PREMIUM ON SAFETY

ISSUE 05 YEAR 2010

INSURING SAFE SKIES

IN THIS ISSUE

A MESSAGE FROM USAIG

Greetings!
I frequently fly to coastal Maine, and experience has taught me to carefully review weather reports several days before I plan a trip. If current conditions are producing restricted visibility and weather is forecast to be close to the same when I'm thinking about going, it will likely produce the same results: Expect fog and carry lots of gas, or don't go.

Looking for a fresh perspective on alternates and fuel planning? Expand your horizon with *Low-visibility operations: What's your strategy?* By the way, we'd love to hear your stories so we may share your experiences in an upcoming newsletter.

Safe skies.

David L. McKay
President and COO, USAIG

AOPA AIR SAFETY INSTITUTE

USAIG UNITED STATES AIRCRAFT INSURANCE GROUP

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Low-visibility operations

What's your strategy?

BY CHIP WRIGHT

One of the biggest advantages of aircraft ownership or flying charter is the flexibility to go when your needs or wants dictate. For business travel, that often means leaving early to arrive early for a morning meeting or conference. Unfortunately, the period around sunrise can often lead to some of the worst visibility, especially in coastal locations and valleys. This particular weather phenomena is even more acute during seasonal changes—especially early fall—or during unusual warm spells in the winter.

As a pilot, you need to not only be aware of this particular problem, but you must also have a strategy for dealing with it. Aside from knowing when it may generally happen, you need to be specifically prepared when it does happen.

Alternates

For starters, that means the first order of business is to know where you will have a good alternate. While nobody can guarantee anything with the weather, you want to find the closest thing to a sure-fire Plan B that you can. Borrow a page from the airlines, which are required at times to file more than one alternate, with the forecast at each airport in the flight plan calling for successively better weather than the one before. The intention is to have two alternates, with the second one essentially being a guarantee of success.

Borrow a page from the airlines, which are required at times to file more than one alternate, with the forecast at each airport in the flight plan calling for successively better weather than the one before.

When possible, you should try to find an alternate with as many approaches as possible to multiple runways, but if only single runway airports are available, pick the one with the most utility from a planning standpoint, and in the case of coastal operations, one that is as far inland as you can find.

Fuel

Once the alternate(s) is/are determined, it is time to do the fuel planning. This kind of unique circumstance calls for extra caution, so bring your fuel up as high as you can without exceeding any takeoff or landing limitations. The extra fuel is simply a contingency, and it will ultimately get used anyway. It won't go to waste.

(continued on page 2)

DID YOU KNOW?

REAL WORLD IFR SEMINAR

You may have aced your last instrument proficiency check—been there, done that. Okay, so you're proficient. But ask yourself; are you efficient using the IFR system? Would you pass up a great opportunity, a free one to boot, to become more resourceful?

That's where the Air Safety Institute (ASI) (formerly Air Safety Foundation) comes in. No, ASI has not come up with a better mousetrap. The "system" is what it is. But, if you're not frequently reminded of certain things, they tend to fade. And during its latest safety seminar called "Real World IFR" ASI plans to pass along tips and tricks from highly experienced users, including air traffic controllers.

So what's in store? Here are just a few of the topics tackled:

- Do you contemplate takeoff alternates? Let's say you had to return and land for some reason shortly after takeoff. Would you have the weather to get back in?
- We all know when landing alternates are legally required. But weather is not the only reason as you'll find out.
- If there's an ODP for a particular airport/runway, do you have to fly it?
- You're IFR proficient with thousands of hours logged. Therefore VFR into IMC couldn't be a problem…or… could it?
- The airlines surely know how to brief an approach. So why did Korean Air Flight 801 on the approach to Guam miss some critical information that meant disaster?

Real World IFR provides an opportunity to share knowledge. Talk with the seminar leader and your fellow pilots. Don't pass it up! For more information on seminar locations and dates, visit ***www.airsafetyinstitute.org/seminars***.

