popa

Pilatus Owners & Pilots Association

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In This Issue...

"POPA... The Voice of the Pilatus Community!"

Disclaimer

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Cover Photo By Brent Bundy

From The President ...

POPA's 15th Anniversary Celebration!

As we shake off a rather tough Winter flying season, we are looking forward to an important milestone this Summer. Both POPA and Pilatus Business Aircraft will celebrate 15 years of working together.

Put these dates on your calendar: June 9th-11th. You won't want to miss this year's Annual Convention and 15 year celebration. We will be staying at the Westin Hotel, in Westminster, CO. where we will have our educational/business sessions and vendor displays. Minutes away is PilBAL's headquarters in Broomfield, Colorado where we will have open house and a number of other celebratory activities

To give you a flavor of what we have in store for you at this special joint celebration, we will start off Thursday afternoon with a tour of the Jeppesen facility, adjacent to Centennial Airport, across town from Broomfield. You can choose to fly to KAPA directly that morning to meet up with members at the start of the tour, or fly to Rocky Mountain Metro (KBJC), the hosting airport for the convention, check into the hotel, and take the chartered bus to and from Jeppesen. The tour is scheduled to start at 2PM. We will be back to the Westin well before the Welcome Reception that evening.

As in the past, for those who prefer to start the Convention in a more leisurely way, a golf outing is also being planned for the 9th. This will be at the Omni National Golf Course, a short ride from the Westin.

On June 10th, the Convention starts in earnest. True to our Mission Statement and our continued emphasis on education and information, we are planning two jam-packed days of information and vendor displays.

This year, once again, we are lucky enough to have a superb variety of presenters with topics aimed at our audience of sophisticated PC 12 pilots and owners. Two days will hardly be enough as we will hear directly from the NTSB on recent findings and insights, from Capt. Brian Udell on surviving supersonic flight, from the US Army about their experiences flying the PC-12 under very different conditions than most of us encounter, from Bill Rhodes giving us another perspective on airmanship, from instructors from APS on dealing with upsets and what training might be useful, and more. We will also pay special attention to the use of on-board weather radar, which should help us all hone our knowledge and skills in this important area of pilot decision-making. Following tradition, we will also have updates and breakout sessions from Pilatus, Honeywell and Pratt and Whitney.

For the spouses/significant others, we will be offering a tour of the Denver Air Museum, with lunch at the famous Brown Palace Hotel in downtown Denver. Once again, we will be offering Simcom's popular flying companion course for the legacy and NG flyers respectively.

Finally, we will mix in some celebratory Anniversary revelry. On Friday evening, events include a tour of the Pilatus completion and finishing center, a hanger dinner party, annual auction, and entertainment into the night. POPA and Pilatus has some special plans in store for you; you'll have to attend to find out! Our final evening will conclude at the Westin with a farewell dinner and music.

POPA has come a long way over the last 15 years. We are extremely proud of our uniqueness as an Owners and Pilots association, and close working relationship we have established with Pilatus.

Come learn, fraternize, and celebrate with us this June! You won't be disappointed. It's our 15th. Be there!

Bob MacLean
POPA President

New Mobile App Intercepts Aircraft - Equipped with ADS-B

By Christine Knauer

If you have an ADS-B system onboard, a clever little mobile application started as a pastime for aviation enthusiasts could jeopardize your privacy if not your safety.

Created by computer wizards at British firm pinkfroot for Apple's iPhone, Google's Android and Windows-based phones, Plane Finder lets users point their phone's camera skyward to detect an aircraft's registration, type, heading, predicted route, flight number, speed and altitude as well as the distance from the person's location.

Even technical information is available such as squawk codes, ICAO/IATA codes and ADS Hexcode. The information can easily be shared via Facebook and Twitter within the application.

The simple $5 smartphone app works by picking up feeds from a local receiver that intercepts the aircraft's Automatic Dependent Surveillance—Broadcast (ADS-B) signals. The generated data is integrated with and overlaid onto Google maps for a semi-real view of the world that's referred to as "augmented reality."

Though not widely used at the moment, ADS-B is the backbone of the FAA's NextGen plan to modernize the air traffic system. Last year, the FAA published its final rule mandating that all aircraft operating in airspace that currently requires a transponder will be required to have ADS-B Out capabilities by 2020. Currently, ADS-B infrastructure is being implemented in the Gulf of Mexico, Louisville, Philadelphia and south Florida.

According to the FAA, ADS-B "uses GPS satellite signals to provide air traffic controllers and pilots with much more accurate information that will help keep aircraft safely separated in the sky and on runways. Aircraft transponders receive GPS signals and use them to determine the aircraft's precise position in the sky, which is combined with other data and broadcast out to other aircraft and air traffic control facilities. When properly equipped with ADS-B, both pilots and controllers will, for the first time, see the same real-time displays of air traffic, substantially improving safety."

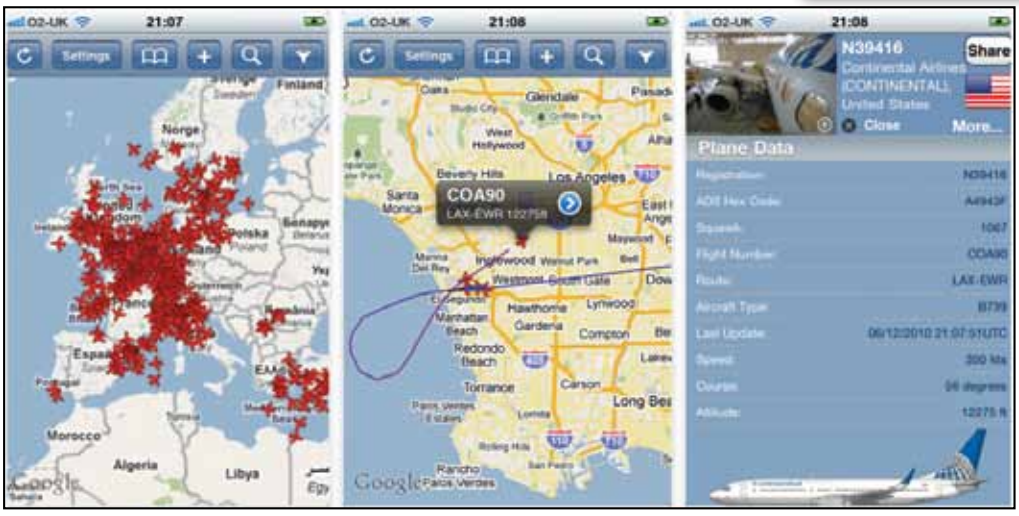
As ADS-B technology promises a more efficient airspace system by enabling aircraft to fly closer together and share flight data, the system may also create some thorny privacy and security issues.

Plane Finder, for example, presents aircraft information in near real-time. Users can search for a particular aircraft by its registration number or its flight number in the case of an airline to find its whereabouts.

Receivers are located in parts of the United States, United Kingdom, Ireland, Europe, southern Scandinavia, the Netherlands and southeast Australia, with more going online every month. The network of receivers creates a sort of live, real-time view of the world's air traffic system, which is posted on the Web and accessible via computers and smartphones.

The company that makes Plane Finder also offers a nautical version of the app called Ship Finder. More than 250,000 copies of Plane Finder and Ship Finder have been downloaded, putting fairly powerful information in the hands of anyone who can log into an iTunes account.

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



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PILATUS

Ask Lance Toland...

In my opinion the party is over in the insurance arena. Since 2005, we have seen an industry-wide reduction in insurance rates. Aerospace, airlines, general aviation and space lines have all seen their lowest rates in the last 35 years. Simply put…hope you enjoyed the ride down. A number of factors contributed to this land slide. Let's explore.

For those of you who were owner/operators when the PC-12 was launched some 16 years ago, insurance rates were in flux. The industry just had its first major space loss, an Indian satellite that plucked some $400 million out of the collective aerospace pools. With the new Pilatus PC-12 hitting the market, underwriters were simply fishing for rates to place on this new $2 million single-engine aircraft. There was no historical actuarial data to support such a risk. It was basically pass, or here's what we can do. I recall one POPA member who paid $75K annually, until Lance Toland Associates got into action. We sold the PC-12 concept to the insurance industry by showing and pushing underwriters to fly your wonderful machines, and to understand it. Today, many of you enjoy extraordinary low rates as a result of those many months of campaigning on your behalf.

Where are we headed after this rate reduction party mentioned earlier? Unfortunately, up! Currently we are seeing mean increases of 10% across the board on all aviation lines, including the PC-12. The upward trend has nothing to do with our segment. The markets who participate are merely looking for more profits. Basically, the same thing that drove rates down, are now driving rates up. Competition, supply and demand…and, greener investment pastures.

As we enter into the next couple years, I am sure there will be further consolidation in the aviation insurance market. Post 911, we saw a number of new players jump into a tight market, seeking big number gains. As the new players stepped into the market, the legacy markets had to protect their book of business by matching rates. These new-comers basically cost legacies hundreds of millions in revenue annually. This had not been predicted by long range profit loss modules. However, most of those new players have exited the market just as quickly as they entered.

Since 2005, rates dropped close to 65%. Also, many conservative underwriting practices have been ignored which has resulted in additional attritional losses to worsen the landscape. Many re-insures are now looking at alternative investments and drawing down capacity. As a result, across all markets, this will drive up rates incrementally.

With all this said about our enjoyment of flexible underwriting, consider this. As early as two weeks ago, another market has surfaced in the aviation insurance arena. QBE, an Australian company is currently setting up shop in Atlanta. I also have heard head-hunters are out looking for senior underwriters to start up a new Swiss Reinsurance-backed underwriting company. Now begs the question: "Are they jumping in too late? Or, have they been circling the prey, and now looks like a good time to feast?"

In closing, as POPA approaches its 15th Anniversary Convention, I am proud to have been a part of POPA since inception. At the 10th year celebration of the PC-12, I also had the privilege of addressing Pilatus Aircraft in Stans, Switzerland. What a great experience that was personally. In closing, I wish POPA continued success.

Lance P. Toland
Griffin, GA
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Simply Serious: Part 2

By John Morris

My last article concentrated on the fuel system of the PC-12. This time it will be about the "stuff" that is put into the fuel system. Simple...use the approved fuels (grades) and anti-icing additives.

Most of you have probably never encountered or never knew that fuel icing might be happening while in-flight. I believe I have had that experience one time. I say I believe that was it, because of indications in the cockpit and the corrective actions that I took. After landing, there were no apparent indicators, i.e. the pressure differential indicator on the fuel filter. I had the fuel filter removed and inspected for any visible debris but nothing was found. The most likely reason for this is I was flying back to the U.S. (over water, of course), from Central America, where fuel storage/additives may not be up to the standards of the United States. Makes a person want to learn more. So learn (I), we will.

The approved fuels and anti-icing additives are listed in Section 2 – Limitations. They are Jet A, Jet A1, Jet B, JP-4 plus other Pratt&Whitney approved fuels via latest revised Service Bulletin 14004. Anti-icing additives must be used for all flight operations in ambient temperatures below 0° C. Use anti-icing additives conforming to MIL-DTL-27686 or MIL-DTL-85470. Additive concentrations must be between a minimum of 0.06% and a maximum of 0.15% by volume.

Why the different jet fuels and the use of an anti-icing additive?

Let's start with the difference in jet fuel types. First, are the cuts of fuel: Wide-cut [blend of gasoline and kerosene], and kerosene base-types. Wide-cut is now basically Jet B and only used in Canada and Alaska due to its cold climate suitability. It was first used during early turbine aviation days due to greater availability, but has some poor qualities. Wide-cut tended to evaporate more quickly at altitude and more importantly, it has a low flash point, which caused a greater risk of fire during ground handling and aircraft accidents. Kerosene type fuels have a higher flash point, meaning the risk is reduced during ground handling and better survivability (fuel-related fire) after an accident. The flash point of a volatile liquid is the lowest temperature at which it can vaporize to form an ignitable mixture in air.

For commercial and general aviation, Jet A and Jet A-1 are the fuels of choice. Jet A is only available in the United States and Jet A-1 throughout the (non-communist) world. What's the difference? The only difference is the freezing point. See Fig 1 for technical details, but the reason behind the production of Jet A is cost. More Jet A can be produced (cost-wise) since the refining needed for the lower freeze point is eliminated.

