AUTOMATIC Recovery

Already I can hear keyboards clicking to protest this editorial, telling me that control of an aircraft should never be taken from the pilot without his or her approval. I'll bet that some of those gearing up to write are pilots of Airbus aircraft with fly-by-wire (FBW) flight controls, which are on all Airbus aircraft in production. And this leads me to my first point: Automatic recovery systems won't be ground-breaking violations of pilot authority. Unlimited pilot authority already is a thing of the past, at least on Airbus equipment.

Envelope protection was an advanced idea when Airbus designed its FBW flight control system for the A320, the first Airbus line to have it. There was a lot of distressed discussion at the time, some pilots saying that when faced with hitting something hard they'd like to have the option of risking pulling the wings off of the airplane to avoid an impact. Airbus quietly and repeatedly said that the protection meant that pilots could immediately throw in full control input without fearing disintegration, and therefore would have a better chance of missing what needed to be missed.

Boeing took the other path with its 777 FBW, and did not add envelope protection. I'm unaware of any in-service event so far that could be used to argue the Airbus approach, either pro or con.

However, I had the Armavia Airlines A320 crash at Sochi, Russia (*ASW*, 10/07, p. 44), on my mind when I heard Don Bateman, Honeywell's chief engineer, flight safety systems, speak at the 60th International Air Safety Seminar in Seoul, South Korea. He talked about automatic recovery systems, and what he said struck home.

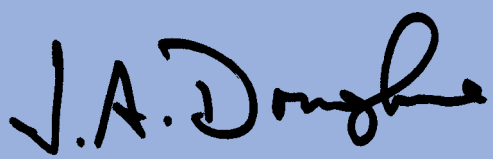
After the terrorist attacks of Sept. 11, 2001, I was appalled at the serious discussion about development of systems to remotely control aircraft suspected of having been hijacked. Of course, the easier route to achieving repeated safe landings is to prevent hijackings in the first place, and that argument won the day.

However, when Don started talking about automatic recovery systems, I still had in my head a vivid image of the Armavia crew, already behind their aircraft on a dark late-night approach in weather to a coastal airport backed up against a mountain range, struggling to cope with the tower's order for a go-around that pitched them into an unanticipated turn that went so bad the aircraft ended up hitting the Black Sea with the terrain awareness and warning system (TAWS) repeatedly telling them to pull up.

Implicit in Bateman's endorsement of automatic recovery systems is his frustration that, after his invention of the ground-proximity warning system (GPWS) and then the enhanced GPWS, some pilots still are not properly responding to TAWS warnings and similar red-flag indications that their flight is in imminent peril, and people are dying.

By its very nature, an automatic recovery would be a brief transfer of control until stabilized flight unthreatened by terrain or traffic conflicts is restored, giving overtaxed pilots a "do-over," albeit with a heightened sense of having been closer to disaster than they had believed.

The technology to do this is not difficult, Bateman maintained, and with the ability comes the question of whether we have a moral obligation to bring such a system into being. If we know we can prevent three, four or more accidents a year, why not do it?



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