—*MAS*

Low-visibility operations *(continued from page 1)*

Weather

After you take off, stay in the loop regarding weather at not only your destination, but at your alternate as well. If you are going to a coastal airport, such as Portland, Maine or a field on Long Island, then your alternate is probably going to be well behind you. Negotiate with ATC to stay as high as possible for as long as possible to conserve fuel. If you don't like the trends at your destination, head to your alternate. If your alternate is not meeting the forecast, then find another one soon. Chances are your destination will be missing the mark as well. Don't fly farther than you need to if you feel the approach might be for naught.

Pay attention to the winds aloft, and keep a running fuel log going so that you can determine your "bingo" fuel, i.e., the minimum number of gallons or pounds you simply cannot go under before diverting. If you are within ten percent of your bingo number, and the weather has not improved, then call it a day and divert.

If you are going to a coastal airport, such as Portland, Maine or a field on Long Island, then your alternate is probably going to be well behind you.

Visibility

Realize too that when it comes to approach planning, the visibility is what really matters. In instrument flying, "poor visibility" is truly a relative term—usually what constitutes "poor" depends on what is needed for a particular approach or airport. When you descend to your DH or MDA, if you have come out of the clouds, the ceiling will be meaningless if you do not have the visibility. It is the visibility that actually allows you to find the runway environment.

Strategy

As far as flying strategies for an approach are concerned, the safest tool you can use for a low visibility approach is the autopilot. It will greatly reduce your workload, and will provide much greater precision as you approach the ground than you will have trying to fly by hand while looking outside. Finish the checklists for the approach early, and let the airplane do as much of the work as possible. If a missed approach is necessary, give careful consideration to all factors before attempting a second effort. Chances are that a diversion will be the safest course of action.

Chip Wright is a CFI, ATP, and a Canadair Regional Jet captain for Comair.

Turbine pilot: Staying alive

Pressurization and environmental systems are vital

BY LINDA D. PENDLETON

Turbine airplanes—and some piston aircraft—fly at altitudes that are incompatible with human life, and yet the pilots and passengers are healthy and happy because of pressurization and environmental systems on board.

The regulations require that an aircraft certified under FAR Part 25 be capable of maintaining a cabin altitude no higher than 8,000 feet at the maximum authorized flight altitude. It's the pressurization system that accomplishes this. Interestingly, FAR Part 23 pressurized aircraft have a maximum cabin altitude limit of 15,000 feet. The pressurization system in the Cessna P210, for example, provides a cabin altitude of 12,100 feet at its maximum altitude of 25,000 feet.

Meanwhile, the environmental system makes sure that the cabin is kept at a comfortable temperature while flying in outside air temperatures that can be as low as minus 65 degrees Celsius.

Basic pressurization

Air pressure drops as altitude increases. At sea level the atmosphere weighs in at 14.7 pounds per square inch (psi). At 18,000 feet the pressure exerted by the atmosphere is down to about 3.5 psi. The pressure of the atmosphere at 8,000 feet is 10.9 psi. So, how do we get that extra 7.4 psi of pressure into the cabin?

Turbine engines are really just large air pumps. The air enters the front of the engine and is compressed on its way to the burner can and turbines. Some of this air is removed before the allocation for combustion and this air—called bleed air since it is "bled" off the compressor—is used for pressurization, among other things. (This bleed air is also called service bleeds or normal bleeds and is taken into account by the fuel control unit when it calculates the amount of air entering the engine.)

The bleed air is routed through heat exchangers and filters and sent to the cabin. For simplicity, the system assumes a constant inflow of air and regulates the amount that is allowed to escape the cabin through outflow valves. Opening the outflow valves causes the pressure in the cabin to decrease and the cabin altitude to climb. Closing the outflow valves has the opposite effect. Overpressure relief valves prevent the cabin from overpressurizing in the event the outflow valves stick in the closed position. (By the way, one of the most common causes of sticky outflow valves is a buildup of tars from cigarette smoke. Once you see a "gunky" outflow valve, it will make you wonder what smokers' lungs must look like. And smoking is OK on bizjets—for some that's the appeal of having your own kero-burner.)