Fig. 1

	Flashpoint-Minimum	Anti-Icing Additive (included)	Freezing Point	Weight (at) 15° C - Lbs
Jet A	>38° C	NO	-40° C	6.76
Jet A-1	>38° C	NO	-47° C	6.76
Jet B	-18° C	NO	-58° C	6.36
JP-4*	-23° C	YES	-58° C	6.49
100 LL	-40° C	NO	-58° C	5.97
Water				8.33

Note: Flammable fuels have a flash point *below* 38°C and combustible fuels have a flash point *above* 38°C. Meaning combustible fuels are safer for transport and handling prior to, as well as during, aircraft usage. One of the components (or additives) to enhance safe handling is an anti-static to reduce static build-up during fuel transfer from various storage mediums.

*JP-4, used primarily by the US Air Force, has been replaced by JP-8 (which contains additional additives including anti-corrosive and anti-static).

Anti-icing additives (Fuel System Icing Inhibitors-FSII) are primarily either EGMME (MIL-DTL-27686) - ethylene or DEGMME (MIL-DTL-85470) -diethylene. EGMME has been certified as a pesticide by the EPA, is more toxic to handle and is considered to have a lower flash point. DEGMME has no pesticide-type additive, safer to handle and has a higher flash point.

Water present/freezing in the fuel (system)! How is water "still" present in the fuel considering the pre-aircraft fuel tank storage, transport, pumping and sumping requirements done before each flight? What is required to protect the engine and fuel system from the potential effects of fuel icing?

Water may be present as free water or dissolved. Free water can be removed from fuel by adequate filtering and sumping. It can be seen in the fuel as cloud or droplets. Note: Based on current research, the "norm" for free water to separate from jet fuel is 1 hour per foot-depth of fuel storage tanks.

Dissolved water is water that has been absorbed by the fuel. It cannot be seen and cannot be separated out of the fuel by filtration or mechanical means. Water is very slightly soluble in jet fuel, and conversely, jet fuel is very slightly

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soluble in water. The amount of water that jet fuel can dissolve increases with the aromatics content of the fuel and temperature. Fuel in contact with free water is saturated with water, i.e., the fuel has dissolved all the water it can hold. A typical water-saturated kerosene-type fuel contains between 40 and 80ppm dissolved water at 21°C (70°F). If the temperature of the fuel increases, it can dissolve more water. Conversely, if the temperature of water-saturated fuel decreases, some of the water dissolved in the fuel will separate as free water. In other words, the colder the fuel the faster the dissolved water becomes free water and is then subject to freezing.

FAR Part 33 [Turbine Engines] 33.67 Fuel Systems, (4) (ii), states: "That the fuel system is capable of sustained operation throughout its flow and pressure range with the fuel initially saturated with water at 80°F (27°C) and having 0.025 fluid ounces per gallon (0.20 milliliters per liter) of free water added and cooled to the most critical condition for icing likely to be encountered in operation. However, this requirement may be met by demonstrating the effectiveness of specified approved fuel anti-icing additives, or that the fuel system incorporates a fuel heater which maintains the fuel temperature at the fuel strainer or fuel inlet above 32°F (0°C) under the most critical conditions".

The PT6A-67B/P has a fuel/oil heat exchanger that meets the heat specification of the FAR. Pilatus also requires the use of fuel anti-icing additives when operating (flight) below 0°C ambient which additionally satisfies the other portion of the FAR.

"FAR 23.955 Fuel Flow (f) [Turbine Engine Fuel Systems-condensed]. Each turbine engine fuel system must provide at least 100 percent of the fuel flow required by the engine under each intended operation condition and maneuver, (1) Be shown with the airplane in the most adverse fuel feed condition (with respect to altitudes, attitudes, and other conditions) that is expected in operation."

The PC-12 fuel system covers this last FAR with the dual boost pumps and the by-pass of fuel filter and low-pressure engine driven pump since the next destination of the fuel, (as it pertains to icing), would be the fuel/oil heat exchanger, which would protect the high-pressure engine driven pump from damage.

Of course, the operator of the aircraft should insure proper maintenance of the fuel system is maintained and that the Pilot In Command samples the fuel system before each flight to ensure the fuel is free of water and other contaminants.

It is apparent even with all of the pre-flight measures, from storage facilities to fueling trucks, water is still going to be in the fuel. So either the fuel is kept warm, in-flight, via a fuel heat system, or an anti-icing additive is included to reduce the likelihood of fuel icing. Most general aviation aircraft do not incorporate a fuel heating system due to various factors relating to system design/functionality, cost, weight, etc. So either the jet fuel used already has a satisfactory freeze point (Jet A-1), incorporates an FSII additive that brings the fuel to a satisfactory freeze point (JP-4), or FSII will be added before use of the fuel (Jet-A).

Fuel system icing inhibitors (FSII) work by combining with any free water that forms to lower the freezing point of the mixture so that no ice crystals are formed. However, if the mixture of the FSII in incorrect, either from poor application during fueling, or dilution of mixture due to not including FSII during some re-fueling, fuel icing can occur before the approximate freeze point designation. According to PRIST®, the addition of "DiEGME" (their registered active ingredient) will lower the freezing point to -46° C when correctly mixed between 0.10% and 0.15% by volume.

Can we, as pilots, do anything more to help ensure the minimum amount of free water may be present before a flight? How about fueling the aircraft at least one-hour before flight and sumping before the aircraft is moved, which will agitate the water with the fuel? Or have the aircraft moved and fueled at least an hour before flight for sumping purposes? However, something to definitely keep in mind is the temperature at the time of fueling and the altitude of the ensuing flight. As earlier noted warmer fuel can hold more dissolved water (undetected) so that it will be possible for more free water to be present once at a flight level, after a period of time of much colder air temperatures.

By all accounts, as long as we adhere to the approved jet fuel types and application of approved anti-icing additives, fuel icing should not present a danger to safe flight operations. But...we must always be aware of the unexpected, and be properly prepared through knowledge and continuing training.

"A safe pilot is always learning"

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ACFT Services

John Morris – Formerly with Simcom Training Centers-Orlando for 14 years with 1999 being the first year teaching the PC-12. Program Coordinator for the PC-12 from 2000 until resigning in 2007 to start ACFT Services.

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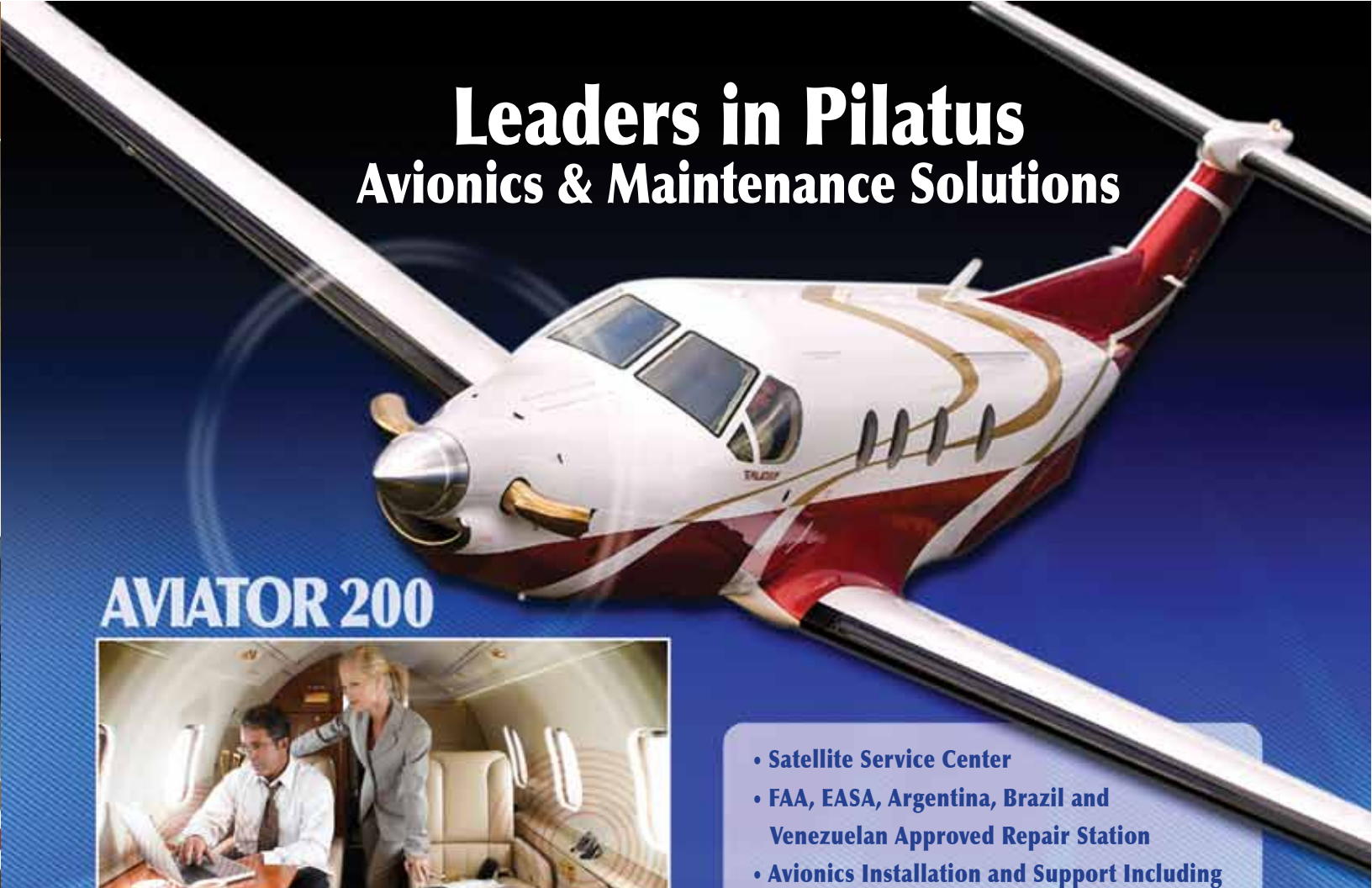

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Checklist Design – Part 3

Designing What Works for You

By Bo Corby

In the last issue we explored considerations in designing your own checklist; liability issues, FAA guidance, normal vs. abnormal/emergency checklist relationships, training checklist disclaimers, and manufacturers checklist philosophy. Before deciding to use a personal checklist, let's review one more time the manufacturers checklist philosophy, as it is important to understand the consequences of deviation from the manufacturers published material.

As manufacturers are often the first party named in a lawsuit in incidents and accidents, they write procedures and checklists in extreme detail telling the operator exactly what must be done to operate the aircraft safely. If the operator (defined as PIC) deviates from the manufacturer's published material, the material becomes an effective shield from the manufacturer's responsibility for the operator or pilot's actions.

Unless the operator has unlimited financial resources, efficiency in getting the aircraft started and to the end of the runway for takeoff can become excessively expensive. As a result, many operators choose to produce normal procedures that are more efficient for operating aircraft in their environment. There are "best practices" industry has developed in guiding operators attaining both efficiency and safety. The FAA has provided guidance addressing the creation of checklists at the following web address http://fsims.faa.gov/PICDetail.aspx?docId=74518EFFD4ACD8068525734F007665E3. Review of this information would be helpful in making decisions regarding how to create your own checklist. So, for now, let's explore some components of the process.

DEVELOPING A NORMAL CHECKLIST

Now, if you're my age, you can sit down with a "Big Chief Tablet" and "#2 Pencil" or, a computer and clean word document page to begin formulating your approach to a normal checklist that works for you. Look at what follows and start to put thoughts on paper using the guidance below.

The development process of an effective Normal Checklist starts with a thorough review and understanding of the POH Normal Procedures supplied by the Manufacturer. Thereafter, consider the following situations:

- Pilot experience level
  - Low experience or considerable experience
    - Low experience – more items, less reliance on flow
    - High experience – less items, more reliance on flow
- Environment in which the aircraft is operated (Corporate vs. Owner)
  - Passenger needs and influence
- Single Pilot or Two Crew operations
  - Read and Do vs. Challenge and Response?
  - Division of duties
  - Crewmember experience
- Frequency of flight
  - Develop Flow Patterns?
- Number of different aircraft the pilot currently operates
  - More checklist items vs. less?
- Economic considerations
  - Is time and or fuel an issue?
- Liability considerations
- FAA Regulations (FAR 91/135/121)
- Any unique situations involving a specific operation (special equipment)
  - How to integrate EVS?

All of the above are things to think about before deciding to modify a Manufacturer's checklist or develop a new checklist. Next, there are checklist design considerations non-specific to the aircraft that must be taken into account.

