

Automation In The Air Hurting Pilots' Flying Skills

BY JOAN LOWY
Associated Press

WASHINGTON — Pilots' "automation addiction" has eroded their flying skills to the point that they sometimes don't know how to recover from stalls and other mid-flight problems, say pilots and safety officials. The weakened skills have contributed to hundreds of deaths in airline crashes in the last five years.

Some 51 "loss of control" accidents occurred in which planes stalled in flight or got into unusual positions from which pilots were unable to recover, making it the most common type of airline accident, according to the International Air Transport Association.

"We're seeing a new breed of accident with these state-of-the-art planes," said Rory Kay, an airline captain and co-chair of a Federal Aviation Administration advisory committee on pilot training. "We're forgetting how to fly."

Opportunities for airline pilots to maintain their flying proficiency by manually flying planes are increasingly limited, the FAA committee recently warned. Airlines and regulators discourage or even prohibit pilots from turning off the autopilot and flying planes themselves, the committee said.

Fatal airline accidents have decreased dramatically in the U.S. over the past decade. However, The Associated Press interviewed pilots, industry officials and aviation safety experts who expressed concern about the implications of decreased opportunities for manual flight, and reviewed more than a dozen loss-of-control accidents around the world.

Safety experts say they're seeing cases in which pilots who are suddenly confronted with a loss of computerized flight controls don't appear to know how to respond immediately, or they make errors — sometimes fatally so.

A draft FAA study found pilots sometimes "abdicate too much responsibility to automated systems." Because these systems are so integrated in today's planes, one malfunctioning piece of equipment or a single bad computer instruction can suddenly cascade into a series of other failures, unnerving pilots who have been trained to rely on the equipment.

The study examined 46 accidents and major incidents, 734 voluntary reports by pilots and others as well as data from more than 9,000 flights in which a safety official rides in the cockpit to observe pilots in action. It found that in more

than 60 percent of accidents, and 30 percent of major incidents, pilots had trouble manually flying the plane or made mistakes with automated flight controls.

A typical mistake was not recognizing that either the autopilot or the auto-throttle — which controls power to the engines — had disconnected. Others failed to take the proper steps to recover from a stall in flight or to monitor and maintain airspeed.

The airline industry is suffering from "automation addiction," Kay said.

In the most recent fatal airline crash in the U.S., in 2009 near Buffalo, N.Y., the co-pilot of a regional airliner programmed incorrect information into the plane's computers, causing it to slow to an unsafe speed. That triggered a stall warning. The startled captain, who hadn't noticed the plane had slowed too much, responded by repeatedly pulling back on the control yoke, overriding two safety systems, when the correct procedure was to push forward.

An investigation later found there were no mechanical or structural problems that would have prevented the plane from flying if the captain had responded correctly. Instead, his actions caused an aerodynamic stall. The plane plummeted to earth, killing all 49 people

aboard and one on the ground.

Two weeks after the New York accident, a Turkish Airlines Boeing 737 crashed into a field while trying to land in Amsterdam. Nine people were killed and 120 injured. An investigation found that one of the plane's altimeters, which measures altitude, had fed incorrect information to the plane's computers.

That, in turn, caused the auto-throttle to reduce speed to a dangerously slow level so that the plane lost lift and stalled. Dutch investigators described the flight's three pilots' "automation surprise" when they discovered the plane was about to stall. They hadn't been closely monitoring the airspeed.

Last month, French investigators recommended that all pilots get mandatory training in manual flying and handling a high-altitude stall. The recommendations were in response to the 2009 crash of an Air France jet flying from Brazil to Paris. All 228 people aboard were killed.

An investigation found that airspeed sensors fed bad information to the Airbus A330's computers. That caused the autopilot to disengage suddenly and a stall warning to activate.

The co-pilot at the controls struggled to save the plane, but because he kept pointing the plane's nose up, he actually

caused the stall instead of preventing it, experts said. Despite the bad airspeed information, which lasted for less than a minute, there was nothing to prevent the plane from continuing to fly if the pilot had followed the correct procedure for such circumstances, which is to continue to fly levelly in the same direction at the same speed while trying to determine the nature of the problem, they said.