Most systems prevent the aircraft from pressurizing with weight on the wheels unless the power is advanced to the takeoff range. This slight ground prepressurization on takeoff allows the outflow valves to be driven into the pressurization range and provides a smoother transition when the system goes into the air mode upon takeoff. Upon landing, the squat switch will open the outflow valves to depressurize the cabin in the event any residual pressure remains.

Normal operation

During normal operation, the crew sets the pressurization controls to the cruise altitude before takeoff. A cabin rate control allows the pilot to select the rate of change for the cabin (the normal range is between 300 and 800 feet per minute) to account for passengers with sensitive ears. Before descent and landing, the destination airport elevation is entered and the pressurization system schedules the cabin descent to arrive at field elevation before landing. When all works well the system is taken for granted and is unnoticeable to the passengers.

Normal operation of the pressurization system does not include adding any

(continued on page 4)

Real Pilot Stories

Lessons from the Cockpit

Mayday at Mount McKinley

Imagine flying the gorgeous Alaska Mountain Range, sharing spectacular views of Denali Park with your passengers. Then, just as the stunning panorama of Mount McKinley spreads out before your eyes, something goes terribly wrong with the airplane.

An exhilarating-trip-turned-nightmare is exactly what unfolded on a tour operator's scenic flight when the aircraft became uncontrollable at 11,000 feet. Listen to the pilot describe how he managed the almost impossible task of flying his aircraft, while alleviating his passengers' fears. Watch actual footage of the developing dilemma, and take away important lessons learned from this pilot's incredible journey. Experience the flight ***(www.airsafetyinstitute.org/maydayrps)***.

Safety Brief *(continued from page 3)*

additional oxygen to the air. The air provided to the cabin is outside air compressed in the compressor section of the engine. Ambient air at altitude has the same percentage of oxygen as sea-level air. The pressure of the oxygen, however, is too low to allow it to dissolve in the blood. And because the same volume of air contains fewer oxygen molecules at low pressures, the lungs can't hold enough air to meet the body's oxygen requirements at high altitudes. Increasing the pressure of the air solves this problem. Oxygen is carried aboard pressurized aircraft to allow crew and passengers to maintain consciousness while descending to a lower altitude in a pressurization emergency.

Abnormalities and emergencies

A pressurization emergency is one of the few times it is necessary to act with some speed in a high-flying aircraft. If an explosive or rapid decompression occurs, it is vital that the crew gets oxygen masks on and working, and gets the airplane started down as quickly as possible. This is no time for troubleshooting. The time of useful consciousness shortens rapidly with altitude and the only cure is oxygen and a lower altitude. Slow leaks and pressurization controller malfunctions usually give the crew more time to respond.

Environmental control

The same air used for pressurization is used for environmental control—cabin heating and cooling. You may have noticed that turbine aircraft don't have cabin heaters. That additional equipment is not necessary since the air used for pressurization is taken from the compressor section of the engine at a temperature of 600 to 700 degrees C. It's obvious where cabin heating comes from. What may not be as intuitive is the fact that the same 600-degree air is used for cabin cooling.

To provide for cabin cooling, the hot compressor bleed air is routed through an air cycle machine—called cooling packs in air carrier-type aircraft—which uses heat exchanges and expansion chambers to lower the air temperature. This energy exchange is so powerful that the air temperature can be lowered to below freezing. This can cause any moisture in the air to freeze and block the system, so the temperature is usually regulated to a point above freezing to avoid any problems. After the air is cooled, compressor discharge air can be mixed in with the surrounding air to modify the temperature to exactly that called for by the crew. In smaller aircraft, which typically have lower volumes of bleed air, an auxiliary air conditioner may be used to provide additional cooling.