CHECKLIST AS A SYSTEM

Systems are all around us in everyday life; traffic, phone, transportation, etc. Systems, as in any human man made structure, are found to fail occasionally. When these systems are chemical, biological, aircraft, ships, and other like structures, the consequences can be catastrophic. These systems can be defined as "high risk" systems.

Leading to any system failure is a component (unit/part) failure. Yet, one of the main reasons for a system failure in high-risk industries is the unpredictable interaction of several failed components. Each by itself would not be critical enough to result in total system failure but the untimely combination of these singular component failures may lead to a breakdown of the entire system. Since designers expect everything to be subject to failure, they guard against each singular failure with one or more safety devices. What designers cannot guard against is that unanticipated multiple failures will interact so as to defeat, bypass, or disable the safety devices. More simply put, "The Law of Unintended Consequences" (Degani/Wiener, NASA A-90183, 1990).

The checklist...developed from procedures, serves the purpose of guiding the pilot through a series of events from block out to block in. The procedures/checklist can help or hinder the process by nature of its construction, whether from crew fatigue in multiple leg environments or leaving gaps in critical flight items. Understanding the environment in which the aircraft is operated will assist in anticipating potential faults and failures of the proposed checklist system.

SYSTEM PATHOGENS

Pathogens is a term borrowed from the medical profession that refers to latent errors as "resident pathogens" because they reside in a system in the same way biological pathogens reside within a living body, only to manifest themselves as a result of a unique set of unexpected circumstances or conditions.

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Checklist Design – Part 3
(Cont'd from Page 12)

A good example of this is the Northwest Airlines Flight 255 accident in Detroit, where a series of failures combined to cause the crew to depart with the flaps retracted. The accident report lists several systemic failures including: misuse of ground phase checklists, failure of the CAWS System Takeoff Warning to notify the crew that the flaps were not in the takeoff position and breakdown in crew coordination. What was not cited was an obscure event unrecognized by investigators.

Prior to the merger of Republic Airlines and Northwest, the Republic DC-9 checklist had "Flaps" as the first item on the Before Takeoff checklist. NWA decided to standardize between fleets. As non-operators of DC-9 aircraft, they did not realize the importance of the "Flaps" checklist item used. DC-9 aircraft are taxied with Flaps 15 to minimize FOD ingestion during taxi operations however; takeoff flaps are commonly Flaps 5 or Flaps Zero/Slats Extend and were set according to Republic procedures prior to takeoff. The same situation with Boeing aircraft was to select the actual Takeoff Flap position on initial taxi movement. Two different operating philosophies combined in an attempt to standardize between fleets.

Northwest didn't fully understand the reason for flaps twice on the DC-9 checklist and therefore, inadvertently placed a "pathogen" in the checklist design. This was an event in a chain of errors that started with checklist design and application. The NWA 255 crew did complete the takeoff checklist properly. However, it no longer contained the "Flaps" challenge and they lost the last possible attempt to avert disaster and made the takeoff with flaps retracted. A simple checklist, change for good reasons, held a latent flaw (system pathogen) waiting to present itself.

CHECKLIST AMBIGUITY

Studies have shown the use of ambiguous terms is very common in checklist development. Terms such as "set, checked, completed" to indicate an item is accomplished could be better served wherever possible by using actual values or positions. For example, Anti-Ice ON or OFF as opposed to checked or set. This is particularly true of value-based controls and/or indicators, such as Airspeed … "___ knots" instead of "set" or "Flaps 15" instead of "set". In time compressed operations, pilots have a tendency to speed through the checklist and ambiguous terms allow items to be in unintended positions.

CHUNKING

As a list of task related items grows in size, the probability of overlooking any given item increases. The limited capacity of Short Term Memory (STM) is one of the most severe constraints on human performance. Many tasks, such as long checklists, place unrealistic demands on this memory. One researcher formulated the "seven plus or minus two" rule, quantifying the range of items that can be stored in human working memory. He recognized people can "chunk" (or cluster) information into defined units regardless of the length or size of the total unit. A chunk is created when two or more items share a common factor that aids in "gluing" these items together.

What this all means is that grouping information into related subjects and separating these into logical groups aids in the pilots ability to mentally "track" the procedure with the checklist and reduce the possibility of errors of omission. An example would be creating a flow pattern by area, such as:

- Left Sidewall
- Captain's Panel
- Center Panel
- Co-Pilot's Panel
- Right Sidewall
- Center Console
- Overhead Panel

Each area would have its own pattern of items to adjust, observe and/or activate. The same process could be used for determining checklist organization. For example:

- Aircraft Preflight
- Cockpit Safety Check
- Preliminary Cockpit Inspection
- Interior Inspection
- Before Start
- After Start
- Before Taxi
- Taxi
- Before Takeoff
- Line-Up Items
- Final Items
- Etc.

The names of the checklists used are not as important as understanding the relationship between each group and their interaction systematically.

FLOW PATTERNS

Cockpit instruments, systems panels, switches and controls are arranged in certain "geographical" locations according to frequency-of-use, criticality and other human factors considerations. Study the manufacturer's procedures closely to understand the groupings that can be formed and how they relate for each phase of flight.

A flow pattern is a series of motor and eye movements arranged in a logical and sequential order in configuring the airplane for various phases of flight. Particular attention should be given to item sequence according to activation and operation of units and systems. For example, the flap indicator can't be checked for takeoff position before the flaps are selected for takeoff.

Once flow patterns are established, the checklists should run parallel to this sequence of events. Of course, there are some

(Continued on Page 16)

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Checklist Design – Part 3
(Cont'd from Page 14)

situations where systems demands will require some "jumping around", which is acceptable as long as these situations are kept to a minimum. If there appears to be too many of these "jumping a rounds", try to limit the size of the "chunks" to better serve short-term memory.

INTERMEDIATE STOP ITEMS

If operating in a high flight frequency environment with multiple daily legs and, desire to use the Manufacturer's checklist, one alternative is to use the Intermediate Stop Items philosophy. Very simply, symbols can be used on the checklist border to indicate checklist items to complete at intermediate stops. For example, Fire Extinguisher does not need to be checked every stop in a series of flights. The same might be true for the FUEL FIREWALL SHUTOFF, MANUAL GEAR EXTENSION LEVER and ECS FIREWALL SHUTOFF LEVER. These items would not have a symbol indicating the necessity to check them on subsequent legs after the initial leg of a series of flights.

CHECKLIST COUPLING

Two terms are used in the concept of coupling … loose coupling and tight coupling; and refer to the placing of checklist items in positions that could conflict with operational requirements. For example, a Before Takeoff checklist that has a large number of items to be accomplished immediately prior to takeoff or on the runway just prior to power-up … is said to be "tightly coupled" with other takeoff tasks, such as winds, noise abatement procedures, departure SIDS, ATC instructions, other aircraft on final, etc. and with the pilots mental preparation for takeoff. This tight coupling could cause checklist items to be inadvertently omitted due to high workload just prior to takeoff. Loose coupling would occur when critical checklist items were completed in a lower workload situation, such as during taxi.

CHECKLIST EXAMPLES

Now we can look at some examples of Pilatus PC-12 Checklists. They are varied and dependent on the support structure accompanying the checklist. Each has their own unique characteristics and fits the operation of the pilot using them. Look for the principles discussed in this article.

Example 1 - Single Pilot Operation-Corporate

Notice here the use of FLOW patterns and how they coincide with checklist items and sequencing in the cockpit. Also mnemonic devices are used that are mostly standard but some of which would be foreign to someone who did not understand the process, for example, FEET on the AFTER LDG checklist. These devices are fine as long as there is no confusion between crewmembers as to their meaning. Notice the "chunking" and small grouping of items.

Example 2 - FAR 135 Operator

This is a two-crew operation that operates multiple legs on a daily basis. The INTERIOR checklist is annotated as "Read and Do" for clarification. Green items are to be completed the first flight of the day. Note the Before Taxi checklist that contains items that the Captain checks and ones that the First Officer checks.

This checklist is accompanied by a company specific aircraft operating manual that will have Amplified Procedures explaining to crewmembers the flow patterns, checklist usage and company checklist philosophy.

Example 3 - Single or Two Pilot - Corporate

This checklist is designed to be used in either single or two pilot operations. It uses intermediate stop items philosophy as well as color-coding of separated sections of major blocks for easy visual referencing. It takes a long checklist and "chunks" it into manageable sections or groups. Notice the loose coupling in the Before Takeoff section.

Notice it combines the "intermediate items" philosophy with color coding. If the aircraft is operated two-crew, the Before Taxi Checklist is divided. Before Taxi is accomplished before taxi and the remainder accomplished while taxiing by the PNF. If the aircraft is being flown single pilot, the Before Taxi checklist would be completed in its entirety.

(Continued on Page 17)

Example 1 - Single Pilot Operation-Corporate

BEFORE POWER
FLOW

CB's Left – IN
Gear Handle – DOWN
MOR – OFF
Pwr Lvr – AFT
Cond Lvr – OFF
Flaps Up/Match
ECS – OFF
CB's Right – IN

IN-FLIGHT CHECKLIST
BEFORE START

Battery Sw – ON
Sep – OPEN
Tests 3x3
EPS/Fuel Reset/EIS
Fire/Lamp/Fuel Pumps & Ign

START

Beacon – ON
Seat Belt – ON
Start 2 sec
13% Cond Lvr Gnd Idle
Stablized Start – ***(FLOW)***
Gen ½
AV ½
Set Ovhd sw's
ECS – AUTO
O2 – ON
Flaps 15

AFTER START/TAXI
Flt Cont Free
Pusher Test
Communication – VHF's/Transp
Navigation – GPS/Flt Dir/APTest
Configuration – Flaps/Trim/Caws Fuel

TAKEOFF
MEMORY – takeoff imminent
FAT FLY

CLIMB
Ext Lights – as reqd
Sep – CLSD (vmc only)

10K
Press √
O2 On/Mask √
Seat belt sign as reqd

18K
29.92
Press √
Ext Lts as reqd

LEVEL
Press √
Fuel – Monitor
ECCS – recirc (above 25K)
Cabin Temp

DESCENT
18K
Alt Setting
Press Set
Ext Lts as reqd

10K
Sep – OPEN (VMC only)
Seat Belt Sign – ON

LANDING
MEMORY FLOW
Accomplish then verify

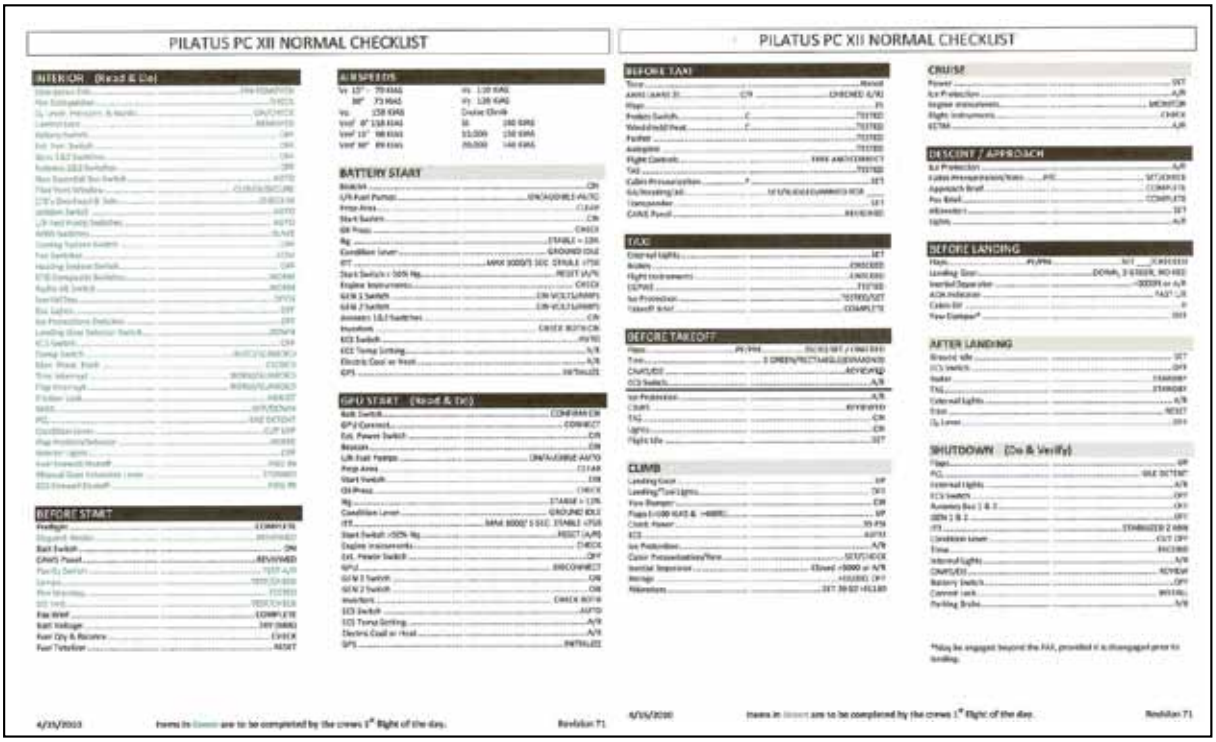
Gear
Flaps
Press
Sep
Ext lts
YD
Ldg Cinc

AFTER LDG
FLOW
accomplish then verify

FEET
Transp
O2
GPS

SHUTDOWN

2 min cool (ECS off)
Misc ovhd items – off
AV 2/1
Gen 2/1
Cond Lvr – OFF
Ext Lts – OFF
Bat (<8% Ng) – OFF
Hobbs


PILATUS PC XII NORMAL CHECKLIST

PILATUS PC XII NORMAL CHECKLIST

Example 2 - FAR 135 Operator

(Continued from Page 16)

SUMMARY

Designing or customizing checklists for a particular operation requires careful consideration of man-machine interface demands in each operating environment. Studies and publications exist that provide guidance in constructing checklists for maximum efficiency and safety. Liability issues can influence decisions regarding checklist selection and construction. If a deviation from the Manufacturer's Procedures is desired, the Manufacturer should be consulted on the technical aspects of the change.

