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Flight Training for Fatigue Awareness

Fatigue in the cockpit likely is something you brought with you. Learn to recognize when you might be too tired to fly and what you can do about it.

By Dave Higdon

The news stories were hard to miss: On February 13, 2008, a go! Airlines flight crew, already weary from prior days of cycle-intensive flying, felt the warmth of the sun through the cockpit windscreen as they guided their 50-seat Bombardier regional jet to Hilo from Honolulu. The captain felt he just had to close his eyes for a minute; he succumbed, as did his first officer. The next thing they knew, ATC was calling. The flight was already well past the destination after some 20 minutes of snoozing, the crew mumbled something about radio problems, turned around and landed safely.

They later conceded to investigators they had slept through prior calls. The first officer even noted he could hear the calls in his sleep—he just couldn't respond. go! Airlines, a division of Mesa Air Group, suspended the two pilots that day; in April the airline terminated them citing evidence that both airline pilots apparently fell asleep on the flight deck. The outcome for other sleepy pilots has too often been more tragic than comic.

Asleep at The Yoke

Even though studied to near exhaustion, the insidious effects of fatigue, sleep interruption and sleep deficit continue to plague pilots in their planes. You don't need to be an airline or corporate pilot, flying multiple segments two and three days in a row, to find yourself struggling to stay awake in the cockpit. You don't even need to fly long leaps across multiple time zones.

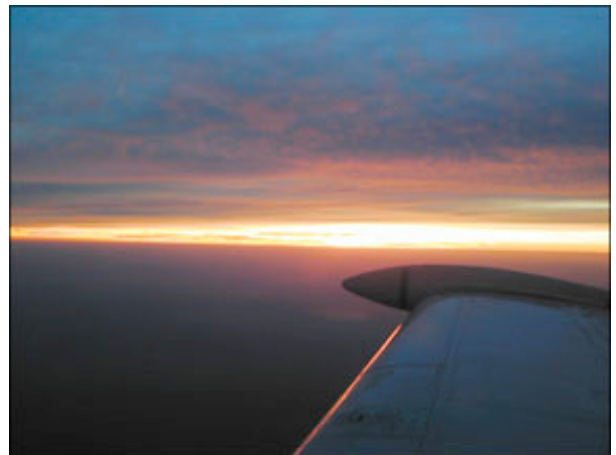
Fatigue sets in from issues as innocuous as a business or vacation trips with upset routines—later bedtimes, earlier rising, more late-night alcohol or unusual eating times all can contribute. Even something as simple as disrupted rest cycles for

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two or three days contributes to a sleep deficit. And like financial deficits, a shortage of good rest must eventually be repaid. If not, the body may force compensation against your will—and next thing you know, you're asleep at the yoke.

The problem is pervasive in our society, argues Dr. Mark Rosekind of Alertness Solutions and a regular presenter on fatigue countermeasures at Bombardier's annual Safety Standdown. Though organizers tailor Standdown to issues common to corporate aviation, as NTSB and NASA's Aviation Safety Reporting System data show, fatigue is not an issue limited to turbine pilots.

As tacit acknowledgement that fatigue remains an issue among airline pilots, the FAA recently reworked its rules on flight time, duty time and rest time; several airlines sued in January to block the rules.

But no similar rules exist for general aviation pilots operating under FAR Part 91. And, even absent the rigorous, demanding schedules of the common carriers, one of the unsettling facts documented by some of these fatigue studies found that even private pilots too often find themselves struggling to stay awake when flying.

Corporate aviation provides a clue to the depth of the problem in a cooperative study by NASA, the Flight Safety Foundation and the National Business Aviation Association. Among corporate pilots—again, predominantly Part 91—a full nine of 10 identified fatigue as a moderate or serious safety issue from their experience.