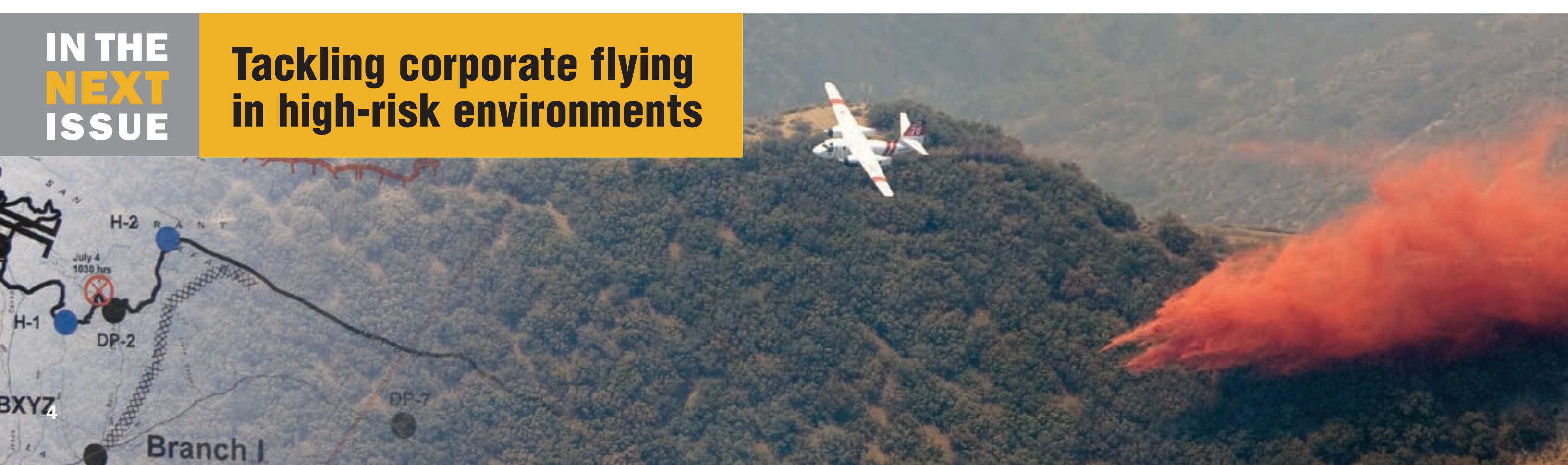
Ice blockage of the air cycle machine can cause the pressurization system to revert to emergency pressurization. This is usually bleed air routed directly to the cabin and bypassing the air cycle machine. This air is hot and noisy and will certainly cause the crew to troubleshoot and solve the problem expeditiously. Ironically, it is usually a result of the crew operating the environmental system in a manual mode, thereby bypassing the low-temperature limits of the automatic system in an effort to get more cold air into the airplane, that results in this shutdown and introduction of hot bleed air directly to the cabin.

Pressurization and environmental systems are transparent when they are working well, and when they are not, they can provide the crew with some of the most urgent emergencies they will ever face in a turbine aircraft.

Linda D. Pendleton, author of Flying Jets, *is an ATP with Citation 500 and Learjet type ratings. A CFI with airplane, instrument, and multiengine ratings and more than 10,000 hours flying US Mail, freight, corporate, charter, and commuter, Pendleton also served as an FAA-designated examiner for the Citation 500.*

IN THE NEXT ISSUE

Tackling corporate flying in high-risk environments



Accident Profile

Black hole

BY DAVID JACK KENNY

As the days grow shorter, more flights are made after dark. The hazards of flying VFR at night are laid out during primary training, but long after passing the checkride, pilots can still be taken by surprise—even high-time career pilots operating professional equipment.