Checklists should be part of an overall system that works **for** the pilot and not against. The law of "unintended consequences" dictates that pathogens may lurk in any operating system just waiting for the right set of circumstances to make their presence known. Checklist design should always attempt to anticipate these latent combinations and limit their influence by always applying the latest human factors intellectual technology in design criteria.

NOW FOR THE TRUE STORY...

In the mid 70s, I was working for a non-ncheduled airline called AeroAmerica. It was a bit of a rag-tag operation in some respects, however, the best flying I had ever done at the time. Of course, I was flying the B-707, a dream come true and I really enjoyed the excitement of the non-scheduled world (I was young). Turns out, I received an offer from Hughes Airwest, Howard Hughes' airline based in CA. Knowing these opportunities were rare at the time, I was in a quandary, as the current position was one I loved. So, I went to the Director of Operations; a crusty old curmudgeon who would give you the shirt off his back, so long as you didn't know it came from him. I sat down in his office after being ordered in, and while he continued to review paperwork without looking up at me, said "What do you want Bub?" (everyone was called Bub, so he didn't have to remember your name). I explained I had an offer from Hughes Airwest, but really didn't know what to do because I loved flying for AeroAmerica. I needed help in making this decision.

Without looking up he said "If you turn down a job with Hughes Airwest... you're stupid. And, if you're stupid...you're fired! Does that help?"

The rest is now history. Happy flying guys!


916AD NORMAL CKLIST NORMAL CKLIST
PILATUS PC-12/47 S/N 756 Pg 3

Example 3 - Single or Two Pilot - Corporate

Captain Bo Corby is a retired airline check airman, former FAA Designated Pilot and Flight Engineer Examiner, President of Core Training Industries, Inc. in Seattle, Washington and operates N916AD. He may be reached at borhino@aol.com, 206 769-3398 and www.airmentors.com.

Zeke's Return To The Wild

I didn't know much about the Mexican gray wolf before January 2011, when we contributed a flight in our Pilatus PC-12 to the effort to re-establish the wolf in the forests of Arizona and New Mexico. I had known of Lighthawk and its excellent work for years, and had finally passed my PIC minimums to become an official Lighthawk pilot. This was our first Lighthawk flight. We began our mission at the Endangered Wolf Center outside St. Louis, where our wolf, Zeke, was living with his family. Our mission was to deliver Zeke to the U.S. Fish and Wildlife Service team so that they could introduce him to a pack that had lost its alpha male the season before. Hopefully this pack could become a breeding group again.

Our mission team included my 6 year old son, Tyler, his nanny Molly, and friend and professional pilot Brad England. We welcomed Zeke and his handler, curator Jackie Fallon, onto our plane for a 4 ½ hour flight to Springerville AZ. Throughout the flight, the bright sun shining in the windows struck the mesh cover of Zeke's crate at just the right angle to reveal the outline of his face and jaw through the mesh. Tyler and Jackie checked on him by peeking into his crate throughout the flight, during which we kept the cabin at a wolf-comfortable 55 degrees.

As we rolled out in Springerville, AZ, we saw a large welcoming group from the U.S. Fish and Wildlife Service and Grizzly Creek Film (filming for National Geographic) waiting for us on the taxiway. They were all very excited to meet Zeke and thanked us profusely for our help. They invited us to join and observe the activities for the remainder of the day, an invitation that we accepted with great excitement. We found beautiful clear weather at the 7,000 foot elevation airport, which serves the town of 2,000. In Springerville there is no commercial car rental facility, but we were able to arrange to rent a large 4WD pickup truck ("Keys will be in the gas cap, ma'am."). Later we were very grateful for the 4WD!

The National Geographic group turned out to be Casey Anderson and his team. Casey's shows, among them *Expedition Wild*, are favorites of Tyler's, and they soon began comparing various episodes and sharing animal thoughts. Casey's team was filming an episode about the Southwest, and Zeke and the Mexican grays were an important part of their project. It was clear that the crew has a great respect for the wolves and a deep love of wildlife and wild places.

As the day progressed, we finally grasped the significance of Zeke and our flight to the Mexican gray wolf reintroduction effort. Without Lighthawk and the services of a plane such as the PC-12, Zeke would have had to travel by commercial air cargo or even Fedex, a process with vastly more stress to the animal. Instead of landing in Springerville, close to the release site, he would have had to arrive in a commercial airport much further away. Along the way, he'd have had long waits in cargo areas, possible changes of plane, and possible harassment from curious people. In our high-security present, Zeke wouldn't have had the protection of his handler along the way. Even with our help, the time between his crating in St. Louis and release into an enclosure in Arizona was nearly 15 hours.

Zeke will hopefully be another important figure in the overall Mexican gray wolf reintroduction effort. Currently, only 50 Mexican gray wolves are alive in the wild in the United States. Approximately 350 survive in total, with the captive population cared for by several captive breeding facilities and zoos. They are bred according to a Species Survival Program managed cooperatively among 50 or so groups, intended to maintain genetic diversity in the population. With only 50 individuals in the wild, every wolf is important, and a successful breeding pair of wolves in a pack is invaluable.

Zeke's return to the wild is particularly fitting. He is the offspring of the (in)famous Bob of the Saddle Pack. Bob and his mate (F797 (no "human" name)) were pulled from the wild in 2007 because they had developed a taste for livestock. U.S. Fish and Wildlife Service's Assistant Recovery Coordinator for the Mexican wolf Maggie Dwire was involved in the capture then, and realized that the mother was nursing pups. She and the field team desperately searched through the forest for the den, and managed to find and save all of the pups. Zeke is one of those pups, now grown to maturity himself. It is hoped he can be released in an area rich enough with wild prey that he will resist the lures of livestock predation. Just as fittingly, Maggie was the officer in charge of Zeke's release.

At the airport, Maggie showed everyone the tracking collar that Zeke would wear upon his release. Tyler was then

(Continued on Page 19)

(Continued from Page 18)

allowed to write a good luck note on the collar and sign it. "Good luck Zeke. XOXO Tyler TLG." We next proceeded to the FWS office in Alpine, where Zeke was collared, given a medical exam and some fluids. Our eyes were wide open as we watched the careful and well-coordinated process of "securing" Zeke and then opening the crate. Ultimately, he was carefully and (as gently as possible) muzzled, hobbled, and held with a capture pole while the vet and the team did their work to make sure he was healthy and ready for release. All were relieved that he hadn't had to be tranquilized either in St. Louis for his crating or at the FWS office.

Our next step was the long drive to an interim release enclosure, where Zeke would wait for the anticipated meeting with the alpha female. As we reached the enclosure, far down a deeply rutted, muddy and at times snowy road, darkness was falling. The FWS team carefully checked the boundaries of the enclosure and prepared it for Zeke with food, water and a little shelter. By the time all was ready for Zeke, it was fully dark and a stunning full moon was rising through the bare branches of the surrounding trees. It is not an exaggeration to say that all of our hearts were in our throats as we saw Zeke standing there, resplendent in his thick coat, looking out at us under that full moon deep in the forest.

The team had planned to capture Zeke's "intended" alpha female and introduce them to each other in the controlled setting of the enclosure. Unfortunately she and her pack were spending their time in terrain too rough for a helicopter capture. Eventually Zeke was released alone near the site where the pack had recently killed an elk. The hope was the elk would continue to draw the pack into the area where Zeke was released, increasing the chances of them tying in together. The team knew the chances this would work were low, but wanted to give Zeke a shot at being free in the wild. When we received a photo of his release, we again found ourselves breathless and filled with hope.

We spent the next 10 days or so going through our lives as normally as possible, but somewhere in the back of our minds we were always thinking of Zeke, wondering whether he had found the pack and how they were getting along. Our emotions were a mix of hope and fear. It was almost like having one's child out in the world experiencing something new and a bit frightening, hoping for the best but fearing some mishap.

Finally we sent a message to Maggie, who reported that Zeke was back in his enclosure! Apparently he hadn't joined the pack, and had been trying to survive alone, in the middle of winter, in an unusually deep snowpack for that region. Plan B is to hold him until spring, pair him with an alpha female, and release them together when the snow has receded and there are elk calves for an easier hunting introduction. There is still hope for Zeke, and if there is a role for us to play in the process, we stand ready to contribute our PC-12 and its capabilities.

Having flown Zeke to Arizona, and having experienced the wonder and thrill of his release, we will forever feel connected to the Mexican gray wolves.

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THE 5 BLADE MT PROPELLER

BY LOWELL SANDO

We purchased the prop from Finnoff Aviation, the authorized US distributor. It was installed by Mather Aviation in Hayward, California, while N212PK (SN 668) was in for its annual. This was their first installation, and it went flawlessly.

LOOK AT ME!

The first thing you notice is this is not an ordinary prop. Like Anna Kournikova is not an ordinary tennis player. The blades are curved in all the right places. The square tips are purposeful looking. (What purpose is unknown!) After collaborating with Chris Finnoff, we chose to have the nose cone painted white.

When it arrived, the paint didn't match and screws stood out like...well, they stood out. It turns out you can't get paint off the shelf to match. It had to be mixed by the local paint guy. It is not clear how this will get resolved as the cone arrives pre-painted. Perhaps they will just apply primer. No matter, you can see how great it looks.

LISTEN TO ME!

At engine start, there is no shuddering as RPMs advance through 400RPM. After idle speed is reached, you have to double check the RPMs and look at the blades spinning because the normal, more or less excited, prop noise is missing. The line guys will look at the prop, then catch your eye in the cockpit and then turn back to the prop as if to say, "What is going on here? Where's the noise?" Nice when someone notices how quiet it is – even outside. Then you become aware of the lack of vibration while you taxi to lineup. We continued to notice the reduced prop noise and vibration throughout the test flight – in the cabin and the cockpit.

LET'S GO!

When you set flight idle, the plane moves somewhat more briskly to the runway than you are used to. Not dramatically; just a little quicker up the incline. When advancing the throttle, you'll be really impressed as power goes past 36psi. When you get to take-off power, you will be pressed firmly into your seat. You'll reach rotation speed faster than you anticipate, and it scrambles enthusiastically up to your first assigned altitude. Passengers who have some Pilatus time are likely to comment upon arrival that the plane seemed to get off the ground quicker and it is quieter. I am convinced Finnoff's claim of 15% less runway used for takeoff is accurate.

THE CLIMB!

No matter what your climb style is, you will notice enhanced climb performance: in faster rate of climb or increased climb speed, or both. Where we found really enhanced performance was after reaching 20,000 feet. As all PC 45 drivers know, the PC-12 has a hard time getting up to 28,000 feet especially when heavy. As an experiment on the last trip and at about 9,000 pounds gross, we set power to show 720 degrees ITT and set climb rate at 1,000 fpm. It kept 1,000 fpm all the way to 270, and the AOA indicator had just reached the upper diamond when we leveled off. That compares to about 400 fpm with the old prop. Amazing!

