rules but will usually keep you on code with VFR flight following.

Don't be afraid to do what is necessary for your own safety. I am admittedly guilty of trying to accommodate ATC, due to my former short-lived employment as an ATC trainee. I have absolute respect for the ATC system BUT I must always consider my well-being first! FTFA

Speaking of ATC, at the time of this writing the FAA was announcing possible flight delays due to controller furlough days. As pilots, we know why! Are you going to fly less or not fly at all? File VFR? Who remembers the controller's strike in 1981? I was taking a check-ride the day it started, and the system worked fine. One major reason for that is the pilot training we have all received on how to operate "outside," you know, in non-controlled airspace.
So how are your VFR skills? We can help out during this "period" by not filing if our flights are short enough and you are familiar with the area of flight. Never hurts to refresh skills that might have been lost.

"A safe pilot is always learning" POPA

John Morris, ACFT Services (ACFTServices.com) Full-time instructor/pilot since 1992 and a PC-12 instructor/pilot since 1999. ACFT Services has provided training exclusively for all PC-12s since 2007.

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