At 8:40 p.m. on February 6, 2007, a King Air 200 configured as an air ambulance took off from Great Falls, Montana on a positioning flight to Bozeman. In addition to the pilot, a 17,000-hour ATP, the crew included a flight paramedic and flight nurse. Great Falls was 500 feet overcast, so the pilot received an IFR clearance for the 103-nm flight, but the weather was considerably better at Bozeman, with unrestricted visibility below an 11,000-foot overcast (about 15,500 msl).

Three minutes after takeoff, the King Air was cleared to climb to 15,000 feet. Just 15 minutes later, it was cleared to descend to 13,000 at pilot's discretion; after acknowledging the clearance, the pilot reported the field in sight and requested a visual approach. The airplane was 42 nm north of the airport.

Bozeman's Gallatin Field lies in a bowl amid the eastern slopes of the Rocky Mountains. Field elevation is 4,473 feet with higher terrain in every direction; the minimum obstruction clearance altitude is 9,100 feet. The King Air was cleared for the visual approach at 9:00 p.m., and radar contact was lost a little less than two minutes later as it descended through 11,300 msl. This was not unusual; terrain prevents radar contact below 11,000. The pilot's two calls to the Bozeman tower were largely unreadable, but this was also common in that area, about 25 nm north-northwest of the field.

Two minutes after the last radar contact, the airplane hit the north side of a ridge just 80 feet below its crest. The elevation of the ridgeline was 5,700 feet; the debris path carried over the top and down the other side. All three on board were killed. The accident site was 13 nm from the field, and roughly in line with a straight-in final for Runway 12.

The pilot had worked for the operator for more than seven years and logged more than 1,300 hours as PIC of King Air 200s. Reports suggest he was well rested on the fifth night of a one-week rotation in which his only other flight had been two days earlier. He was familiar with the route and terrain, and the airplane was equipped with an Enhanced Ground Proximity Warning System. Its audio alerts could be silenced by a switch on the panel; impact damage made it impossible to determine whether the system had been armed or inhibited when the airplane crashed.

Visualizing the descent path, it appears that the ridge would not have blocked the pilot's view of the airport until just before impact—too late to climb above the terrain. If the airplane was descending on autopilot while the pilot ran checklists, he might never have seen the ridge at all. In the mountains, at least, there are good arguments for flying only instrument approaches at night—even when you can see the airport from 50 miles away.

David Jack Kenny is manager of aviation safety analysis for the Air Safety Institute, an instrument-rated commercial pilot, and owner of a Piper Arrow.

Data Diving: Accidents at night

Not surprisingly, reduced visibility means lower survivability in aircraft accidents. Between 2000 and 2009, only 8 percent of all GA accidents occurred at night, but these included 17 percent of all fatal accidents. While only 17 percent of daylight accidents were fatal, the lethality of night accidents was almost two and a half times higher at 41 percent. Aircraft size and speed are also associated with increased lethality, but the higher lethality of night accidents is seen within aircraft categories, with one interesting exception: In turbine-powered airplanes, the proportion of accidents that are fatal is about the same, day or night. This may reflect a higher proportion of flights operated under instrument flight rules as well as a smaller risk of landing accidents, which are only rarely fatal.

	DAYTIME			NIGHT		
Aircraft Category	Accidents	Fatal Accidents	Lethality (%)	Accidents	Fatal Accidents	Lethality (%)
Fixed-gear single-engine	9,435	1,343	14.2	607	212	34.9
Single-engine retractable	2,197	560	25.5	317	150	47.3
Multi-engine	1,092	321	29.4	241	116	48.1
Helicopter	1,420	209	14.7	153	65	42.5
Turbine-powered airplanes *(also included in other categories)*	209	71	34.0	72	27	37.5

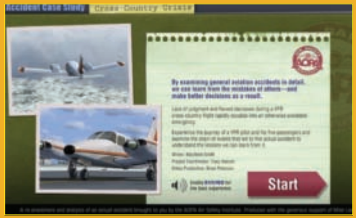
ASI ONLINE

Accident Case Study

BY MACHTELD SMITH

Few of us would think of launching on a 500-mile VFR cross-country, over mountains, without a preflight briefing or even a check of the weather en route. Yet that is what happened when a non-instrument rated pilot invited fellow flying club members on a flight from Chicago to Raleigh, North Carolina to check out an aircraft for sale.