CRUISE!

You will notice less vibration in the cockpit, but with the Bose headsets probably not much noise difference. The cabin is a different story. In addition to the lack of vibration, it is noticeably quieter. An interesting phenomenon is that noise reduction quickly becomes "not noticed" while you remain aware of vibration reduction even after several flights. As to IAS, we really couldn't find any difference from the old prop.

DESCENT AND LANDING

We didn't see much difference in prop performance either, except there is perhaps a little tendency to float as you cross the numbers before going to idle. Putting it into Beta seems to slow it a bit faster, which would be expected.

SUMMARY

In my opinion, this is the best $55,000 (or so) investment you can make to an otherwise great airplane. The MT Propeller prop is like getting a new engine with another 150 horsepower – only better. It's been on the plane for 4 months now with more than 16 long cross country legs. We continue to be impressed at the enhanced performance, reduced sound and almost zero vibration. I can't imagine how much "kick in the pants" you would get in an NG, but it sure boosts the 45!

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A Subtle Change to a few TAFs

by Scott C. Dennstaedt

Unless you have insider information you would never know that there has been a subtle change to some terminal aerodrome forecasts (TAFs) during the last year or so. No, the coded TAF format hasn't changed again as it did on November 5, 2008. In fact, the TAFs won't look at all different. But, for some high-impact (busy) airports in the U.S., TAFs are now issued on a more frequent basis.

As described in the Aeronautical Information Manual (AIM) TAFs are issued by the National Weather Service (NWS) every six hours at the traditional synoptic times of 0000 UTC, 0600 UTC, 1200 UTC and 1800 UTC. Once issued, they are monitored continuously and unscheduled TAFs—a politically correct way of saying amendments to the forecast—are issued as conditions warrant. Amendments are issued promptly when the TAF no longer matches reality, or in the forecaster's professional judgment, new guidance suggests that conditions are expected to be different than the latest forecast offers.

There were no official announcements, change of directives or technical implementation notices (TIN) concerning this change. TAFs are issued by meteorologists located at your local Weather Forecast Offices (WFOs) and the official NWS directives used by these forecasters simply states, "Each WFO may choose to routinely issue TAFs more frequently than every six hours, using either manual or automated means, as a method of keeping the TAF the most representative possible. Coordination with and approval from Regional Headquarters is needed if WFOs choose to implement frequent routine updates." Therefore, any WFO has the freedom (with approval from the top brass, of course) to issue TAFs more frequently than every six hours.

From the top brass

According to Dr. Jack Hayes, director of the NWS, "About 70 percent of all flight delays are due to weather, so the National Weather Service is redoubling weather support in this area with our improved aviation forecasts to help minimize delays at airports, improve flight safety and potentially save the flying public valuable dollars." More frequent terminal forecasts are issued every two or three hours (versus every six). "Early planning for bad weather over the national airspace system — particularly within the New York, Atlanta and Chicago routes referred to as the 'golden triangle' — makes all the difference for air traffic managers, allowing them to reroute or cancel flights well in advance," said Dr. Hayes.

(Photo Courtesy of NOAA)

Meteorologists on the short term desk at most of the Weather Forecast Offices (WFOs) have several other routine tasks in addition to issuing and amending terminal forecasts. In the New York City area, a single forecaster is now dedicated to aviation. Shown here is a forecaster at the Upton, New York WFO who issues TAFs for nine terminal areas.

At the bottom

I got a chance to speak with Brandon Smith who is a forecaster located at the Upton, New York WFO. They issue TAFs for nine terminal areas that include several high-impact airports such as KJFK, KLGA (La Guardia) and KEWR (Newark).

Brandon told me that, "The 3-hourly TAF issuance is [decided] office by office. We started doing that about a year ago as part of an enhanced aviation project for the FAA...and it went over so well that we adopted it permanently. Chicago and Atlanta are also doing 3-hourly issuances. For Chicago (KORD), you might even see 2-hourly updates at certain times during the day. The 2-hourly issuances match the times of the FAA planning conference calls."

Not so simple

Here's the ugly side of this improvement. The 2- or 3-hourly forecast is treated as an amendment, not a new scheduled TAF. This can certainly cause some confusion since they don't update the valid period of the TAF. For example, a TAF issued at 0000 UTC for KJFK in New York is valid until 0600 UTC the following day or 30 hours later. If a "new" TAF is issued at 0300 UTC, it will be considered an amendment and will still be valid through 0600 UTC, not 0900 UTC. In fact, it will carry the AMD tag when viewed online such as through DUATS.

Also there might not be a TAF issuance at every 3-hour increment. For example, you won't see a new forecast if an amendment has been issued within 90 minutes prior to the next "scheduled" 2- or 3-hour incremental forecast. In other words, TAFs are still amended as necessary and weather still takes priority over time. For the New York City airports, Brandon informed me that, "On a quiet weather day you'll see issuances every 3 hours."

Chasing the observations

So are more frequent forecasts just a case of meteorologists aligning the terminal forecast with the latest surface observations – also known to forecasters as "chasing the observations?" As far as chasing the observations, Brandon says that, "The extra TAFs actually do the opposite especially in the mind of the FAA." He pointed out that, "The more frequent issuances do two things –

(Continued on Page 27)

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First, it gives the perception the forecast is 'fresh'. We had gotten lots of feedback from the FAA that after a few hours the TAF was considered 'old' regardless of the fact that it was still a valid forecast. The FAA works on two to three hour planning periods, so this new philosophy matches their timing better.

Second, we are actually issuing fewer TAFs in bad weather. The aviation forecaster is now 100-percent [dedicated] to aviation – previously he had to deal with [national forecast] grids and other stuff. We took that away and focus [this forecaster] completely on aviation. By default the forecaster is more in tune with the immediate needs of the aviation community. The 3 and 6-hour forecast issuances got better, so outside those issuances we issue less [frequent forecasts]." Brandon also emphasized that, "Our detection of IFR conditions, and over-forecasting (false alarm rate) have improved, so the added TAFs do have a positive impact."

NOT ALL AIRPORTS

As mentioned earlier, each WFO must decide if there's a need to issue more frequent terminal forecasts. As a result, a large majority of WFOs throughout the U.S. have not changed their policy. So you won't likely notice a difference unless you fly into this busy airspace. Even within the New York WFO, forecasters at the Upton, New York WFO issue TAFs for nine terminal areas. This does not imply that all nine TAFs will receive a 3-hourly forecast.

What does this mean to me?

For many pilots, this subtle change won't cause any impact to your current flight planning regiment. If you happen to fly into or out of a busy airspace such as Chicago, Atlanta or New York, just keep in mind that forecasts will be updated much more frequently. So, if you are departing at 1500 UTC at one of these high-impact airports, you'll likely have the opportunity to see a TAF that is newer than the 1200 UTC issuance – even on those not so challenging weather days. In the end, if you see a terminal forecast tagged with AMD, it may not be because the previous forecast was misaligned with reality. It simply may be a new and improved forecast for you to ponder.

Scott C. Dennstaedt is a former NWS meteorologist and FAA-certificated instrument flight instructor. He offers personalized trip monitoring for those challenging flights. You can reach him by e-mail at scott@avwxworkshops.com or visit his website AvWxWorkshops.com at http://avwxworkshops.com to learn more about aviation weather.

IRA BIFFLE

By Stan Crader

If you're from Bollinger County, a pilot, or remotely interested in aviation you know the story of America's premier aviation pioneer. The following article is being provided for those who haven't had the privilege of living in Bollinger County. Now, you might think the use of premier and pioneer stout, but that's only if you don't know the story of Ira Biffle.

His family, originally from Germany, migrated to the US, spent a generation in Pennsylvania, then North Carolina, then followed the popular mantra and headed west. After crossing the Mississippi they decided that Missouri was as far west as they cared to go. Maybe they peaked over the horizon and saw Kansas. Or it could have been that they arrived during the peak of fall colors and loved what they saw. But then it could have been early spring and when the Dogwoods, Azaleas, and Red Bud are in bloom. At any rate, they stopped in Bollinger County Missouri.

Ira's folks staked out a claim in northern Bollinger County. The only airport in Bollinger County is in Marble Hill, and I'm from Marble Hill, I generally claim Ira was from Marble Hill. The truth is, he grew up on a farm near Patton. Having been raised in a Christian family, I know that lying is wrong. But I also know how to modify a story without lying – it's called obfuscation. Since I'm from Marble Hill it's a struggle for me to admit Ira's true origins and when telling Ira's story to those not familiar with these parts, I leave the Patton connection out.

After siring Ira (born in 1886), and four additional children, Ira's dad, with his eye on the sky, moved to Colorado to teach astronomy. How someone living on a farm near Patton, Missouri got the notion to run off to Colorado and teach about the stars is anybody's guess. So, Ira, his mother, and the rest of the young brood were left to fend for themselves.

Little else is known about Ira's parents, but by the time he turned ten years of age, both had deceased. Ira and his siblings were passed around from family to family. At sixteen, Ira, following in his father's footsteps, headed west also looking skyward. He didn't stop in Colorado and kept going all of the way to the California coast. Rather than teach astronomy, he took to flying. The US government recognized his flying skills and along with three other pilots formed what eventually became the Army Air Corps. He became an acclaimed Army Air Corps instructor in the San Diego area. Technically they were part of the signal corps. Like I say, never let the facts get in the way of a good story. The year was 1914.

It's thought that during WWI Ira trained more Army pilots than any other instructor. He was known in those days as a "hard boiled" instructor. The meaning of this term is a mystery to me. What exactly is a "hard boiled" anything? Whatever it meant in those days, that's what he was.

Ira followed opportunity. In 1922, still working for the US Government, he was flying the mail and giving flight instructions at Ray Page Flying school in Lincoln, Nebraska. It was there that he was introduced to an young man with an aspiration to fly. The young man's mother had given him money for flying lessons and told to find the best instructor in the country. Ira and the soon to be famous aviator didn't exactly 'hit it off', but the aspiring pilot wanted to fly and Ira was the best in the country. So off they went in a Lincoln Standard. The student was none other than Charles Lindbergh. It's said that both men, while brilliant, were peculiar. I only mention it because in his memoirs Lindbergh says that Ira was odd. Well, I've read that the same was said of Lindbergh. So, what's good for the goose is good for the gander.

I usually pause with the Ira Biffle story at that point. For no good reason people are suspicious of the claim, especially since they're never heard of Ira Biffle. It wasn't always this way, but now technology comes to the rescue. The doubting Thomases reach for their iPhones and ask how to spell Biffle. A few moments later they're reading to me from a Google results page. I'm impressed if they read far enough into the search results to learn what happened next.

December 12, 1927 the first commercial aircraft to land at Chicago's Midway Airport arrived. It was a Boeing 40, Ira was at the controls. He was the first to deliver airmail to Chicago. He'd flown in from Omaha, Nebraska. Now why anyone in Omaha needed to get a letter sent airmail to Chicago is anybody's guess. There's more. . .

A few years later Ira became one of the nation's first corporate pilots. Of course, in a general inconsequential conversation I claim Ira was the first corporate pilot. Sue me. The fact is, Charles Walgreen, founder of Walgreens hired Ira to fly him and his dog, Peau Doux, to new store openings. Walgreen's first plane was a Sikorsky S-38. Walgreen referred to it as a wet and dry because it could land on ground or water. It was a seven passenger contraption that looked like someone had gotten the plans for a boat and an airplane mixed up.

A few years ago I got stopped dead in my tracks when after going on ad nauseam about Ira Biffle, a lady who had

(Continued on Page 29)

Lincoln Standard


Sikorsky Amphibian

(Continued from Page 28)

suffered through my diatribe said she had a photo of Ira Biffle and that he once dated her aunt. Sure as the toes on your foot she later produced a photo of Ira standing in front of an old airplane. The photo had a note on the back saying, "Mae's boyfriend, Ira Biffle. Ira is not happy to have his picture taken." The photo is framed and hanging on my office wall.

So, when I meet other pilots I always ask. "Ever heard of Ira Biffel?" To which there is usually no answer, only a blank stare. Saving them embarrassment, I answer for them, "He taught Charles Lindbergh how to fly, and then the aforementioned pause. While there thumbing away on their pocket rockets I continue. He was Walgreen's first corporate pilot, introduced air mail to Chicago, and founded the Air Force." And then I lay claim to him being from Marble Hill.