Even more telling: a whopping 75 percent conceded that they themselves had involuntarily nodded off during a flight. Among piston pilots who regularly fly long distances, anecdotal evidence suggest that as many as half have, at one time or another, either struggled to stay awake or nodded off completely to the point of missing a radio call.

And the NTSB reports present more pointed evidence of fatigue as a factor (see the sidebar on page 10).

Fatigue Contributors

Contributors to fatigue are commonplace, everyday and possibly part of your life. According to Dr. Rosekind and other research sources, you can begin to develop a sleep deficit of impact in just a couple of days of minor changes in schedule. Sleep of even eight or nine hours can be insufficient if you wake often, don't get into a deep-sleep state, or indulge in a couple of commonplace rituals for today's modern traveler: drinking too close to bedtime; going to bed late; or exercising within three hours of bed. All interfere with the quality of your sleep—and sleep of poor quality contributes to a rest deficit.

Repeat these problems for just a couple of nights and on the third day you're concretely into a fatigue cycle; worse, repeat the deficit cycle two or three times across a week and you'll be flying home well below optimal rest requirements.

Changes in latitude? They bring on more than changes in attitude—they alter the daylight cycle and upset circadian rhythm. Leave the northern latitudes in winter for a trip to the Florida Keys and your days get longer—which can disrupt your sleep cycle. Worse still, a summer visit far north of where you normally reside and the days really grow in length—again, throwing off your body clock.

A few days of these lengthy days can sufficiently throw off your rest cycles to the

point that you develop a severe sleep deficit during a week. Combine one of these two examples with a hop one or more time zones and you should plan on time to acclimate before hopping in the plane for the return. Otherwise, in as little as 36 hours, your rest and sleep cycles can be so out of whack that you're essentially a sleep accident in search of an arrival spot.

Solutions And Suggestions

Dr. Rosekind's company, Alertness Solutions (www.alertness-solutions.com), provides a simple tool designed for flight departments and pilots alike to use for evaluating where things stand for that operation. The Alertness Management Safety Evaluation covers five principal factors related to fatigue management: education; alertness strategies; scheduling; healthy sleep; and organizational.

In 20 straightforward yes-or-no questions, the user can get a handle on how much is being done to manage fatigue and, more importantly, what more needs to be done.

According to the grading scale provided, if any section lacks any "Yes" answers, that entire area needs addressing; the more "Yes" answers per section, the better the organization has the issue covered.

In the case of an individual pilot, substitute "you" for terms like "organization" and "personnel" to get a personal perspective on your awareness of fatigue factors.

By tapping resources available from Alertness Solutions, from NASA and the FAA, and the AOPA Air Safety Foundation among others, pilots can develop better insights to self-educate on fatigue and alertness. We also can enlighten ourselves on how to recognize whether the sleep we're getting is enough to help avoid fatigue and to embrace habits needed to keep us flying safely, alert and rested.

In the world of commercial aviation, any solution available depends, however, on sympathetic bosses. In some ways, that's a good thing because pilots—through denial, peer pressure or other factors—often are their own worst enemy when it comes to engaging in behavior leading to fatigue, then ignoring or rationalizing it away. Until it becomes a problem, of course. Non-commercial pilots—that's probably you—must recognize and adjust plans when you feel you need more rest to be your safest.

Putting It ALL To Rest

In his own flight of private aircraft for business travel, this writer started early on recognizing the insidious nature of fatigue and its impact on pilot performance, and has adapted strategies to prevent it from becoming a safety-of-flight issue. (See the sidebar above.)

Because at its most basic, being aware of the issue and cognizant of the signs of fatigue provides a potent weapon to making that new decision that can save a life. Sometimes, that new decision is no more complicated than, after recognizing that the problem exists, rescheduling a flight and the meeting planned at the other end.

It beats being dead wrong from sleeping in the cockpit. It also beats reading about your little mistake in a future issue.

Dave Higdon is a professional aviation writer/photographer with several

thousand hours of flight time—most of it wide awake.

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