In such cases, the pilots and the technology are failing together, said former US Airways Capt. Chesley "Sully" Sullenberger, whose precision flying is credited with saving all 155 people aboard an Airbus A320 after it lost power in a collision with Canada geese shortly after takeoff from New York's LaGuardia Airport two years ago.

"If we only look at the pilots — the human factor — then we are ignoring other important factors," he said. "We have to look at how they work together."

The ability of pilots to respond to the unexpected loss or malfunction of automated aircraft systems "is the big issue that we can no longer hide from in aviation," said Bill Voss, president of the Flight Safety Foundation in Alexandria, Va. "We've been very slow to recognize the consequence of it and deal with it."

Niobrara

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the subgrade to determine its strength."

Clean-up work remains on the highway, Domogalla said.

"There is a significant amount of debris left on the highway from the flooding, and crews are in the process of cleaning it up," he said. "There has been some damage to the pavement, sub-grade and guardrail."

The re-opened highway has relieved a great deal of stress as the new school year begins, said Niobrara superintendent Margaret Sandoz.

"Life is much better now that the road east of Niobrara is open," she said. "Routes have been able to leave 15 minutes later. The narrow township roads were a huge concern for safety."

Even with the adjacent flooding, the football team hosted its soap scrimmage last Friday, Sandoz said.

"Groundwater was still an issue in the parking lot at the

football field, but we had plenty of room around the field for parking and in the adjacent baseball field parking lot," she said.

Niobrarians are still publicizing the fact that the bridge and stretch of highway are open, said Niobrara Tribune editor Valerie Zach. The local economy relies heavily on tourism, and the limited highway access and loss of recreation has been tough for local businesses, she said.

"People are still holding on, but we need to get out the word," Zach said.

Niobrarians met recently for two days with top officials from the Nebraska Department of Travel and Tourism. Zach said. They worked together for two days on determining the community's assets and then called a community meeting at Ole's Cafe.

The state officials recommended that Niobrarians volunteer at area sports and travel shows in Minnesota or Kansas City in March. Niobrarians could also get on the "NebTour" list and become published in outdoors publications. Social networking sites, websites and other marketing can play a key role.

Niobrara can attract tourists interested in history and Native American culture. Another idea called for developing winter recreation opportunities and holding an outdoor expo at Niobrara State Park.

Niobrarians are ready to celebrate after a stressful summer, Zach said.

"The Village of Niobrara is planning an appreciation event to thank those who helped sandbag during the flooding, and the Niobrara Promoters are planning a large celebration to let people know the road and bridge are open," she said. "They are working on a way to hold the two celebrations together."

A contest has been started, seeking a theme for the celebration. The deadline is 5 p.m. Friday, and entries can be sent to the Niobrara Tribune, Box 256, Niobrara, NE 68760 or emailed to niobraratribune@yahoo.com.

The winner will have his/her photo printed on the front page of the newspaper, according to Zach.

Niobrara businesses adjusted the best they could during the flooding, said Matt Moody, who co-owns Moody Motors with his

brother-in-law, Alan Kemp.

"We kept hearing reports that (flooding) was going to last until December. We thought we could pack up and move the cars," Moody said. "But we talked with our senators and state officials, and they expected it would be mid-August, so we decided to tough it out."

Moody Motors pushed its customer sales to the south, unaffected by flooding, and saw a 10 percent increase in sales from that region. The service department experienced a strong summer with a backlog of business.

Even with the re-opened bridge and road, Moody said businesses need to get the word out.

"I was open Sunday, and we had 13 different people in the lot. Granted, they were out for a drive," he said. "Is there pent-up demand? Time will tell."

However, Moody already sees a renewed spirit among Niobrarians.

"There is more of an upbeat feeling, like a blizzard ended and the snow cleared off and now there is a sigh of relief," he said. "Now, we want to capture the last part of fishing and have a

strong hunting season."

Niobrarians only ask for the opportunity to serve their customers with the re-opened bridge and highway, Moody said.

"Just get the road open, and we'll take care of ourselves," he said. "Time will tell, but we just want to get back to normal."

The closed bridge showed how much South Dakotans and Nebraskans have bonded since the structure opened in 1998, Moody said.

"Since they completed the bridge, we have been able to come back and forth (between states)," he said. "Now that we have the bridge re-opened (after its flooding closure), we ask 'Where has this been?'"

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