Before Google, few believed the story. The good thing about Google is that the story can be quickly confirmed, so I'm not left frustrated by those who'd doubt my grasp of reality. The bad thing about Google is that it's quickly evident that Ira was actually from Patton.

Ira lived his dream of flying until poor eyesight ended his flying career. During his prime his net worth was said to exceed $100,000, a very large sum in those days. His last days were spent penniless and in failing health. After being hospitalized and near death, word of his fate reached Charles Lindbergh, who then made a contribution to cover Ira's health-care needs.

Ira was laid to rest in Arlington National Cemetery, in April 1934, a fitting tribute to a Missouri Bollinger County native. So, now you know the Ira Biffle story. And I think you'll agree, he was a premier pioneer.

Stan Crader
N376KC
Marble Hill, MO

Stan Crader is a PC-12 owner, pilot and freelance author. He is the author of two novels, Paperboy and The Bridge. Visit ww.stancrader.com for more information.

2011 Business Aviation Tax Update

With the economy showing signs of recovery and the best ever tax incentive available from the federal government, 2011 can turn out to be a good year for the business aviation community. 100% bonus depreciation is available for the first time for qualifying business aircraft purchased and placed in service in 2011.

100% Bonus Depreciation

President Obama signed H.R. 4853, Tax Relief, Unemployment Insurance Reauthorization and Job Creation Act of 2010, into law in December 2010. This legislation increases bonus deprecation for new business aircraft to 100% - the full purchase price of a new business aircraft can be written off immediately. The law is in effect until December 31, 2011. Generally, the aircraft has to be placed in service by December 31, 2011 to qualify for 100% bonus depreciation.

Upgrading to a new PC-12

If you have purchased a Pilatus in the past few years, 2011 is a great time to upgrade to a new aircraft. IRS Regulations on trade in and bonus depreciation specify that purchasing a new PC-12 in 2011 and trading in your current aircraft will allow you to deduct all remaining un-depreciated basis of your current aircraft in 2011.

A trade in can be accomplished by trading in your aircraft to the dealer or structuring a Section 1031 Like Kind Exchange with an intermediary.

The following table illustrates the potential tax savings generated from the purchase of a 2011 Pilatus PC-12, based on 100% business use, before December 31, 2011:

•2011 Pilatus PC-12 purchase price: $4,500,000
•2007 Pilatus PC-12 Trade in value: $2,800,000
•Estimated un-depreciated tax basis of 2007 PC-12: $800,000

Tax Year	**2011**
Tax Depreciation – 2011 PC12 (Net of Trade In Value)	1,700,000
Tax Depreciation – 2007 PC12 (Remaining Tax Basis)	800,000
Total Tax Depreciation	**2,500,000**
Income Tax Savings (40% Marginal Federal and State Tax Rates)	**1,000,000**

Planning Opportunities

By integrating an aircraft into your business, you can generate tremendous tax savings by deducting the operating expenses and 100% of the purchase price of the aircraft in 2011, provided you maintain 100% business use for the aircraft. Ownership structure will impact your ability to utilize bonus depreciation.

Other income tax planning opportunities include: personal use of a business aircraft, related party leasing rules for listed property, passive activity loss, hobby loss and documentation requirements to support the business use of the aircraft. Planning and limiting personal use of a business aircraft has taken on added importance for 2011 due to the amount of depreciation allowance available. Chartering an aircraft for personal entertainment use may be a viable and tax efficient alternative. State income tax treatment of bonus depreciation varies. Some states have decoupled from federal law and disallowed bonus depreciation for state income tax computation.

Sales and use tax planning can result in additional savings of between six to nine percent of the aircraft purchase price. Sales and use tax planning opportunities vary depending on the state that serves as the home base of the aircraft. Some states offer the complete elimination of sales and use tax liability for qualifying business aircraft. Other states offer an exemption that allows the deferral of the sales and use tax liability to be paid based on the actual usage of the aircraft. Understanding your state's available exemption and planning to meet the exemption prior to closing is paramount.

The inter-relation and operation of the Internal Revenue Code, state sales and use tax laws and the Federal Aviation Regulations create a unique planning opportunity for business aircraft owners.

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Our craftsmen have caused us to grow exponentially over the past six years because they strive to always exceed our customer's expectations. We would welcome the opportunity of talking with you regarding any PC-12 maintenance, interior refurbish work, and avionics upgrades or new paint .

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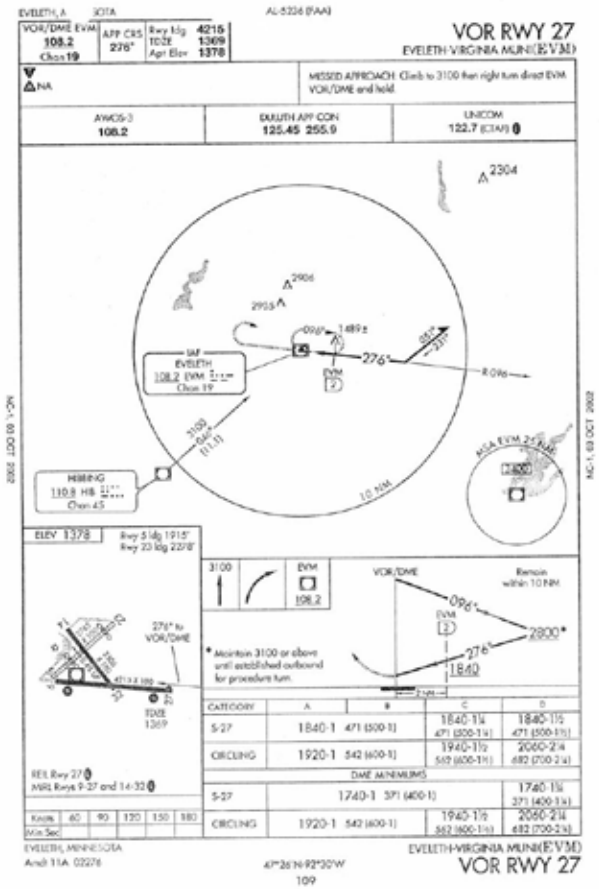
Stabilized Approach Criteria, a Case Study

By: Dave Garvey

On October 25, 2002, about 1022 central daylight time, a Beechcraft King Air A100, N41BE, operated by a Part 135 charter, crashed while attempting to execute the VOR approach to runway 27 *(see Figure 1)* at Eveleth-Virginia Municipal Airport, Eveleth, Minnesota. The crash site was located about 1.8 miles southeast of the approach end of runway 27 *(see Figure 2)*. The two pilots and six passengers sustained fatal injuries and, the airplane was destroyed by impact forces and a post crash fire. The airplane was being operated under the provisions of 14 Code of Federal Regulations Part 135 as an on-demand passenger charter flight. Instrument meteorological conditions prevailed for the flight, operating on an instrument flight rules flight plan.

Figure 1



The safety issues that surfaced after this crash include flight crew proficiency, Aviation Charter operational and training issues, inadequate crew resource management training, Federal Aviation Administration surveillance, and possibly the need for improved low-airspeed awareness. Safety recommendations concerning CRM training, FAA Surveillance and low-airspeed alert systems have been addressed to the FAA as stated in the NTSB report. However, if either pilot were a capable and/or disciplined instrument flyer, this accident likely would not have happened.

The crash itself had an impact on the direction of political discourse on a national scale. US Senator Paul Wellstone, his family, and staff were among those who perished. This crash revealed again, the systemic weakness for evaluation of pilot skill sets and training process for instrument pilots to consistently operate under IMC conditions. This crash also illustrated the inherent hazard of operating in and conducting approaches in IMC conditions.

The pilot (55 years old) was hired on April 26, 2001. He held a multi-engine airline transport pilot (ATP) certificate, issued August 4, 1989, with a type rating in the Cessna Citation (CE-500). In April 1989, following a flight check for his ATP cert, the pilot was issued a notice of disapproval by the FAA. This was because of his unsatisfactory performance in several areas, including area arrivals, instrument landing system approaches, normal/abnormal procedures, and judgment. He received additional training before retaking and passing the test on August 4, 1989. This failure in and of itself is not a glaring issue. However, it does reveal a potential performance trend: a weakness in performance of flight solely by reference to instruments. On at least one occasion, a company King Air copilot indicated that during level flight in IMC, he had to take the controls away from pilot. He allowed the airplane to enter a 45° bank and a 1,000-fpm descent; another potential performance trend. There were other incidents reported about the PIC that showed he lacked some basic abilities and/or discipline to act as PIC.

According to the charter company records, the pilot had flown approximately 5,116 total flight hours, 598 hours of which he flew with the company, 200 hours of which were as a company pilot-in-command PIC in the King Air. He had flown approximately 101, 53, and 36 hours in the 90, 60, and 30 days respectively before the accident. This reflects adequate recent experience. His last recurrent ground training occurred on April 23, 2002. Since his last simulator training on August 21, 2002, the pilot had flown 32 flights for this charter company as PIC in the King Air and 11 as copilot in Cessna Citations. Six of the 21 King Air flights were conducted in the A100, including one flight the day before the accident. His last proficiency and line checks occurred on October 23, 2002, 2 days prior to the accident.

The co-pilot had been hired by Northwest Airlines to teach ground school for the Airbus 320. After observing Northwest's systems and flight training, the copilot was trained to teach each of the systems and procedures lessons. During this training, the copilot had to thoroughly learn the systems of the A320, and demonstrate his ability to teach each system before moving onto learning and teaching the next system. Northwest records indicate the copilot was not able to successfully complete this stage of the training program. According to his supervisor, the copilot's ability to learn and retain the details of the A320 systems was far lower than that of fellow trainees

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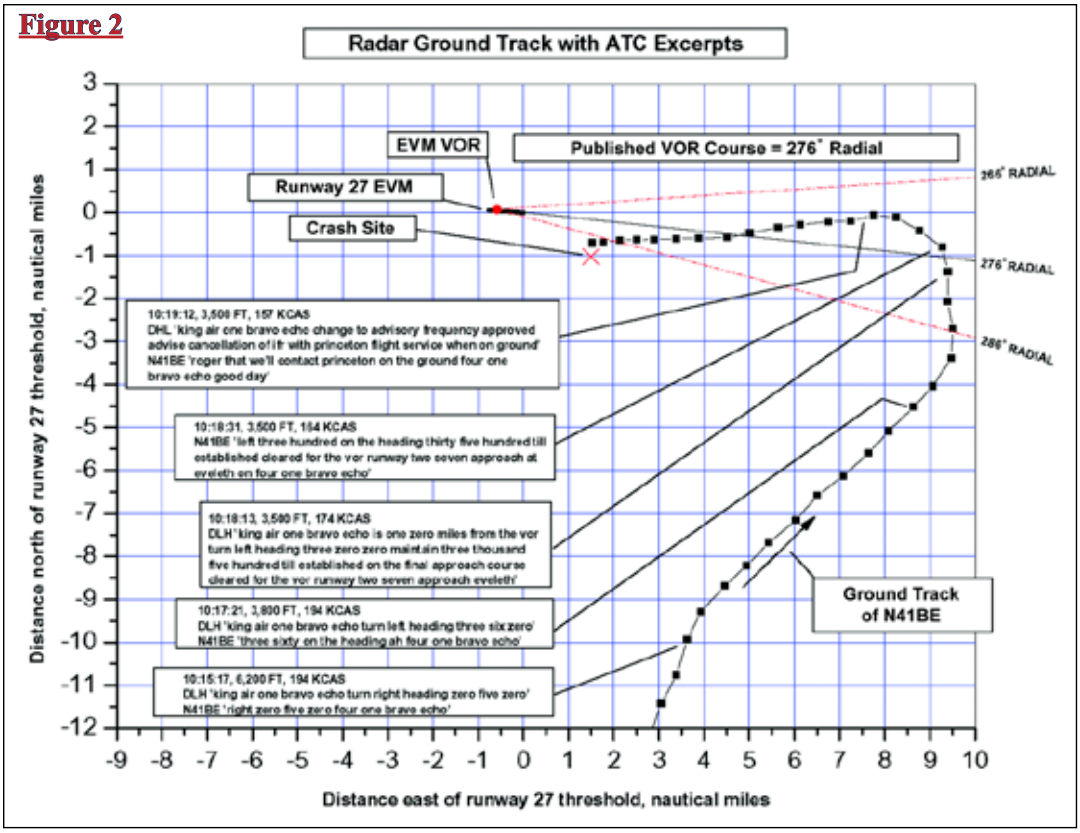


(Continued from Page 34)

with comparable flying experience. He added that, by the time the other trainees finished learning to teach all of the A320 systems lessons, the copilot had mastered less than half of the lessons. The company provided the copilot with special assistance, but he was still unable to master the material.