Cross-Country Crisis pieces together the chilling story of



five passengers entrusting their lives to a Seneca II owner pilot who completely ignored basic VFR rules—including proper fuel management—in this latest video installment in ASI's popular Accident Case Study series. The pilot's blatant disregard for the safety of his five passengers as accentuated by his flawed judgment spelled disaster for everyone from the moment the flight boarded.

Using actual ATC audio and dramatic Microsoft Flight Simulator re-creations *Accident Case Study: Cross-Country Crisis* has you ride along as the weather deteriorates and the pilot struggles to maintain control of the aircraft in half a mile visibility and heavy snow in mountainous terrain near Huntington, West Virginia. To make matters worse the aircraft is low on fuel leaving ATC and the pilot few options. The study is interspersed with scene analysis and safety tips to decipher where things went from bad to worse.

No amount of analysis can change the outcome of this accident. But the Air Safety Institute hopes to help others avoid similar entrapment by sharing lessons learned from this accident. See the video ***(www.airsafetyinstitute.org/xcountryacs)***.

Machteld Smith is a multiengine instrument-rated commercial pilot.

DID YOU KNOW?

LINE UP AND WAIT

Here's a new term to stick in your flight bag: LUAW or "line up and wait."

What does it mean when you hear these ATC instructions while you're on the taxiway waiting for your departure clearance? Instead of the familiar phrase "taxi into position and hold" the controller will issue "line up and wait" instructions to indicate you may taxi onto the runway and wait for a takeoff clearance. Just like "taxi into position and hold," the new phrase is used when a takeoff clearance cannot immediately be issued because of traffic or other reasons. Although the words change, the meaning will not.

The new phraseology is also expected to minimize confusion with or misinterpretation of ATC instructions such as "position at hold" or "hold position."

Here's an example of how the phrase is used:

Tower: "Diamond Star 334DS, Runway One Six Right, line up and wait."

Pilot: "Long Beach Tower, Diamond Star 334DS, Runway One Six Right, line up and wait."

This change brings the United States in line with standard International Civil Aviation Organization (ICAO) phraseology, and it will soon be incorporated in the *Aeronautical Information Manual* (AIM) and the *Pilot/Controller Glossary*.

Visit the FAA's Runway Safety website ***(http://www.faa.gov/airports/runway_safety/news/current_events/lauw/)*** to view a video animation of ATC and pilot interaction using the new phraseology.

For more information and updates to the AIM and *Pilot/Controller Glossary* visit the FAA's Air Traffic section of its website ***(http://www.faa.gov/air_traffic/)***.

The new terminology change took place on September 30, 2010. *—MAS*

NPRM Alert: A sign of things to come?

Airline Crew Rest NPRM puts Part 135 Ops under microscope

BY ROB FINFROCK

Release of the FAA's notice of proposed rulemaking (NPRM) that would overhaul crew fatigue and duty-time regulations in Part 121 scheduled operations has caused a stir among the on-demand crowd as well, thanks to the agency's call for "a single approach to addressing fatigue that consolidates and replaces existing regulatory requirements for parts 121 and 135."

The product of almost 18 years of agency consideration of Part 121 crew fatigue standards—an earlier proposal was released by the FAA in 1995, and finally scrapped in 2009 after years of failure to reach industry consensus—the latest NPRM calls for an increase in airline flight crew rest periods to nine hours, of which eight hours would be set aside for actual rest; and 30 consecutive hours duty-free per week, a 25-percent increase over the current standard of 24 hours.