According to the NTSB report, company records indicated the copilot had flown approximately 701 total flight hours, 304 hours with the company; 107 hours of which were in the King Air. He had flown approximately 69, 54, and 36 hours in the 90, 60, and 30 days respectively before the accident, reflecting an adequate experience level to establish currency. His last recurrent ground training occurred on August 2, 2002. His last proficiency check occurred on August 3rd and 4th, 2002. Records indicated the check was satisfactorily completed. Additionally, in the NTSB report it also stated:

"*The records showed the copilot did not perform a missed approach during the check. The record of the copilot's initial proficiency check, which occurred on July 18, 2001, also showed the copilot did not perform a missed approach during the check. FAA guidance only requires that PICs demonstrate proficiency on this maneuver during check rides*".

The NTSB report revealed both pilots had adequate time in make and model, and the PIC was qualified. In this particular case, there were two "qualified" pilots, one simulator trained with an in-aircraft Part 135 PIC check, and the co-pilot having completed company training, and a Second in Command SIC FAR Part 135 check.

To get a sense of what really happened, you have to look at both *Figure 2 and 3*. Reviewing the profile view of radar data with speeds and other data is quite revealing. The striking part of the profile *(see Figure 3)* shows the aircraft going from 5 miles from the end of the runway at 170 kts ground speed, to 2 miles out from the end of the runway at 76 kts ground speed. Then the airplane disappeared off radar.

In the distance of 3 miles, the aircraft slowed nearly 100 kts, had descent rates during the approach that had been in excess of 1400 fpm, and a configuration change from 5 miles inbound to the airport inside the final approach fix. The flaps approach speed is 182 kts while the gear extend speed for the King Air A100 is 156 kts. The final approach fix for this approach was at 8 nm when they intercepted the final approach course inbound. This means that at 5 miles out from the end of the runway, the aircraft power levers were probably at idle to be able to slow down that quickly as the plane was slowing and descending rapidly. It is important to note the King Air A100 is equipped with the Pratt and Whitney PT6A engine. The PT6A engine at idle takes time to "spool up" or develop thrust, particularly if it is a 3-bladed prop. If either pilot noticed the airplane was decelerating through 100 kts, which is slow, and pushed up on the throttles, it is possible the engines were too slow to respond to the pending stall.

Let's review stabilized approach criteria. From the final approach fix to the DA/DH or MDA, you should maintain plus or minus 10 kts, never in excess of 1000 fpm rate of descent, and no configuration changes. That means as you pass the final approach fix, on an ILS approach or LPV approach, you put your landing gear down, and note your speed. Your speed window is from 115 kts to 135 kts to the DA/DH or MDA/ Missed Approach Point or when runway environment is in sight and never in excess of 1000 fpm rate of descent. Outside these parameters is a missed approach.

(Continued on Page 36)

Stabilized Approach Criteria...

(Continued from Page 35)

One thing I teach ATM customers when operating a PT6 powered aircraft, (particularly the 3 blade prop), whenever the props are "whispering" at you, ADD POWER! The only time a PT6 powered King Air should have the throttles at the idle detent is when you are in the flare, over concrete with wheels down, flaps full, and just about to touch down, with a little excess airspeed to bleed off. You have to keep in mind the King Air A100 has the shorter wing and a higher wing loading than most King Airs. The same could be said for the PC-12 with a relatively high wing loading. You have got to carry some power to touch down in most cases.

What is further revealing by *(see Figure 2)* ground radar track with ATC excerpts, shows the aircraft passing through the final approach course. Again, this isn't too egregious in and of itself. However, the airplane did cross over the final approach course and was parallel inbound until they disappeared off radar. The red lines on either side of the final course reflect ¾ full needle deflection. This was crossed at 2 nm from the threshold, which should have been an automatic missed approach at that point. At 2 nm, the plane was slowing to 107 kts and decelerating rapidly. Normally, 105 kts is a common reference speed in the King Air 100, coming over the threshold with flaps full and gear down over the THESHOLD! The airplane impacted the ground with flaps approach, gear in the extended position. The stall speed for the King Air A100 with the fuel load likely onboard at the time of impact was…you guessed it…76 kts.

We had two "trained" pilots under part 135, and were flying an approach under IMC conditions. They slowed the aircraft to the point where the aircraft stalled and departed controlled flight. The question is why did two qualified pilots not retain control of the aircraft and fly the approach to its logical conclusion; land or missed approach? Why was there no appearance of an attempt to maintain stabilized approach criteria? The NTSB investigation report revealed both individuals were likely not strong IMC flyers. There is legitimate question as to whether or not either individual could fly solely by the reference to instruments on a consistent basis. "Yet both were qualified" and had passed instrument proficiency check rides. So what happened?

Aviation Training Management provides numerous piloting skill set evaluations on an on-going basis in a wide variety of complex airplanes. Over the years, I have come to the conclusion that you can generally get an assessment of someone's piloting skills within a few short minutes of the first engine start. And, of course, in the PC-12…THE engine start. That evaluation is made under a subjective judgment. This evaluation instinct has been developed over the course of many years. This subjective evaluation is not without its flaws.

It can be difficult to ascertain a specific pilot's actual skill sets in operating an aircraft solely by reference to instrumentation under IMC conditions, unless conducting an approach under IMC conditions. In the Wellstone case there were two pilots flying the King Air A100. Both had completed training, including simulator-based training for PIC and recent completion for the PIC of his FAR Part 135.297, Pilot In Command, Instrument proficiency check requirements. The following excerpt is from the NTSB report:

"On October 23rd, the pilot met the charter company's chief pilot for his 6-month proficiency check. The chief pilot stated the pilot was in a good mood when he arrived for the check. Maneuvers performed during the check included a recovery from a stall, a steep turn, a recovery from an unusual attitude, an ILS approach, a missed approach, a go-around, a simulated engine failure during a VOR approach, and a no-flaps landing. A vision-obscuring device was used to test the pilot's ability to conduct IFR approaches. The chief pilot recalled the check ride went smoothly and that the pilot's ILS and VOR approaches were precise. The chief pilot stated that after the simulated engine failure, he told the pilot to pick up the pace and to feather the engine a couple of seconds faster for comfort".

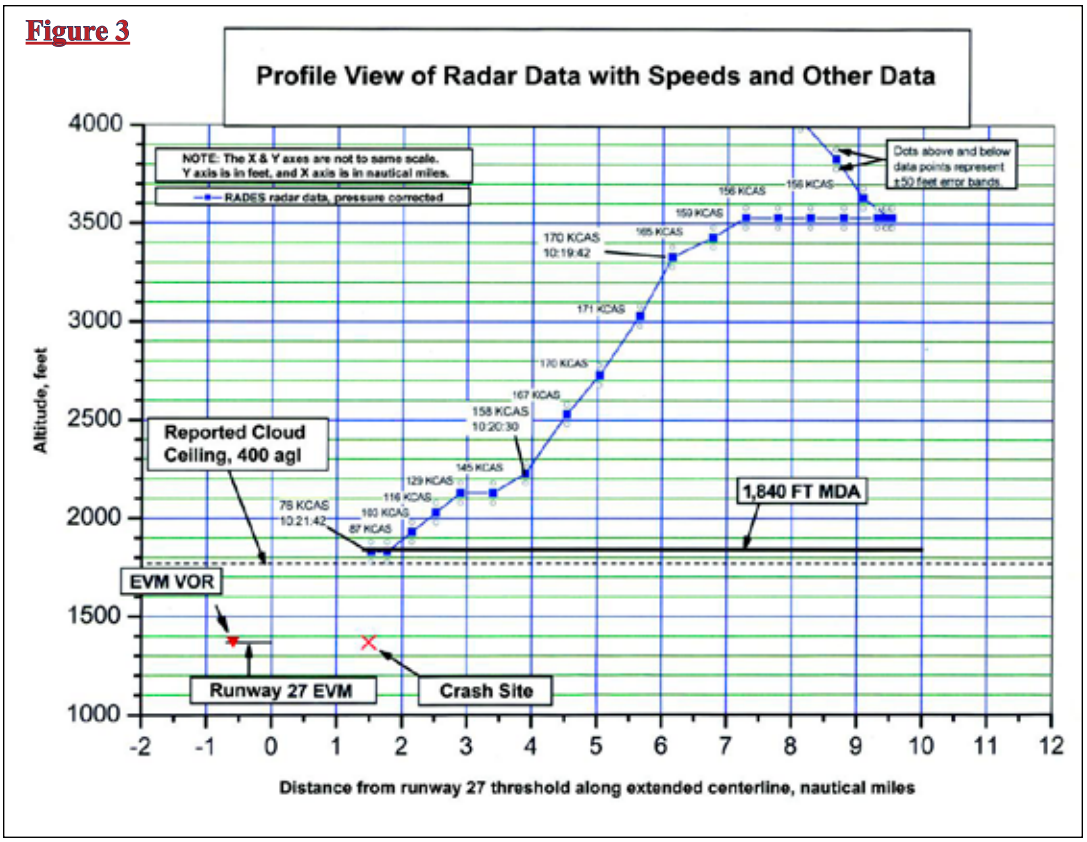
From the sound of that excerpt, one would think the pilot was more than capable of handling the King Air with the appropriate skill sets necessary, operating as PIC Part 135, under IMC. One would think…

The ability to actually approximate IMC for a pilot under training or evaluation is sometimes difficult. I will also assert a simulator will aid in procedures development. It can be limited in developing actual piloting skills necessary to prepare the pilot to operate their specific aircraft in a consistent and credible manner under IMC conditions. I am certain that when an individual is operating with a vision limiting device, if that individual really wants to "peak outside during the training or evaluation", they really can, particularly for a check ride. "Whatever it takes to pass the check ride because you learn the plane on the line" is often said among students during simulator training. However this perspective has to accompany a good dose of humility, self-reflection and commitment to ensure one's instrument skills are adequate when called upon. I would submit there are many individuals operating now in Part 91 and Part 135 operations, in complex aircraft that cannot credibly operate consistently under IMC conditions solely by reference to instruments. Unfortunately, it sometimes takes a fatal crash to illustrate that fact. The Oklahoma State Basketball Team crash King Air 200 is another such case.

The ideal weather conditions for training and checking, in my opinion are 600 to 900 ft overcast and 2 miles visibility, non-icing environment, with tops of the cloud deck at about 3500 ft AGL. This allows for an individual to actually conduct the arrival, procedure turn and approach in IMC conditions, pass the final approach fix inbound for the runway of intended use, and proceed to the missed approach point in IMC conditions. All this is fairly simple if you have a good quality auto-pilot. Take away the auto-pilot for some, and it can be quite revealing. Hand flying in IMC takes concentration, discipline, and proficiency.

(Continued on Page 37)

Figure 3



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The ability to complete the bare minimums of what is necessary to pass a check ride is entirely possible, regardless of the actual skill sets required. In the simulator you learn to "fly the sim". Training in the aircraft, an individual that is actually anxious to learn the skill sets, will likely not "cheat" to enable the learning process to run its course to a level of competency required to fly competently without autopilot.

Today there are many pilots operating on regular basis under IMC conditions that have passed numerous "check rides" either by in-aircraft practical exam or a simulator. Many of these pilots have no business operating under IMC conditions. What do we need to do as trainers and evaluators to get a realistic sense of someone's actual abilities to operate a complex machine in a competent, consistent manner basis? And, what is the standard that trainers and evaluators should use to get a realistic assessment of someone's flying skills solely by reference to instruments? You cannot always count on a 600 ft ceiling, and 2 miles visibility to conduct training.

What we are ignoring is the lack of results-oriented training. To what degree should trainers or instructors be conveying the skills development process to the GA pilot? Granted, a specified level of experience can in some cases establish a level of competence worthy of underwriting on the surface. Experience alone is not enough. Experience, coupled with skill set development, combined with decision-making skill sets enable the disciplined abilities to fly solely by reference to instruments on a consistent basis. That takes discipline, commitment to master subject matter, commitment to master skill sets, and formalized instruction and training to enable those skill sets to develop. In short, to operate on a consistent basis under IMC it takes a lifetime of study and commitment.

The National Transportation Safety Board determined that the probable cause of this accident was the flight crew's failure to maintain adequate airspeed, which led to an aerodynamic stall, which they could not recover from. I would further submit, neither pilot was apparently able to recognize the importance of, nor capable, of the following:

1. *Stabilized approach criteria, and why it is important*
2. *Understanding the hazard they were exposing themselves, and their passengers to*
3. *Absence of a disciplined approach towards aircraft operations under IMC*
4. *Operational commitment to themselves, and their passengers*
5. *Lack of an understanding of the value, and how to implement CRM*

As aircraft operators, we have an ethical obligation to ourselves, and our passengers. We need to ascertain whether or not we have the skill sets required for right now, regardless of recently completed training. Just because the rules allow, it doesn't always make it a good idea.

This article was adapted from the Aircraft Accident Report NTSB/AAR-03/03, Loss of Control and Impact With Terrain, Beechcraft King Air A100, N41BE Eveleth, MN October 25, 2002.

By David Garvey CEO ATM LLC an in-aircraft pilot training company. Dave holds CFI, CFI-I, MEI, AGI, IGI, ATP ratings, type rated in the King Air 350, Beech 1900, 2000 hrs in tactical jets and currently PIC qualified Part 135 in the PC-12.

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Q & A
By Ted Otto

WINTER 2010 Q & A!

Question #1
What limits apply after heavy brake usage, or soft brake peddles, S/N 1231 and after?

Answer #1
To allow for adequate cooling of the wheels and brakes the A/C must remain on the ground for 45 minutes following these two events., Rejected take off with brake on speeds greater than VR -20 and heavy brake usage, and 0 degree flap full stop landing with heavy braking.

Question #2
What changed on the final check with the latest POH revision?

Answer #2
Final check now says flaps 40 or as required, it used to say flaps 40.

Question #3
In the NG...how many diffferent gear indications are there?

Answer #3
In the PC12 NG, there are a total of 7 different landing gear indications.

Question #4
With there having been another power roll back, what is the proper use of the MOR lever?

Answer #4
Power roll back can be identified by a rapid roll back of torque and fuel flow going to what is called minimun flow. The amount depends on Altitude. Exercise the PCL and with no response place PCL at idle. Slowly advance the MOR untill you see a responce in fuel flow. Allow ITT and NG to stabilize, and slowly advance to MOR to attain the power required to reach the nearest suitable airport. Do not allow NG to drop below 75%, do not use reverse or use the MOR for taxi.

WINTER 2010 QUESTIONS

Question #1
For the NG owners...are we allowed to fly in icing conditions with a generator inoperative?

Question #2
Can the NG be operated as a paperless cockpit?

Question #3
Will the autopilot remain engaged when the pilots AHARS is changed?

Question #4
Will activation of tthe rudder trim disconnect the autopilot?

Travers Aviation Insurance and Augusta Aviation prepare for the Masters

Who will win the coveted "Green Jacket" at the 2011 Masters? At the hub of Aviation activity during the tournament is a Travers Aviation Insurance client, Augusta Aviation. If you are planning to check out the Masters yourself, then Augusta Aviation at Daniel Field (KDNL) is the obvious choice as your FBO. Their 71 year history as the Southeast's oldest FBO allows them to remain competitive while showing true Southern charm and hospitality. Convenient location, attention to detail and a strong relationship with the Augusta National Golf Club make Augusta Aviation the best choice for your Masters getaway this April.

Augusta Aviation shifts into high gear the first week in April. It's not uncommon to see the owner, Steve Gay, out on the field parking aircraft. An average week at the FBO will bring anywhere from 75 to 100 aircraft. During Masters Week the traffic can jump to as many as 1,000 transients on the ramp.

Travers Aviation Insurance polices are underwritten by top rated insurance carriers. In the event of a loss, Travers Aviation will insure that the most highly trained and skilled adjusters are sent to handle any sensitive situation that may arise.

Augusta Aviation is very proud of the relationship it has cultivated with the Augusta National over the years, and this FBO respects the privacy of the members and member-guests of the club. When a plane lands on the field with Augusta National passengers on board, the National vans pull right up to the aircraft to load its people and baggage privately. It is a very sensitive process, where no one aside from the pilot is aware of who has just landed. In this industry, it is an unspoken rule that the pilot is not asked to reveal who loaded into the infamous green, Augusta National vans.

For information about Augusta Aviation call (706) 733-8970 or visit www.augustaaviation.com.

We at Travers Aviation Insurance are proud to say that we have been serving the insurance needs of Augusta Aviation for over ten years. We are a third generation aviation insurance agency. Travers Aviation Insurance was founded in 1950 by Robert J. Travers, an ex-navy and former Ozark Airlines pilot. Today we are one of the largest independent aviation insurance brokers in the country. Please contact us at (800) 888-9859 or visit www.traversaviation.com.

Pilatus Trade Show Dates

March 29- April 3	*Sun 'n Fun (Lakeland, FL)*
April 13-16	*Aero Friedrichshafen (Friedrichshafen, Germany)*
May 17-19	*EBACE (Geneva, Switzerland)*
May 17-19	*SOFIC (Tampa, FL)*
May 27-29	*Aviation Expo Euro (Bitburg, Germany)*
June 9-11	*POPA Convention (Westminster, CO)*
June 20-26	*Paris Air Show (La Bourget, Paris)*
July 1-2	*Air Power (Zeltweg, Austria)*
July 15-17	*Royal Int'l Air Tattoo (Fairford, United Kingdom)*
July 20-23	*ALEA (New Orleans, LA)*
July 25-31	*EAA Airventure (Oshkosh, WI)*
Aug 11-13	*LABACE (Sao Paulo, Brazil)*
August 16-21	*MAKS (Moscow, Russia)*
August 27-28	*RMMA Fly-In (Broomfield, CO)*
September 14-18	*Reno Air Races (Reno, NV)*
September 16-18	*Breitling Sion Air Show (Sion, Switzerland)*
September 22-24	*AOPA (Hartford, CT)*
October 10-12	*NBAA (Las Vegas, NV)*
October 22-26	*IACP (Chicago, IL)*
November 13-17	*Dubai AirShow (Dubia, UAE)*
December 6-10	*LIMA (Langkawi, Malaysia)*

Press Releases...

Broomfield, January 4, 2011

PILATUS BUSINESS AIRCRAFT, LTD. APPOINTS CHARLES MAYER AS VICE PRESIDENT, MARKETING

Pilatus Business Aircraft, Ltd. has announced the appointment of Charles D. Mayer as Vice President, Marketing. Mayer is responsible for developing and implementing marketing strategies, branding initiatives and promotional activities that support Pilatus products and services in the Americas. He will lead marketing communications, market analysis, database management, and the development of customer-driven, product marketing initiatives.

"Charles is a great addition to our leadership team, and we are excited to benefit from his expert marketing strategies and keen eye for identifying opportunities that further advance our product and service offerings," said Thomas Bosshard, President and CEO.

Mayer's career spans more than 15 years in marketing within the aviation and luxury automotive categories. Most recently, Mayer was Vice President of Marketing for Hawker Beechcraft where he re-launched the brands worldwide and won numerous awards for marketing effectiveness and creativity. Prior to joining HBC, Mayer served as Director of Marketing, media and advertising for Ferrari Maserati North America, where he was responsible for leading the successful marketing launch of Maserati in the U.S. Prior to that, he played a leadership role in the highly-acclaimed rebranding of Cadillac as Senior Vice President with D'Arcy Advertising and also led marketing communications and brand strategy for Jaguar Cars North America.

MyPilatus Customer Portal
Your Direct Link Into Pilatus

Being a customer orientated company Pilatus Aircraft Ltd strives to provide the latest technical improvements through regular face-to-face contact with our customers.

The Customer Portal MyPilatus is the online gateway into Pilatus Aircraft Ltd and accessible whenever you have access to the Internet offering exchange of useful information to owners, operators, Pilatus approved Service Centers and suppliers. Based on your login details, this secure site directs you to the appropriate section providing all necessary information to operate and maintain your aircraft:

- Technical Publications applications including, but not limited to, Service Letters and Service Bulletins.
- Information technology tools
- Query answering - technical/non technical queries
- Online Aircraft Defect Reporting (ADR)
- Customized spare parts sales applications used for price & availability, order entry & status. (available to some fleet-operators only purchasing directly from Pilatus Aircraft Ltd in Stans, Switzerland)
- Status of accessories repair (brokered repairs)
- Applications to file Warranty Claims
- Links to third-parties offerings
-

Please note that some of the services mentioned above are not yet available for the PC-6 and/or PC-12. Some services are subject to a fee. To obtain access to MyPilatus, you must first register. Approved users will be provided with the appropriate login information. Please contact our Customer Support Team for further details.

PILATUS

Broomfield, March 7, 2011

PILATUS LAUNCHES iPad® DELIVERY PROGRAM FOR THE PC-12 NG

Pilatus Business Aircraft Ltd. is reinventing the aircraft delivery and ownership experience with the launch of its new iPad delivery program. Pilatus is the world's first aircraft manufacturer to offer such a program to its customers.

Starting in February 2011, new owners of the Pilatus PC-12 NG will receive an Apple iPad containing interactive content customized to each owner's individual aircraft, as well as delivery documents, owner's manuals and a variety of useful aviation apps - all designed to enhance Pilatus' long-standing reputation for superior customer service and satisfaction. "Our new iPad delivery program for the PC-12 NG reflects Pilatus' technology leadership in business aviation and our commitment to delivering best-in-class customer service and satisfaction," says Thomas Bosshard, President and CEO of Pilatus Business Aircraft, Ltd. "Not only does the new program simplify the delivery process for our owners, it also reflects their affinity for leading-edge technology."

Each iPad comes pre-loaded with the Pilots Information Manual (PIM), an introduction to the company and the PC-12 NG, and key delivery documents. Also included is customized content documenting the manufacture, assembly and completion of each owner's particular aircraft, as well as useful aviation apps such as Fore Flight, My Radar Pro and others. "This is just the first step," Bosshard says. "Pilatus will continue to develop the program to make delivery, service and flight planning even easier for our customers."

News, Announcements, Notes...

WELCOME NEW MEMBERS

#263	N65TB	William Seale (Annapolis, MD)	#1198	N198TK	Greg Thomas (Breckenridge, TX)
#285	N888NT	Curtis Jack (Baton Rouge, LA)	#1210	N210NX	Rod Lewis (San Antonio, TX)
#365	N764MG	Mark Glinz (Bottineau, ND)	#1226	N226NG	Terry McIver (Brady, TX)
#441	N329SK	Dan Ervin (Florence, SC)	#1229	N229NG	Craig Blasé (Johns Creek, GA)
#848	N848PC	Gary Biba (Austin, TX)	#1242	N242NG	Ron Strecker (Guymon, OK)
#1118	N111VK	Jack Kucera (Phoenix, AZ)	#1245	N245PE	Saher Rizk (Atlanta, GA)
#1157	N535MJ	Greg Hadgis (Westlake, OH)	#1251	N251NG	Tim Tiderman (Grand Rapids, OH)

Honeywell EFS 40 and EFS 50 Display System Update

Honeywell completed a software update to the EFS 40 and EFS 50 display systems to meet FAA guidelines for WAAS Vertical Deviation Annunciation and to eliminate a nuisance lateral mode disconnect during a WAAS approach with vertical guidance. The new software is certified under a Honeywell STC. In addition, a hardware modification to the EFIS Symbol Generator is available to compensate for an intermittent flagging condition from the symbol generator to the autopilot computer attitude valid input which causes nuisance autopilot disconnects. This hardware modification is a Product Improvement Service Bulletin to all Symbol Generators and does not require STC approval. Both modifications are now available.

Honeywell

Robert Compton
Rhone: 1-913-712-2056
E-Mail: robert.compton@honeywell.com

POPA Board

President
Bob MacLean
Phone: 508.341.0696
macleanb61@earthlink.net

Vice President:
Pete Welles
Phone: 443.690.1357
pw@mindspring.com

Board Member:
Joe Howley
Phone: 203.312.3055
joe.howley@rbssempra.com

Board Member:
Brian Cleary
Phone: 203.770.7701
bcleary@cbgi.com

Board Advisors:
Ty Carter
Phil Winters
Piotr "Pete" Wolak
Phil Rosenbaum

POPA Administration

Executive Director
Laura Mason
Phone: 520.299.7485
Fax: 520.844-6161
Cell: 520.907.6976
popapc12@aol.com

Non-Profit Status

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

POPA
6890 E. Sunrise Drive
Suite #120-Box #114
Tucson, AZ 85750
www.pilatusowners.com