While the proposals put forth only address Part 121 operations, the FAA fired a warning shot at Part 135 operators as well...asserting "part 135 operations are very similar to those conducted under part 121." The agency adds Part 135 operators should "expect to see an NPRM addressing its operations that looks very similar to, if not exactly like, the final rule the agency anticipates issuing as part of this rulemaking initiative."

...Part 135 operators should "expect to see an NPRM addressing its operations that looks very similar to, if not exactly like, the final rule the agency anticipates issuing as part of this rulemaking initiative."

The NPRM also includes more restrictive limits on flight duty times over a 28-day period, to address what the FAA terms "cumulative fatigue." The stricter standards would be eased in cases of emergency, or when airlines are operated on behalf of the U.S. government. The proposal also notes certificate holders could petition for less stringent standards if they offered dedicated crew rest facilities, or implemented a "carrier-specific fatigue risk management system (FRMS)."

The deadline for public comment on the NPRM is November 15. The full notice of proposed rulemaking may be viewed here: ***http://www.faa.gov/regulations_policies/rulemaking/recently_published/media/FAA_2010_22626.pdf.***

Rob Finfrock is a licensed sport pilot and formerly managing editor of an online aviation news service.

AOPA Summit safety forums

Foundation at Summit

With forum titles such as *Engine Failure After Takeoff, What Went Wrong, and Real World IFR* just to name a few, it's obvious safety is the name of the game at this year's AOPA Aviation Summit held November 11 to 13 in Long Beach, California.

Join Air Safety Institute staff along with renowned speakers Barry Schiff, Max Trescott, Dave Hirschman, and Tom Horne as they tackle a variety of topics designed to help you fly smart and stay safe.

No matter your proficiency level, these forums will arm you with critical safety knowledge that will serve you long after AOPA Aviation Summit has come to a close.

The full schedule is posted online ***(www.aopa.org/summit/schedule/descriptions.cfm)***. Haven't registered for Summit yet? Register now ***(www.aopa.org/summit)***.

Pilot Counsel:

The glass cockpit—A new NTSB requirement

BY JOHN S. YODICE

The National Transportation Safety Board has amended its rules to expand the number of aviation "incidents" that require notification to the NTSB. For the first time, the rules address the burgeoning "glass cockpit" displays and their offshoots. Any significant "display blanking" on an aircraft's electronic cockpit display is now a reportable incident. The rules took effect on March 8, 2010, and it will be interesting to see how they are interpreted and applied.

To put the new rules in perspective, the NTSB has had for some time notification and reporting requirements for "aircraft accidents, incidents, and overdue aircraft." The board's rationale for these notification requirements is to allow the NTSB to identify safety issues, to conduct investigations where warranted, to identify corrective actions, and to propose safety recommendations. The incidents that historically have been cited in NTSB Rule 830.5 include such events as flight control system malfunction or failure, crewmember incapacitation, certain turbine engine structural failures, in-flight fire, a midair collision, extensive property damage to other than the aircraft involved, and certain incidents involving large aircraft.

This new rulemaking adds five more to this list: propeller blade release (excluding by ground contact), evasive maneuvers in response to an ACAS (airborne collision avoidance system) resolution advisory while operating IFR, substantial helicopter tail or main rotor blade damage (including ground damage), uncontained turbine engine failures, and air carrier runway/taxiway incursions. Explaining these newly added incidents is for another time.

For now we are alerting pilots and aircraft owners to the part of the new rules that require notification regarding an aircraft's electronic cockpit displays. To paraphrase the requirement, if more than one-half of the display becomes completely blank and shows no data or information, the event becomes reportable—or, more accurately, "notifiable"—whether the aircraft is airborne or on the ground at the time of the failure. As we gain experience with the requirement we may find questions of interpretation, so it is well to look at the specific regulatory language of NTSB's amended Rule 830.5(a)(9).

As we will see, the main thrust of the rule is aimed at higher-end aircraft, but it does catch a large number of general aviation aircraft. Immediate notification is required of: "A complete loss of information, excluding flickering, from more than 50 percent of an aircraft's cockpit displays known as: (i) Electronic Flight Instrument System (EFIS) displays; (ii) Engine Indication and Crew Alerting System (EICAS) displays; (iii) Electronic Centralized Aircraft Monitor (ECAM) displays; or (iv) other displays of this type, which generally include a primary flight display (PFD), primary navigation display (PND), and other integrated displays."

We can anticipate the question whether the requirement still applies if the aircraft also has mechanical instruments. The answer is yes, the requirement still applies, even though a mechanical display of the information is still available.

It is important to note that in NTSB parlance there is a technical difference between "notification" and subsequent "reporting" (even if I have sometimes here used the words "report" and "reportable" in the nontechnical and hopefully not confusing sense). Here is the difference. "Notification" must be immediate, and by the most expeditious means available, to the nearest NTSB office. A more expansive follow-up "report" of a cockpit-display failure, however, is only required if requested by an authorized representative of the board.

There are fewer than a dozen NTSB offices,

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Up in smoke

BY BRUCE LANDSBERG
President, AOPA Foundation

I recently blogged ***(www.airsafetyinstitute.org/blog)*** about a UPS 747-400 freighter crash early September in Dubai. About 20 minutes after takeoff, the crew reported smoke in the cockpit, declared an emergency, and returned to their departure airport, where they crashed after attempting to land in VFR conditions. It's tempting to scrutinize the crew's actions, but it's still early in the investigation and it would be prudent to temper speculations before the final NTSB findings emerge. Nevertheless, let me offer some thoughts.

Fire anywhere on an aircraft outside the engine combustion chamber should get your attention in a hurry. I've never had a fire on board, but my gut feeling: Get it on the ground—quickly. Would a diversion to some reportedly closer airports have saved the UPS flight and crew?

According to a *Wall St. Journal* article there are about 1,000 reported fires or smoke on board transport category aircraft annually. It appears the accident airplane fire may have started in the cargo area. Were inappropriately marked or managed hazmat materials the instigator? Early reports indicate that may be.

What are your thoughts or experiences? Let us hear from you. Incidentally, a mini poll accompanying my blog revealed many of us have not given much thought to fire. It's rare and perhaps that's what makes it even more dangerous.

Smoke, fire, and popped circuit breakers (hint, don't reset unless it's flight critical) are discussed in *In-Flight Electrical Fires Safety Brief* ***(www.airsafetyinstitute.org/electricalfire)***.

Safe Flights...

Bruce Landsberg

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Pilot Counsel

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and the immediate notification may be by telephone to any one of them: Anchorage (907-271-5001); Atlanta (404-562-1666); Chicago (630-377-8177); Denver (303-373-3500); Arlington, Texas (817-652-7800); Gardena (Los Angeles), California (310-380-5660); Miami (305-597-4600); Seattle (206-870-2200); and Ashburn, Virginia (571-223-3930)—or the headquarters in Washington, D.C. (202-314-6000). The offices are listed on the NTSB Web site ***(www.ntsb.gov)***.

It is also important to note that Section 830.10 requires the operator of an aircraft involved in a "notifiable" incident to preserve all pertinent records and wreckage (if applicable) until the NTSB takes custody or until the NTSB releases the wreckage and records. It will be interesting to see how this requirement is applied.

These types of incidents now reportable to the NTSB may already be required to be reported to the FAA. What comes to mind is FAR 91.187, which requires a report to air traffic control "as soon as practical" of any malfunctions of navigational, approach, or communications equipment occurring in IFR flight. Nevertheless, even if there is an overlap in these requirements, the NTSB wants to receive its own immediate notification of any reportable electronic cockpit display blanking.

I can't help but wonder if we don't already have too many marginally relevant (to air safety) rules to bedevil our flying. In any event, pilots and aircraft owners need to be kept advised of their legal obligations.

Legal counselor John S. Yodice is a private pilot who owns and flies a Cessna 310.

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